

The impact of culture on incentives for contribution to open educational resources

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Thesis

submitted for the degree of

Doctor of Philosophy

School of Communication,
International Studies and Languages

University of South Australia

February 2012

Declaration

I, Amal Maher Batra Hanna, declare that this dissertation does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge it does not contain any material previously published or written by another person except where due reference is made in the text.

Amal Maher Batra Hanna

10 February 2012

Dedication

to my kind mother

Mariam Banoub Hanna
who worked very hard to create a good life for the family

to my father

Maher Batra Hanna
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to my brothers

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Acknowledgement

I would like to acknowledge a number of people for their support and encouragement throughout my PhD candidacy, with special thanks to my supervisors ***Dr Denise Wood***, Senior Lecturer, for her sincere efforts and support in all the steps of the PhD project; ***Dr Jackie Cook***, Senior Lecturer, for her helpful and valuable feedback on the entire thesis; and a special thanks to ***Adjunct Associate Professor Jacques Metzger***, for agreeing to supervise me, for his assistance in the statistical analyses of the current research, for his patience and continuous support, and for his encouragement towards academic publications and beyond academic life. Without the great effort and support from my supervisors, this thesis would not have seen the light of day.

I would like to also thank ***Dr Wendy Baslatich***, Academic Advisor, and ***Ms Monica Behrend***, International Student Advisor, for their advice and support in research style and academic writing. I also thank ***Mr David Brittan***, Program Officer, for his great help and support during the PhD candidacy.

Last, but not least, I am very thankful to and proud of belonging to the ***University of South Australia***, which provided the scholarship to support this research.

Amal's Biography

Amal was born in Giza, Egypt 1974. In 1976 she moved to Kuwait in and lived there for five years. In 1980, she moved to live in Benghazi, Libya, where she undertook her primary education. In 1986, Amal moved to live in Giza. Amal finished her secondary education in 1992, and graduated in 1996 with a Bachelor of Business Administration from Cairo University. In her first degree, Amal undertook research focusing on an evaluation of business policies and its applications in practice. After graduation, Amal joined the civil service for a year as a researcher in a health insurance hospital.

In 1998, Amal competed for a scholarship (\$10,000) to study a Postgraduate Diploma in Educational Computing (Multimedia and Programming). Together with two collaborators, Amal produced a software package that teaches children the Old World's Seven Wonders; and the software project was awarded the 3rd level prize. After that, Amal was awarded another scholarship (\$20,000) from the National Graduates Project to study Professional Diplomas in e-Commerce Website Design and Development with IBM, Egypt. While undertaking this professional diploma and soon after, Amal studied a number of subjects and passed three online exams to gain a Professional Web Master Certificate from VCampus, USA. In 1999, Amal studied in the MPA program, and was awarded 2003 Master Degree of Public Administration (by thesis) with Excellence from Cairo University.

In 2004, Amal enrolled in the PhD Program in Social Science Computing, in School of Economics and Political Science, Cairo University, where she passed the Qualifying Courses. In 2007, Amal won a Full International PhD Scholarship from the University of South Australia (\$200,000). In 2008, Amal commenced research into a recent phenomenon in the digital sphere – the Open Educational Resources. During her study, Amal presented a number of research papers at national and international forums and conferences, in Adelaide, Dubai, Melbourne, Brisbane, and Hobart. During her research life, both undergraduate and postgraduate, Amal conducted quantitative and qualitative research, using a number of research methods including face-to-face questionnaires, face-to-face interviews, online questionnaires, online interviews, online content analysis, document critical analysis and observations. Amal is interested in and inspired to continue working in academia (research), especially in education, IT education, and online educational delivery and management. Amal's philosophy is that:

*'everyone has their reserved space in the digital sphere
regardless of their age, gender, religion, economic status, or who they are'*

Amal Hanna
10 February 2012

Glossaries

3D	Three Dimensional scene
AI Lab	Artificial Intelligence Laboratory
ARPANET	The Advanced Research Projects Agency Network
Blog	Web Log
CMC	Computer Mediated Communication
CSCW	Computer Supported-Cooperation Work
DPA	Data Protection Act
GVT	Goal-Valence Theory
ICT	Information and Communication Technologies
IM	Instant Messenger
IND	Individualism dimension according to Hofstede (2001)
LMS	Learning Management Systems
LTO	Long-term orientation according to Hofstede (2001)
MAS	Masculinity dimension according to Hofstede (2001)
MMG	Multi-Motive Grid
NPO	Not-for-Profit Organisation
OCW	Open Content Webpages
OAER	Open Access Educational Resources
OER	Open Educational Resources
OCER	Open Content Educational Resources
OCLA	Open Content Learning Activities
OSOC	Open Source / Open Content
OSCT	Open Source/Content Technologies
OSS	Open Source Software
PCs	Personal Computers
PDI	Power distance dimension according to Hofstede (2001)
<i>Produser</i>	A user who collaborates to extend existing web content (Bruns 2008)
RSS	Really Simple Syndication
RWO	Real world organisations
SNS	Social Networking Systems
SDT	Self-Determination Theory
STS	Socio-Technical System
ToC	Table of Contents
UAI	Uncertainty avoidance according to Hofstede (2001)
VFI	Volunteer Functions Inventory according to Clary <i>et al.</i> (1998)
Wiki	Wikiwiki is a Hawaiian word meaning quick. Wiki is used for a software technology that enables quick collaboration
Wikibookians	<i>Wikibooks</i> is a project of Wikimedia Foundation which hosts open educational texts. Wikibookians are those who use <i>Wikibooks</i> texts to read educational materials or/and to write to and edit these materials
WYSIWYG	What You See Is What You Get

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Abstract

In the last few years, there has been an expansion of the creation and adoption of open educational resources (OER), both open access and open content. Although online learning resources have been incorporated in many courses, open content educational resources are at best in their infancy both in practice and research. More specifically, these open learning resources require students, self-learners, educators and lecturers, to be motivated to adopt, interact with and contribute to these open educational resources (OER). Such motivations can be intrinsic (enjoyment) or extrinsic (rewards, sense of responsibility). Are these motivations constant, however, within or across different national cultures?

Review of the literature shows that approach and avoidance motivations might co-exist. Furthermore, the review also shows that autonomous extrinsic motivations are hard to distinguish from intrinsic motivation. A theoretical model was developed, including intrinsic and extrinsic motivational factors as well as amotivational factors, to help assess motivational similarities and differences across Anglo and Arabic cultures. The author's experience and possessing English and Arabic fluency determined the choice of these two cultures.

A review of the literature helped determine reasons for contributing (or non-contributing) to open educational resources. However, reasons might vary as individuals vary. Therefore, a triangulation of mixed methods was adopted to investigate individual and cultural differences in motivation for contribution to open educational resources (OER). Content analysis was used to evaluate different open educational resources websites, which informed the decision to select an OER project case study. Criteria included the nature of educational resources, languages supported, technology used to run the website, and targeted users in choosing an adequate case study. The investigation revealed that Wikibooks, among 12 other OER projects, has a large user base and a large number of published modules compared with other OER projects. Wikibooks also has an email list for its registered users – a facility that proved valuable for recruitment undertaken for this research study.

In the second stage, emails were sent to users who were subscribed to Wikibooks, and a website notice (see Appendix J) was also published on the Wikibooks' homepage inviting users to participate in a web-based survey (incorporating closed and open-ended questions) to assess their reasons for contribution and non-contribution. Closed questions included demographic data and Likert-type answers to motivational reasons. Open-ended questions allowed participants to add their own reasons for contribution and non-contribution, and to assess content validity for the scale items. Factor analysis and Varimax rotation of 262 responses revealed that users of Wikibooks may be intrinsically and extrinsically motivated to write open textbooks; lack of confidence and lack of wiki skills emerged from the results as significant barriers towards contribution. Results also revealed that Arabic participants were more motivated by both intrinsic and extrinsic motivations than Anglo participants. Such results suggest some degrees of universality in self-determination and were interpreted as not supporting a 'Western-based' self-determination theory.

The third stage involved administering a face-to-face questionnaire in order to assess whether the motivational reasons given by respondents in stage two were regarded, by an unrelated group of 64 respondents, as self-orientated or others/community orientated. Results revealed that self-orientated reasons were more often reported as motivating users to contribute to Wikibooks, which may imply that a cost-benefit analysis for contribution was performed by those contributors.

In the final stage, text-based online interviews were conducted with users of Wikibooks who expressed their interest in participating in follow-up interviews. Qualitative analyses of 23 scripts revealed that while there were individual differences in motivation, greater similarities in motivations were found among participants from the same culture. For instance, while collectivist Arabic participants reported being motivated by obligations and responsibilities toward community, individualist Anglo participants felt motivated by enjoyment and values of information sharing.

Findings supported the coexistence of intrinsic and extrinsic motivations (approach) as well as amotivational factors (avoidance), possibly reflecting the complexity of cost-

benefits analyses in Wikibooks users' motivations for action, as well as personal and group/cultural values. Discussion of the findings has focused on the implications for creating awareness of benefits and promises of OER, developing skilled teachers, and designing culture-specific learning activities within curricula which would help to maximise interaction with and contribution to OER, and personalised learning activities consistent with a learner's culture.

The added layer of self-orientation and others-orientation to SDT (Self-determination theory) enabled systematic examination of cultural differences in human motivation. The supported theoretical model suggests OER participation is more self-orientated than others (community) orientated, regardless of the culture of OER producers. Furthermore, the integration with approach and avoidance motivation helps determine powerful factors for human behaviour. Since reasons to avoid OER contribution are higher than reasons to approach OER participation, this suggests that addressing reasons for non-contribution might help more in enhancing levels of participation than working on strengthening reasons for contribution.

The proposed model helped organise the qualitative data: while respondents from individualist cultures reported being more motivated by intrinsic self-oriented reasons (integrated value of learning), respondents from collectivist cultures were found to be more motivated by extrinsic, others-oriented reasons (obligation towards the community). For individualists, implications of the results included the importance of providing a variety of learning options, while for collectivists the focus should be on engaging them to deal with local problem scenarios. Future research should address how individualist and collectivist cohorts will respond to broad learning options and social problem scenarios. Future research should also examine how other cultures, whether national culture or professional culture, respond to OER participation. Longitudinal research would be useful in examining not only cross-cultural differences in OER participation across time, but also how technical and social support enhances OER participation.

Introduction to the research problem

[In Wikipedia], task-oriented postings, such as quality and accuracy, were found more frequently on talk pages compared with Wikipedia talk pages and user talk pages, in both Eastern [Japanese and Malay] and Western [English and Hebrew] Wikipedias and small [Hebrew and Malay] and large [English and Japanese] Wikipedias. On the contrary, community well-being postings, such as courtesy, appeared mostly in user talk pages compared with talk [pages] and Wikipedia talk pages in both Eastern and Western and small and large Wikipedias.

(Hara, Shachaf & Hew 2010, p. 2103).

[Wikipedia] is not a culturally neutral space, but ... differences in behavior across cultures can be observed... for example, if the users of a community come from a masculine country such as Japan, they - according to our data - are likely to be more active in adding and clarifying information... People from a country with a high Power Distance are - according to the data - more reluctant to delete information. It is believed that the reason for this is that deletions are powerful actions that people from such countries do not think they have the right or privilege to do.

(Pfeil, Zaphiris & Ang 2006, pp. 108 & 109).

When I first learned about Wikipedia, the free online encyclopaedia, the idea that individuals from all over the world could collaboratively edit its articles amazed me. However, there have been concerns raised regarding the accuracy and currency of Wikipedia's articles. This encyclopedia could become the starting point for many educators and the source for information for those seeking knowledge. However, the motivation for Wikipedia use seemed to me problematic. It makes some into casual, 'take-away' users, but others into active 'worker-bees' – and it appears to be different from one person to another.

Extensive research is being undertaken to discover the different circumstances that make individuals write for Wikipedia (Antin 2010; Baytiyeh & Pfaffman 2010; Forte & Bruckman 2006b; Liang, Chen & Hsu 2008; Nov 2007a; Organisciak 2010; Schroer & Hertel 2009; Schweik, Evans & Grove 2005). However, although Wikipedia enhances its credibility on a daily basis, research on open content projects continues to examine the challenges and potential for these kinds of open content, collaborative projects, online.

Particular problems arise when an educational source is open to collaborators. They may not be experts in the field. The authorship and accountability of open content are discussed in many research forums (Adler, Nash & Noël 2005; Alevizou 2008; Atkins, Brown & Hammond 2007; Beach 2007; Biuk-Aghai *et al.* 2009; Hylén 2006; Jayshree, Freda & Denise 2009; Pereira 2007; Roessing 2010; Yuan, MacNeill & Kraan 2008). One feature of open content resources use – the motivation of contributors to open textbooks – needs much more attention. There is a gap in the literature regarding what motivates individuals to contribute to open textbooks, and whether such motivation changes and differs across cultures.

The unique nature of open textbooks as sources of educational information means for instance that its users are students, as well as teachers. Yet, studies reveal that students and teachers are not the only contributors to open textbooks (OERCommons 2010j; Sajjapanroj *et al.* 2007; Sajjapanroj *et al.* 2008). Contributors work in many different

fields, from business to government, with many professions and interests represented – and for a very broad range of motives. How many consider the ultimate users – or uses – of their information is an important consideration in evaluating the quality of open content, especially as educational resources. Allied to the issue of user needs and expectations is the capacity to understand what controls the impulse to upload to open content webpages. Can educational services rely upon – or even promote active participation in – uploading by reliable, professional contributors? Are some contributors motivated by less than reliable factors – and if so, how can their contributions be assessed and other users, especially students, defined?

To be able to answer these questions, a framework of the many possible reasons for contribution to open educational resources will be needed. Before such a typology can be constructed, a careful sampling of contributors must be undertaken – and that means collecting primary data. An online questionnaire will seek subscribers to the mail list of one of the major open content projects online. In particular, it will seek to identify patterns of motivation of contributors from different national cultures.

As Wikipedia use spreads out from its English-speaking origins to much wider and heterogeneous use, different patterns of cultural predisposition towards authoritative or ‘expert’ information are likely to be revealed – and this in itself complicates the act of open content contribution. Not only will responses to the questionnaire be categorised according to countries of origins, but a second stage of research will undertake online interviews with contributors, to gain an in-depth understanding of results gained from analyses of questionnaire data, and to tease out issues impacted by cultural difference.

How is online information use ‘valued’?

We live in an information era; people, now, have personal space on the internet. They can be reached through their electronic mail addresses. Some have personal websites to introduce their professional experience, photo albums, or expert publications, while

others have their own blogs to interact with the community (Castells 1996, p. 130; 2001). People are networking over the internet.

In the early stages of the internet, users were more passive, with less control over the contents being displayed. There was however active interpretation, even of the relatively static content of websites, produced according to a user's own views, beliefs, ideas and values (Bruns 2008, p. 15). This emergence of an active, interpretive 'reception' and an associated on-use of digital media, contributed to the design and popularity of social media. Websites engaged social software to incorporate users in decentralised activities of creating and reshaping the content of the web in a "continuing process" (Bruns 2008, pp. 15-27). With contribution and exchange of information expanding exponentially, motivation for participating in open content websites became an ever-more-important consideration.

Not only socio-economic factors affect using Information and Communication Technologies (ICT). Psychological, cultural or social factors have been shown to contribute to digital inequality across communities (Partridge 2007). Research into many different forms of ICT use shows strong variation in patterns of use. As people interact with the internet, they are controlled by personal values, such as self-directedness, enjoyment, or self-achievement, shown to control, for example, the e-shopper's behaviour and attitudes (Jayawardhena 2004, p. 130). Even digital crime involves and expresses a criminal's personal or social values; perhaps increasing their personal wealth (Lewin & Trumbull 1990, p. 274), or seeking excitement. Software crackers, for example, choose software piracy because of the challenge in evading copy protection software (Goode & Cruise 2006, p. 196), a complex, to some degree ideological motivation.

Current uses of the internet were not the main purpose of internet designers. Originally, the internet was a tool to facilitate military research in information exchange between research institutes and the American army; the network became wider when it expanded to involve many more networks all over the world (Castells 2001), and became a useful tool for non-military uses. Web 2.0 is a set of principles that considers the web as a

platform for many interactive practices and applications; and most importantly, it harnesses ‘collective intelligence’ and encourages the ‘re-use’ that enriches user experience (O'Reilly 2007).

With Web 2.0 technology, more power was given to internet users to reshape web content (Bruns 2008, pp. 9-28). Such user content innovated networks, which are horizontally distributed, increasing individual freedom of choice, and thus social welfare (von Hippel 2007, pp. 310 & 311). Horizontality of content production and consuming creates random, even chaotic situations. Within such situations, new digital orders have been created, with online users arranged as either active players or passive users. A new set of values is emerging: one privileging active participation and information ‘authoring’, or instant, and constant ‘expressivity’, over more careful and considered consumption. Despite the ‘2-way’ notion behind interactivity, there is a privileging of ‘active use’ in the new ICT ‘culture’ – and especially with the acceleration into ‘Web 2.0’ movement of social media use. People’s thoughts and their values may determine their orientations in the virtual world.

There are now massive numbers of contributors to open content projects or open software projects, where each contributor assists with a small instance of contribution, to increase the overall quality. Sproull and Conley (2007) found that an increasing number of modules led to an increasing number of contributors. As they fix the module’s programming errors, quality improvement occurs. The quality of Wikipedia, despite ongoing concerns, such as its unstructured content due to the inherent openness (Richards 2009) has reached a level where it is as accurate as *Encyclopaedia Britannica* (Giles 2005).

The increasing size of the team producing the material leads to an increase in team resources, including time, energy, and skills – and this leads in turn to the sustainability of projects (Butler 2001, pp. 352-358). All of these add to the ‘value’ of open content for educational use – and specifically for non-Anglophone use, where translation or cultural re-positioning adds cost to the task of updating information. Open educational resources appear to have much to offer for education systems outside Anglophone

services. Do they, however, also contain particular cultural or social orientations, as part of their core design? If so, does this create further problems for trans-cultural use of content, and format?

Open content as ‘knowledge in action’

While both individuals and companies use the internet, there are also many social movements using it to promote their values and to attract supporters. Governments advance public services, or seek feedback from citizens (Castells 2001). Such interactivity has been enhanced since the introduction of Web 2.0 technology, including blogs, wikis, file sharing, Really Simple Syndication (RSS), instant messaging and virtual conferences and seminars (Grosseck 2009, p. 479). Web 2.0, and its social software that allows individuals anywhere to contribute to the general knowledge base, is a form of ‘knowledge-in-action’ (Richards 2009).

Web 2.0 is used in distance education, for instance, to facilitate online courses and provide online support (Grosseck 2009). Course design problems can be overcome, with issues such as student confusion, time constraints, and even lack of interest, intercepted (Cole 2009, p. 146). Although Web 2.0 has some disadvantages such as anonymity, vulnerability to vandalism, issues relating to copyright (Bacak 2008), and folksonomy or missing hierarchy (Ebner, Holzinger & Maurer 2007), universities use it to foster cooperative learning; while tutors, teachers, students, and administrators are experimenting with how to use Web 2.0 tools to boost teaching and learning activities (Grosseck 2009, p. 482). Why then have they been so enthusiastic in its use, and what can this tell us of the characteristics of Web 2.0 use?

This new generation of the web, Web 2.0 or social software, allows users to be active contributors to collaborative knowledge production. The interactivity of Web 2.0 is argued to connect with the notion of communities of interest (Raffl *et al.* 2008, p. 608). When Web 2.0 is deployed as an engaged form of education, those communities create the social fabric of learning (Wenger, McDermott & Snyder 2002). By using social software people interact positively to make sense of their experience, for future

development of more reflective, abstract knowledge, available for subsequent application – by a community producing it, and potentially beyond.

Any community has a web of relationships, balancing joint activities to meet both needs for solid relationships, and the more personal values of community members (Wenger, McDermott & Snyder 2002). Wenger, White and Smith (2009) argue that technology and community work in a productive intertwining where each shapes the other. The concept means that the ‘community’ of learners established and sustained through ICT builds on a specific view of community – one which may not be culturally, or socially, universal. This in turn suggests the need for caution when asserting that Web 2.0 technologies will directly ‘improve’ activities such as education. Although Ras and Rech (2009) found, for instance, that engaging Web 2.0 in education can increase knowledge acquisition by 204%, understanding the needs and perceptions of the net generation, those born in 1980s and after and raised up with using the internet (Oblinger & Oblinger 2005), using Web 2.0 in learning, is a crucial issue (Ras & Rech 2009, pp. 9-10).

More students now depend on open content websites as sources for information – and this raises many issues in the academic arena. Authorship credentials and accuracy are discussed, from many different perspectives. Although authors contributing to Wikipedia are anonymous – and because they are anonymous, their credibility or reliable expertise is called into question, a recent study comparing *Encyclopaedia Britannica* and *Wikipedia*, found Wikipedia pages to be up-to-date, and conversely, there were errors located in *Encyclopaedia Britannica* that did not exist in *Wikipedia* (Giles 2005). Open content websites have become more reliable after contributors have become more aware of the need to provide references (Butler 2001; Giles 2005).

While some academics do not allow students to use open content websites, others encourage them to contribute to these websites as a learning instrument (Black 2008; Burnsed 2011; Eijkman 2010), increasing student collaboration, research skills and peer review processes – the ‘communities of learning’ position. There is revision of the content, not only by peers, but also by teachers, who have their own expertise in

specialist fields. Open content websites are not only sources of information, but pools of information which can be used in evaluation processes. Those contributors who edit content both perform and display critical thinking processes; and such thinking integrates established expertise and a future-directed orientation to further learning. Use of open content websites, such as wikis, changes the learning process from the ‘negative transfer’ of academic knowledge to the ‘positive transfer’ of experience (Elgort 2007, p. 237). Contributors locate examples from their own experience to activate "dry" theories and help apply them in the future.

It is information processes such as these which ensure that open content has advantages over physical sources of information – such as books. Digitised forms of content search and visualisation in features like hypertext allow readers to lead on from one topic to another (Crestani, Landoni & Melucci 2006, p. 200). This it can be argued, helps enhance the ‘constructionist’ impulse as learners and information seekers build new theory-to-application in their own ways of constructing knowledge (Kieslinger, Wild & Arsun 2006). At the same time, a wider range of sources is brought into play.

Increased economic pressures and the increase of publishing costs (Greco 2005, p. 45) lead information seekers not only to search virtual libraries (which allow readers to access their electronic resources with low subscription fees or membership fees), but also to search for free sources of information. The *net generation* approaches the process of seeking information as part of its ‘take-way’ *habitus* (Bourdieu 1984), expecting an easy ‘cut-n-paste’ behaviour. Context and value hierarchies cannot easily be disregarded – and that has cultural consequences on individuals’ behaviour.

Economic issues, factors relating to the ease of internet use, and the trend in education to group activities and collaboration, together put emphasis on the use of open content, whether as a free source of information or as a tool of collaboration. The values of ICT are clearly engaged: accessibility and interactivity, and at the same time reduced cost of both production and use. With growing awareness of open content websites among both contributors and ‘free-riders’ (Nov & Kuk 2008), the sustainability of open content/source websites increases (Butler 2001; Nov & Kuk 2008), and the levels of

accuracy and currency are higher too. It is important to note that the number of members in open content/source communities (Butler 2001) is not a significant factor for the sustainability of these communities. Rather, active members are needed to support communication activities (Sagers 2007), and so endorse and enhance the core values of the sites and their use. Wikipedia, itself, as an open content website, would not reach the level of accuracy and currency without active contributors.

Education too is heavily invested in the core values of ICT. Wiki technology is now engaged in education (Andersen 2006; Butcher & Taylor 2008; Cole 2009; Dalby 2007) as a tool for collaboration (Leuf & Cunningham 2001) in the learning process. The openness of wikis allows students to self-organise in synergistic learning communities to develop more relevant and useable content (Butcher & Taylor 2008, p. 37 & p. 43). Wikis have been used at different educational levels and in different ways, according to learning objectives. At primary school, wikis are tools for collaborative storytelling (Désilets & Paquet 2005). Although wikis allow synchronous collaboration, semi-synchronous collaboration is also found among students co-located in classrooms (Désilets & Paquet 2005). Peer review in writing in task-based learning not only allows school students to use creative skills in considering the audience perspective in their work, but also boosts student confidence as writers (Mak & Coniam 2008, pp. 452-3).

When wikis are used in higher education, they are used not only as tools for collaboration, but students are required to work together in group assignments/reports, to develop critical thinking, to assess the quality of resources, to use evidence-based argumentation and to demonstrate logical structuring of ideas through activities of peer review (see Lai & Ng 2011). Indeed, as Elgort (2007) argues, the use of wikis in education contributes to the development of new conceptualisations of pedagogy, developing a more positive transfer of knowledge, in the sense that knowledge becomes an active tool for future problem solving rather than an abstract commodity. There are, however, some shortcomings to these new information-processing regimes. For instance, while the flexibility of wikis helps students develop skills such as mind-mapping, it also runs the risk of producing disorganised content/argument. Finding a

balance between open-endedness, peer collaboration and careful selection of content and concept structuring remains a challenge.

What then persuades open-content participants of the benefits – or pleasures – of such online resources as wikis? How far is it self-regulatedness, or the appeal of collaborative composition? And how far is that appeal influenced by the personal, social or cultural backgrounds of participants? Regardless of the awareness of advantages of using wikis in pedagogy, there are unanswered questions. What reasons/motivations drive contributors to educational open content webpages: all volunteers? Literature on volunteering suggests that volunteers do cost-benefit assessments before they decide to contribute their time and effort. Clary *et al.* (1998b) argue that volunteers attempt to help others, but also seek benefits for themselves, including developing their social networks, or improving their own understanding and career futures.

The question of whether to use or not use Web 2.0 forms, such as wikis and blogs, in education has been asked. Clearly there are some advantages, disadvantages, and challenges in using Web 2.0 in education (Grosbeck 2009). de Pedro *et al.* (2006a, 2006b) conducted quantitative and qualitative analyses in comparing two groups of students: those who used traditional ways of writing their assignments, and those who used wikis. Student marks in the wiki group were higher than the traditional group; while time spent writing assignments was higher in the traditional group than the wiki group. Scaled results showed that students gained higher satisfaction from sharing files and collaborating over content than the traditional group (de Pedro *et al.* 2006b).

There are many factors contributing to the readiness of adopting and using wiki technology. Factors like previous experience with wiki technology and the teacher's motivation in convincing students to engage with wiki technology may affect student outcomes (de Pedro *et al.* 2006a); and although students find wikis enjoyable tools, enhancing team work, and improving writing skills, such benefits might not be achieved without technological, educational and social (collaborative) affordance (Woo *et al.* 2011). There are certain minimum ICT skills and levels of education required before effective wiki-engagement occurs, and these are not always equally in place. Lai and Ng

(2011) found that while most students were able to learn from and work with their peers, other students were reluctant to join in any wiki tasks. These are not then openly available for pedagogic use – a clear indication that something within the socio-cultural context impacts upon user pre-disposition towards use.

What produces collaboration?

Some consider that the social willingness to collaborate is impacted, even if indirectly, by the complexity/ease of social software. Wiki technology is not the only tool to enable collaboration. Other tools exist: Computer Supported Cooperative Work (CSCW), which is not suitable for all collaborative activities (Gomes, Rivera & Courtiat 2005), or Drupal (Monks 2008), a powerful tool for content management, but which may be too complex for collaboration. The ease of use of wiki technology for end users has fostered the adoption of this technology in education. Different tools are also being used to produce educational texts across different Open Educational Resources (OER) providers: Global Text Project uses Drupal, Wikibooks uses MediaWiki, and Connexions uses CNXML and MathML (Wikibooks 2007; Connexions 2008; Monks 2008). Lack of technical skills, however, contributes to lack of collaboration. Infrastructure issues (lack of computers with internet connection, or lack of access time), or psychological inability (lack of confidence), both limit participation. These too may be different across different social or cultural contexts.

Online collaboration in information sharing can be seen as an extension of what occurs in real-life settings. There are differences in the nature of information sharing between individuals from different cultures: while information sharing is a matter of choice for individualist Australians, it is seen as part of the collective responsibilities of the collectivist Taiwanese (Chow *et al.* 1999). Even the ‘what to find from whom’ (Cho & Lee 2008), as a matter of cultural impact upon individuals, differs across cultures: individualists accept information from members outside their group more easily than collectivists in a computer-mediated collaboration. Research has also found that patterns of online activities in open content webpages of Wikipedia vary across cultures (Pfeil,

Zaphiris & Ang 2006). Is culture the only factor that impacts upon contributors to Wikipedia?

Although research so far shows that those who contribute labour to real-world organisations (RWO) have different reasons that differ across individualist (Clary *et al.* 1998b) and collectivist societies (Wu, Lo & Liu 2009), Western-based research also shows that motivations for contribution to open source software (Lakhani & Wolf 2005a), open content webpages (Nov 2007a), and open educational resources (Sajjapanroj *et al.* 2008) also differ across educational level, age and gender. How about the motivation of non-Western individuals? Are they the same as for Western individuals? Are there any contextual factors, other than culture? If yes, what are these factors? The complexity in researching OER motivation across cultures is that there is an influx of many factors, cultural values, individual and contextual factors, which all affect individual motivation.

The inexorable drive to collaborative learning

Over the last few years, ICT has become widely used in education (van der Wende & Beerkens 1999). Governments have allocated resources to make ICT accessible for students and staff in educational institutions, and to provide training to teachers to help engage ICT tools in the curriculum, to support learning and teaching processes (Dore 2002).

The term ‘ICT’ covers all forms of computer and communication equipment and software used to create, store, transmit, interpret, and manipulate information in various formats, such as database records, images, and multimedia presentations. Engaging ICT in educational processes first enhances traditional forms of education provision, disseminating learning and teaching material to both students and teachers, improving ICT skills for teachers and students, sharing ideas and enabling collaboration. Engaging ICT in education is universally held to lead to long term social and economic

development for any country (Communication Statistics Unit 2006). Over time, however, educational operations, alongside the broader everyday use of ICT, have been understood to be also influencing entire modes of processing information and interacting with social peers.

While Whelan (2008) stresses that both developing and developed countries have reached established positions in relation to ICT policies, economic, social, and cultural considerations also have to be taken into account (Tondeur, van Braak & Valcke 2007) in relation to how ICT use proceeds – even within defined and controlled fields such as education. Resistance to the high degrees of interactivity demanded in ICT use might relate to technical demands – but these are also socially and culturally produced, in that an individual's willingness or resistance in developing technical skills results in complex formations relating to what is or is not valued, necessary, or appreciated. How far then is information exchange and 'active' information seeking valued within a specific socio-cultural context? Can this be shown to impact upon motivation to participate in activities such as contribution to open educational resources?

Engaging ICT in education began years ago. It can clearly be recognised in distance learning, especially after the dissemination of the internet. Its story is not simple. It required redesign of the curriculum to learner-centred models. A number of ICT technologies helped promote synchronous and asynchronous learning through collaboration and interaction (Beldarrain 2006), from first generation tools such as emails, discussion boards, and chat rooms; and subsequently wikis and blogs, clearly used in education in developed countries and carrying promise for developing countries. The distance education model, with its more flexible and remote-delivery systems, has much to offer nations still completing their communication and transport infrastructure. Does it however suit all pedagogical cultures?

The current use of social software re-allocates power within the education systems: it enables students to collaborate in generating new ideas – and such empowerment given to students deconstructs the traditional school systems (Wheeler, Yeomans & Wheeler 2008). Wikis, for instance, support individual learning styles. They facilitate the sharing

of information among learners, as well as remote participation when face-to-face collaboration is hard (Mindel & Verma 2006). Wheeler, Yeomans and Wheeler (2008) recommend that students need adequate skills to engage with wikis in education. Teachers are also required to moderate student activities, and support student collaboration outside classrooms hours (Wheeler, Yeomans & Wheeler 2008, p. 994). Does the level of school, teacher and learner readiness affect individuals in their voluntary participation in open content educational resources? The formula stresses both interactivity and self-directedness – features which at first sight appear to support the deconstruction of traditional education. But are these qualities of collaboration pulling forward applications to enable and enhance participation? Are there potential issues in relation to such collaborative activities, which have the potential to negatively impact on the benefits? Can such activities, for example, increase the risk of plagiarism? Although the objectives for using wikis in education include the enhancement of academic writing skills among students, as well as improving their collaborative skills, while arguably the role of the instructor (or teacher) is to verify the content, avoid plagiarism (often aided by the use of software applications such as Turnitin), and check that the content is consistent, and according to program objectives (Andersen 2006; Bold 2006; Parker & Chao 2007), it is unlikely that these solutions will fully address issues of academic integrity. However, this issue, despite its importance, is beyond the focus of current research.

Engaging ICT in education means understanding requirements in relation to hardware, software, networks and most importantly, people. How curriculum engages these technologies in learning processes rests on the level of skills available among end-users. While economic factors play a role in the readiness to engage ICT in education, they are not as important as socio-cultural factors; and these are variable. The technologies, however, are also marked by the same socio-cultural contexts in which they develop (Winston 1998) – and with both their design and their roll-out implemented within commercial enterprises, and distributed to global markets. But, the market for educational provision, especially in non-majority-language regions, requires careful attention to the needs of OER consumers and later OER ‘producers’ (Bruns 2008). Redressing the dominant market models of ICT as these technologies are applied to education will mean careful re-design and selection of systems and contents.

Daffara and González-Barahona (2000) note that although most developers of open source software are from developed countries, the movement goes beyond developed countries. Contributions from developing countries can be recognised from such instances as the language versions for the manifesto of GNU as open source software (*The GNU Manifesto*). While individuals from developing countries are not active code contributors to OSS (Holwerda 2009), they are active content contributors to OSS manuals. Is it a matter of cultural preference, or a matter of the programming skills they lack? With the case of contribution to open educational resources, what factors significantly impact upon individuals? Is it about creativity and innovation? Within a post-digital organisation, existing systems of research and development are very dynamic, adding ongoing layers of innovation (Castells 1996). Sectors such as education must examine ways to activate pedagogic principles through the new digital systems. What does the new ‘informal’ digital education offer in relation to ‘formal’ education? Who is brought to participate in ‘informal’ education, and why? Are there any lacks in the current ‘formal’ education system that make individuals seek open educational resources OER? What constructs can be implemented in ‘formal’ education borrowed from ‘informal’ education?

Why participate? Any differences among individuals?

Deci and Ryan (2000) argue that when people find an activity either interesting (intrinsic motivation) or important (well-internalised extrinsic motivation), they are influenced by their own satisfaction. Values and goals, however, differ from one culture to another, and so does need satisfaction. To understand needs across cultures (Deci & Ryan 2000, p. 246):

it is necessary to take a dynamic perspective, to go deeply enough into psychological processes to find linkages between the underlying needs and phenotypic behaviours that are different in different cultures.

Locating those ‘needs’ means investigating at the level of individual users from different cultures, patterns of understanding of what is motivating their decision to

use/contribute to – or not use/contribute to – open educational resources. The study postulates that wikis, key instances of open content educational resources, provide a location in which the underlying needs include not only improving learning, but also networking and career enhancement. Further, because of the way in which wikis operate on mass expert information, they provide a location in which the new ‘paradox of autonomous behaviour’ can be examined.

The collaborative nature of Web 2.0 technology, especially in wikis, is seen as having the power to solve many problems in learning processes. According to Stine (cited in Steele 2008), a wiki acts as the voice for shy students, builds academic skills and solves the problem of choosing the appropriate time for collaboration. Steele (2008) mentions two main problems in engaging wikis in education: the problem of student access to wiki pages, and the problem of skilled teachers. The first is mainly economic. Governments and some Not-for-Profit Organisation (NPO) initiatives have taken action in providing access to the internet. The second problem concerns the lifelong learning skills that help teachers to adopt new technologies and engage them in education processes – and, it is argued, prepare their students for the ‘values’ behind, and within, an ICT practice driven by the dominant socio-economic order (Boltanski & Chiapello 2005; Castells 1996; Flew 2008). So, are these values so powerfully present within ICT technology uses and applications, such as wikis, as to motivate OER users to contribute content, or are there other forces also in play? When teachers encourage their students to engage in wiki activities, a form of extrinsic motivation for those students is in play. But does this extrinsic motivation co-exist with intrinsic motivation? Such motivators for open source software developers differ from one culture to another (Subramanyam & Xia 2008).

Culture, motivation and the issue of subjectivity

Will motivators to open educational resources differ across cultures? In general, what motivates someone within a specific culture may not motivate another person in another culture. Understanding cultural values and their impact on human behaviour is thus critical; and to ensure the effectiveness of any training programs, understanding those

values is important in planning and designing those programs (McClelland 1967). How then can those *value differences* be ‘captured’ within open educational resources participation, and which values provide the best opportunity for data collection and analysis?

Beyond these questions lies a more fundamental issue: what is ‘culture’ if motivation is ‘cultural’? Culture, in its simplest understanding, has been understood as national identity. In this conception, it involves the collective thoughts and behaviours of a group of people who share land, language, religion, history, symbols, heroes, and so on (Hofstede 2001). Beyond this however lies recognition of differences within national cultures, as crossed by ethnicity, social class, gender, age, and any number of ‘distinctions’ (see especially Bourdieu, 1984). Examining motivation as a way of exploring culture thus involves assessment down to the level of subjectivity, and these subjective elements include roles, norms, and values. ‘Subjective culture’, as defined by Triandis (1995), is a product of biological and cultural influences – a view which has attracted much criticism (Boesch 2008); while the ‘objectivity’ in studying culture includes studying objective elements, including artefacts that individuals within a society consume, such as local news/media channels, roads, schools, and tools. Bourdieu’s work for instance combines objective cultural sampling of cultural tastes as expressed through home décor, food choices, leisure preferences and so on, as well as extensive qualitative sampling through interviews and extended observation research.

The issue of subjectivity poses certain limitations to the current research. When examining cultural differences, there are always issues in regard to subject-object dualism, providing a space upon which what some disciplines consider as objective social forces can be personally negotiated. King (2000, p. 431), for example, argues that social life is a network of interactions between individuals, where the individual learns from others as much as from individual practices. This also suggests that a number of complex factors might impact upon OER *produser* motivations. At the same time, these factors are less likely to be fully independent variables, since there are also dual effects between variables such as cultural values and educational systems, or cultural values and religions. Hence, the current research needs to consider such limitations in designing a methodology to approach OER motivations across cultures.

Categorisations of cultures vary, and they too are negotiated and subjective. Such categorisations can for instance be geographical (the East and the West), national, lingual and/or religious. Such distinctions, despite their limitations, are necessary for the current research to allow the means for exploring cultural differences and similarities between the groups that are examined in this thesis. Categorisations are seen differently, and with different terminologies, across different disciplines. As discussed throughout this thesis, this individualism and collectivism distinction has been handled in many different ways in sociological, political and psychological literature – including recognition of differences in cognitive systems, differences in values and attitudes, differences in religions, differences in social systems and power hierarchies, and even extending to differences in adopting/resisting modernity. How then can such complex webs of difference be placed in suspension, to accommodate a study of culturally informed approaches to online practice?

One technique, introduced by Derrida (1998), has been to place such issues ‘under erasure’: that is, to proceed in the task of examining their presence and their influence, while constantly acknowledging the problematic aspects of their definition. Here, where culture is the key issue at stake in investigating motivation for OER participation, its use will constantly acknowledge the probable presence of many variables, and the tendency within the specialised field of culture-based socio-psychological studies in particular, to ‘essentialise’ or ‘homogenise’ characteristics and behaviours identified as ‘national cultures’. In particular, in using the work of Hofstede (2001) and Triandis (1995), such reservations will be in place – and methodologies and models selected for this study extended into multilayered approaches, to admit a broader set of possible ‘cultural’ positions.

The multilevel model and the multimethods approach

Since this research examines cross-cultural differences in OER motivations, there is a need to collect data from individuals from different countries/cultures. Such data are collected and analysed through a multilevel approach – an individual level of analysis, nested within a broader cultural/universal level of analysis, where observations aggregate. But since Steel and Taras (2012) suggest that research should not mix

national and individual levels of analysis, an adapted multilevel model is used to address OER motivation across cultures, which previous research influential in the sociological and psychological literature, has characterised as ‘individualist’ and ‘collectivist’ in their cultural orientation.

Individual levels of cultural predisposition will be examined through interviews, to allow categorisations such as ‘individualist’ and ‘collectivist’ cultures to be critically scrutinised. Any suggestion of the existence of and ‘universal level’ behaviours will be examined through questionnaires. While a questionnaire is able to identify differences in the "shared" values anticipated in concepts of a ‘national’ culture, interviews are able to tease out any similarities identified between individuals of the same culture – and perhaps differences between those individuals and other cultural categories. Thus within these ‘national’ characteristics, a multimethod approach can contribute to the developing of a clearer picture of cultural differences, but also accommodates subjectivity, and allows for the operation of sub-cultural differences.

This said, the study will continue to examine motivation, through online questionnaires, for engaging in OER at the universal level, in terms of values, goals, or reasons that OER users report as motivating them to ‘approach’ contribution, or ‘avoid’ contribution, and/or even face conflict between approaching and avoiding contribution. Approach and avoidance are universal phenomena, but there might be cultural differences in their motivation. Similarly, a F2F questionnaire will be used to validate quantitative study – factors established in the analysis of data collected by the online questionnaire. More specifically, there is a need to consider views about self-oriented and others-oriented goals, from those identified by past research as ‘individualist’ and ‘collectivist’ cultures. Differences in OER motivation among users can be influenced by demographics, interests and values, education field, and occupation, but also because those users are part of a whole system, where culture, including for instance educational system, professional practice or religious affiliation, plays a significant role in shaping and reshaping thoughts, motivations and behaviours. The online questionnaire and F2F supplementary questionnaires are recognised as limited in their ability to provide information that enables the research to draw causal explanations between cultural values and OER motivation. There is a need to go beyond the ‘limited’ values categories of ‘national’ culture: to include individuals' surrounding environments,

including for instance political and educational systems, and how individuals see themselves and other people around them. Interviews will explore any similarities between individuals sharing the same political and educational systems, and how these systems shape their views.

Open content textbooks and voluntary contribution

Open textbooks are free educational texts that are available online. They give their users the right, according to open licences such as GNU Free Documentation and Creative Commons, to use, edit, customise, reuse and distribute information, without permission from authors. Although it is claimed that open textbooks can provide educators, students and self-learners with digitised material that helps them in teaching, learning, and research (Baker 2008), the term ‘digitised material’ involves an assumption that these textbooks are complete and ready to use, like any physical textbook. As with any shift from one medium to another, new features emerge and new understandings are needed. In this case, the open content nature of textbooks must be recognised. The values behind users of these open texts and the values that motivate them to contribute learning materials, should also be considered.

Open content textbooks provide a free source of information (Cragun 2007; Valenza 2006); teachers can re-develop their own course content, according to the needs of their students. Students, working in collaboration, can add ideas that reflect their understanding and engage with their own environment. Content can be adapted and tailored to the ‘local’ – including a trans-cultural local. That adaptability, however, and the collaborative, participatory, self-directed values inherent within it, can also have different views in different cultural contexts.

Open content projects depend on contributors in different areas of the arts and sciences to produce collectively the content of each textbook. Producing a textbook is not an easy process. In electronic textbooks, the table of contents should be understandable and easy to use, and easy navigation and multimedia elements are important (Landoni,

Wilson & Gibb 2001; Wilson 2002). These issues are argued to be also significant in open textbooks. A researcher who reviewed a sociology textbook on a Wikibooks website found that while it had fifteen completed chapters covering the most fundamental areas from the teacher perspective, students had reservations. Their neutral acceptance of the structure of a sociology textbook worked at one level – but they found that the textbook did not cover all the information they needed (Cragun 2007). So, will issues relating to textbook interfaces and structures online also affect individuals' participation?

Textbooks are designed around gradual educational objectives, which derive from the '*accumulation of knowledge*' (Lesh & Lovitts 2000). Open content textbooks, however, are 'works-in-progress', inviting experts and non-experts to contribute to their contents. Here too, cultural differences of collaborators are becoming an issue. In traditional textbooks design, cultural differences are considered, and there is an established literature in this field. More specifically, considering cultural differences among students is a significant issue in education systems across the world and impacts on the curriculum objectives, content and objectives of textbooks (Attieh 1992; Gundara & Jones 1992; Mitter 1992; Ray & Poonwassie 1992).

With the globalisation of textbook publishing, considering cultural identity or accommodating multiculturalism becomes a significant issue, especially in open content. The collaboration of multicultural contributors to open textbooks, on the one hand, can make it hard to design and structure the content of textbooks; this is if people from different cultures are working on the same texts. On the other hand, multilingualism in open content allows more identified culture-based texts. Does that mean open textbook authors can find in these open texts the opportunity to revive their own cultural identities, or to react against globalisation? Are they adapting content to their own preferences and needs? Do individuals from different cultures have different priorities of the contents they need?

Efficient communications and coordination among collaborators are significant in virtual communities (Robey & Jin 2004). There has been a good deal of research in this area, discussing, for instance, communication tools, or critical issues such as

communication language, time differences, different interpretations of messages, and so on. Members of global virtual teams go some way towards dealing with challenges relating to cultural differences by fostering the awareness of these cultural differences through training (Dube & Pare 2001). Software such as SharePoint can provide solutions to make collaboration easier (Precup *et al.* 2006), yet despite the range of collaboration software, efficient communication and inter-cultural coordination are significant. Are collaborators in open content educational resources communicating with other authors? What are the reasons for their communication?

Even at the level of language, there are clear indicators of dominant cultural formations at play within open content. In open content websites, such as *Wikipedia.com* and *Wikibooks.org*, the number of articles in Arabic is very low compared to English. Considering the numbers of native speakers (Comrie 1998) of these two groups, there appears to be a problem. For example, the ratio of the Arabic modules to English modules in Wikibooks is 1%, a similar level to Wikipedia. One possible reason is that English is a major global language (Jandt 2007), the most popular second language; while Arabic, a language of high use, is spoken only by native speakers (see Table 1 in Comrie 1998). But Arab contribution to wikis is even lower than its speaker-population. Here the Italian contribution is relevant. The ratio¹ of Italian contributions (Zachte 2011) to Italy's population (CIA 2011b) is 0.07% (40,000/60,000,000). The ratio of Arabic contributions (Zachte 2011) to the population of Arab regions (see Appendix H) is 0.017% (50,000/300,000,000). Are these low rates a sign of resistance to accepting, disseminating, and using the internet – and does that involve cultural as well as economic conditions (Castells 2001), or are there psychological, social or cultural factors which contribute to digital inequality (Partridge 2007)?

Extending Bourdieu's (1984) theory of the reproduction of social structures, Kvasny (2006) argues that digital inequality is caused not only by insufficient access to and use of ICT (the so-called 'digital divide'), but also involves issues relating to social inequalities which shape values and expectations about ICT and its impact on life paths. Kvasny (2006) argues that ICT programs should focus not only on technical skills, but on strong linkages to existing (local) social services. The skills that bring people to the

¹ These numbers were collected in early 2008.

internet intersect with technology – but also with the availability of culturally and linguistically-specific internet content (DiMaggio *et al.* 2004).

There are social, psychological, cultural, and economic, as well as demographic and educational differences that contribute to the digital divide (Cuneo 2002). Although Partridge (2007) has attempted to address the problem of social, cultural and psychological perspectives of digital inequality, it can be argued that a closer inspection is needed of these differences at the level of individual user experience, as well as at a more macro level, especially in relation to cultural variations. This thesis aims to link psychological perspectives on human motivation with an investigation of individual views, sampling across cultures to address issues of political, cultural and sociological differences involved in unequal take-up of open educational resources.

Discovering whether culture has significant impact on the motivation of individuals who choose to contribute (or not contribute) to open educational resources is an important issue considering that users and *producers* for OER are from different national cultures. There are important differences between Arabic Middle Eastern and Anglo Western cultures, popularly – and perhaps superficially – held to involve the following features: Arabic culture is traditional; resistant² to technology; less-developed; and located mainly in the Islamic nation; Anglo culture is modern; interacts positively with technology; is more economically-developed, and focussed on secular states with predominantly Christian history and values, but heavily oriented away from religion and to secular ethics (Hofstede 2001). Hofstede's work is, of course, heavily reliant on national cultural categories which may, or may not, be supported in the context of individual experiences. His analysis, however, proceeds as if these value-sets do indeed separate Arabic and Anglo 'cultures'.

² Social movements in Middle East in the last two years, supported by Web 2.0 (social software) call into question assumptions that Arabic users are not advanced in using such technology to achieve social goals (see for example Barry 2011; Bayat 2011; Bhuiyan 2011; Carr et al. 2011; Ghannam 2011; Harb 2011; Khamis & Vaughn 2011; Khondker 2011; Mourtada & Salem 2011; Ottaway & Hamzawy 2011; Owais 2011; Skinner 2011).

These two ‘cultures’, Arabic and Anglo, are further coded into ‘individualistic’ versus ‘collectivistic’ orientations, involving what are termed ‘low power distance’ versus ‘high power distance’, social systems – by which is meant a distinctive predisposition away from, and to, the exertion of authority (Hofstede 2001; Triandis 1995). Within such *either-or* cultural coding, there will of course be both individual and trans-cultural/trans-national variations. No system of cultural coding is an absolute – and indeed, the very global-accessibility to information expressed in digital sources, such as open textbooks, in itself erodes and destabilises such ‘cultural’ positions. The categories do, however, provide a means of testing how far individual OER users from different cultures may differ themselves and in their OER use preferences in relation to these views. For these reasons, structured differentiations between Anglo and Arabic cultural predispositions will be used to manage data collection and analysis in this project – pending indications of further complexity as the study proceeds.

The research problem: Differences in motivation among Anglo and Arabic OER *producers*

Producer is a term invented by Bruns (2008, p. 21), where users of open content ‘engage not in a traditional form of content production, but are instead involved in *produsage* – the collaborative and continuous building and extending of existing content in pursuit of further improvement’. Open textbooks, such as Wikibooks, cannot sustain their development without users who are motivated to write to open content educational materials. Contributors to open content may however have very different motivations from those merely supporting open source/open content projects. Review of the literature (Bryant, Forte & Bruckman 2005; Forte & Bruckman 2006a; Hars & Ou 2001; Nov 2007a; Nov & Kuk 2008; Schweik, Evans & Grove 2005; Shapira, Kantor & Melamed 2001) in the fields of open source/open content shows that there are many different motivators acting upon contributors.

Motivation has been shown to differ across cultures (McClelland 1967). Pfeil *et al.* (2006) show that the patterns of contribution, such as adding, editing, or deleting links

or information, differ from one culture to another. Pfeil *et al.* applied Hofstede's (2001) theory of national culture to understand how, and why, cultural groups evince different behavioural characteristics and values. Within the domain of cross-cultural motivational studies, the focus here is to understand the impact of culture on motivations behind open educational resources contribution. It is argued that motivation patterns differ across cultures. However, are cultures (or cultural values) the only variables that impact upon motivations for open educational resources contribution?

In summary, the research problem involves the following research question: How does national culture impact upon motivation for contribution to open textbooks? In sequence, the study will examine the following issues relating to that one question:

- What are the relevant theories of motivation that can explain motivation for contributing to open educational resources? (Chapter 1).
- Which theories can be used to understand the play of cultural differences in an online context? (Chapter 2 and Chapter 3).
- What motivations do contributors to open textbooks have? (Chapter 4).
- How can case studies help examine motivations for contribution to open educational resources? (Chapter 5).
- What can be understood from the selected case study? (Chapter 6).
- Are there significant cross relationships between culture and motivation? What techniques can be used to explore motivations for contribution to open educational resources across the cultures studied? (Chapter 7).
- Are there similarities and/or differences in the motivation of individuals in relation to contribution (or non-contribution) to open educational resources across cultures? (Chapter 8, Chapter 9, and Chapter 10).
- Do these confirm the existence of Anglo / Arabic cultural predispositions identified in the data collected? If cultural values-variation does prove to be present and influencing open-content contribution, can it be adapted to improve participation levels across low-participation cultures?

Thesis structure

To address these questions, Chapter 1 reviews theories that discuss human motivation in general, with special focus on definitions of motivation. Among different motivation theories, two theories, Self-Determination and Goal-Valence, are assessed for their suitability in explaining user motivation for contribution (and non-contribution) to open educational resources. A unified theory is introduced to deal with lack of current knowledge, especially in relation to how motivation can be measured or assessed across cultures.

Chapter 2 discusses the concept of culture and its relationship with polity, economy, and religion, with consequences for cultural conflict and a cultural divide between West and East. These two broad cultural formations are studied at the level of national cultures, although it is recognised that they are each heavily modified by their own global and diasporic spread. Individuals in each nation – and its diaspora – are, however, held to be influenced by their national culture. Theories are introduced to help explain cultures at a number of different layers.

Chapter 3 examines the applications of selected cultural theory to test its suitability to examine cultural variations in the digital sphere – but also to examine how such variations can be understood and examined within the OER context.

Chapter 4 reviews the specialist literature relating to reasons for contribution to open source software (OSS), open content webpages (OCW) and open educational resources (OER). The review of such motivations helps identify gaps in the literature in regard to cultural influences on the motivation behind contribution (or non-contribution), especially to open educational resources.

Chapter 5 compares a number of open educational resource projects to select a case study that can consider a number of issues including the language of a website, the number of users, issues of the visibility of the contact list and the degree of openness to

contribution – each of these shown to influence the likelihood of users responding with active participation.

Chapter 6 reviews the relevant literature related to wikis, open educational resources projects, and critical issues relating to the nature of openness of online educational materials. Both quantitative research and qualitative research in the field of open educational resources are surveyed and discussed, to deepen the understandings of issues related to open content movement.

Chapter 7 discusses the relationship between culture and motivation in general, and specifically motivation to contribute to open educational resources. It considers culture as not the sole factor impacting upon motivation. Other more individual and environmental factors are also considered. To determine possible relationships between culture and motivation, a multilayered mixed methodology is employed. This approach makes it possible to examine the relationships between individual and contextual factors and the impact upon OER *producers*. In undertaking this multilayered approach, different methods of data collection are examined in order to choose suitable methods for online research designed to provide answers to key research questions, and at the same time achieve triangulation of the data.

Chapter 8 reports the results of the online questionnaire, distributing the data within the categories of the research model. This chapter aims to explore the link between motivation and culture. In doing so, similarities and differences of user motivation across the cultures studied can be reported.

Chapter 9 undertakes an additional study, to verify responses to the online questionnaire. Responses to this small study are discussed in relation to key theories.

Chapter 10 discusses the results of online interviews, examining participants' own views of how far cultural context impacts upon their motivations for active online participation or even for avoiding participation.

Overall, the study both deploys, and critiques, views of cultural variation in patterns of individual motivation relating to online, open content participation. If, as the study suggests, open content educational resources, such as educational wikis, are especially valuable to specific language groups, then it is crucial to discover whether cultural orientations to producing or using such resources also vary. The concluding chapter assesses findings from the empirical studies (the online questionnaire, the face-to-face questionnaire and the online interviews), and suggests ways of promoting contribution from the cultural groups examined.

Chapter 1

Building a model to understand motivation for participation to open educational resources

The dominant stance within cultural psychology is to view culture and psychology as mutually constitutive phenomena [...] which make up each other or are integral to each other. In such view, it is assumed that culture and individual behaviour cannot be understood in isolation yet are not reducible to each other.

(Miller 1997, p. 88).

[The] approach to cultural psychology assumes that people's cognitive, emotional, motivational, and behavioural processes are shaped through their engagement in a cultural world. The psyche, then, is not a separate, autonomous set of processes; it exists and functions only in close conjunction with the culture... Consequently, psychological diversity is an inevitable result of people's coordinating their responses with the prevalent, historically created and diversely organized systems of cultural meanings and practices...

(Fiske *et al.* 1998, p. 917).

This chapter reviews a number of theories that discuss human motivation in general, with a special focus on definitions of motivation across motivation theories. Contemporary theories of human motivation are assessed for their capacity to explain cultural variation within participation in open educational resources projects.

An introduction to the study of human motivation

The study of motivation requires an understanding of a human as a knowledgeable and rational being, able to initiate, persist in, or stop behaviour, and why s/he makes that specific choice (Weiner 1992). Definitions of motivation are debated within psychological theories of motivation. Motivational theories assess the problem of how to account for changes in behavioural choices made from the possible alternatives with which a person is confronted. People are found generally to engage in activities that they expect will produce desirable outcomes for them, and/or avoid engaging in activities that are expected to have unpleasant outcomes (McClelland 1967).

There are many theories that explore motivation. Some are neither current nor contemporary (Ford 1992). Historically, theories of motivation have dealt with human behaviour as a mechanistic response, and assert that a internal mechanism is responsible for energising human behaviour (Fiske 2008). More recent research in motivation focuses on the idea that people want to engage in actions and behave according to understandings they have about the *self* and in relation to *other* (Rotter, Seeman & Liverant 1962).

It has been claimed that classical motivation theorists such as McDougall (1926), Maslow (2000 [1943]) and Freud (2005 [1901]) have fallen into some common *traps* (Weiner 1992):

- 1) They name a limited set of motives (five plus or minus) that are unique to each behaviour and yet the same behaviour can be explained by different motives.

- 2) Such motivation theories focus on innate motivation and thus ignore (or are insufficient) in accounting for socialisation processes (interaction with the social environment).
- 3) They regard motivation as more or less biologically driven, which means that people are self-serving organisms, with reduced agency over their own actions. This involves an assumption that individuals are not ‘mindful’ beings.

In contrast, contemporary theories see motivation as happening at many levels, from within individuals, to between individuals, to between groups, and in different domains such as classrooms, human-computer interaction, and clinical settings. Such theories focus light onto different areas of motivation (Fiske 2008). Motivation varies – but much human motivation can be explained by three *basic* broad, flexible, and universal psychological needs: growth (competence), integrity (relatedness), and well-being (autonomy/self-determination) (Moller, Deci & Ryan 2007). Can these contemporary theories explain motivation for contribution to open education resources? What does ‘motivation’ mean within the venue of open content participation?

Definitions of motivation: The overlap of values, needs, goals, and motives

Definitions of motivation vary. Each theory has its theoretical model and methods, and thus the conceptualisation of motivation varies. There have been many attempts at classifying motivation theories (Weiner 1992). Surveying different theory classifications may help in developing a new, unified approach to studying motivation (Wood 1990). The following subsection illustrates the diversity of views.

Motivation is usually defined as a reason or cause for doing something, and the term *motive* is defined as a reason or cause for action which urges a person to act in a specific way (Alexander *et al.* 1987). In previous definitions, there was no distinction made between motivation and motives. However, in AllPsych the Online Psychology Dictionary (Heffner 2010), a distinction is made between the two words: *motivation* defined as a process that energises and/or maintains an activity, and *motive*, defined as

an internal state that provides a pathway for one's behaviour. Marshall John (1955), in his introduction to the Nebraska Symposium on Motivation annual volumes describes motivation in terms of how behaviour gets started, energised, maintained, directed and stopped (cited in McClelland 1987). McClelland (1987, p. 4) comments that 'motivation has to do with the *why* of behaviour, as contrasted with the *how* or the *what* of behaviour'. To answer the question of *why*, all determinants of behaviour must be included. The determinants of personal behaviours include motives, skills (or adaptive traits), and cognition (McClelland 1987). Providing a reason or reasons for the *why* refers to intent (McClelland 1987).

Intent is considered conscious when people refer to their own wishes. When people cannot report all of their intents, or if their reporting differs from what is implied, these are considered unconscious intents. Considering that individuals are intended to use and contribute to open educational resources, are they able to explain the 'why' of their OER engagement (whether for instance to read only, or to read and write)? The 'intention' itself is a problematic matter since sometimes individuals are obliged to perform some actions due to social responsibilities. Do individuals engage in OER by themselves? Do reasons for OER participation differ?

How then does motivation translate into action? A motive energises, orients, and selects certain behaviour. Motives are the content of individuals' goals (Austin & Vancouver 1996). However, conscious choices of behaviour are influenced by the individual's values, skills, and opportunities. This is a problematic issue since such definition involves an assumption that these behaviours are not produced in a social or cultural vacuum. While McClelland (1987) asserts that motive has an innate component, he also argues that it is learned.

Although McClelland (1987) makes a clear distinction between motivation and motives, he also uses these two words interchangeably. For example, under a subheading 'other influences affecting the achievement motive early in life', McClelland (1987, p. 260) explains that some researchers have investigated 'the origins of achievement motivation

in the earliest years of a child's life'. A motive, according to McClelland (1987), is thus not only an internal state that provides a pathway to a behaviour (the energising function); it also has an orientation function and a selecting function. This means that motive is not just an energiser, but rather a process. Thus, it can be argued that the word 'motivation' more accurately represents the process than the word 'motive'. Motivation will be the preferred term, since it focuses more clearly on a multi-layered movement towards action. Therefore, the behaviour of engagement with OER can be explained by the 'energising function'. What is this function which takes into consideration the social/cultural forces producing particular forms of motivation? What if there are multiple functions?

Atkinson and Litwin (1960) define a motive as an internal disposition that is concerned with approaching success and avoiding failure. In that sense, motive is related to goal. The relationship between motive and goal is particularly significant, even if the motive does not give rise to a goal (Thrash & Hurst 2008). Schopenhauer (1969) too made a link between motives and incentives: people do things based on their perception of the objective world, for specific reasons, that provide causality for their behaviour. In that sense, incentives are instrumentally direct behaviour.

However, the production of instrumental behaviour is not simply based on needs and/or outcome values (Brehm & Self 1989). Instrumental behaviour, depends on potential outcomes or perceived probability of success, as well as variation of task difficulty and related self-judged ability (Brehm & Self 1989), but is in each specific instance, a complex calculation or response. The 'potential outcomes', for instance, involve an assumption that behaviour can be selected according to different expected outcomes. What are the different expected outcomes of OER participation for OER users? Considering people are different, can 'all' these different motivations be identified?

Such insights complicate motivational processes. For instance, although an incentive may have economic value (Fehr & Falk 2002), incentives may also have other forms of value such as competition, participation, and praise (Locke 1968). In that sense, incentive is an external reinforcement that motivates individuals to behave in certain

ways in relation to certain outcomes. Regardless of the economic values of physical / monetary incentives, they also have symbolic values.

Values, themselves, are symbolic incentives that have different priorities for different people (Rokeach 2000). For example, *values-ranking* changes for different ages, educational levels, and across gender – a feature of motivation that is important to the comparative cultural attitudes towards online participation in open educational resources authoring, and the rewards it provides. In considering the outcomes of behaviour as energisers/incentives of behaviour intention, do all individuals possess the same level of ‘motivation’ regardless of their individual differences? For instance, females have been reported as having a higher ‘learnability’ time than males in e-learning, while males are more satisfied with navigation within e-learning systems than females (Adeoye & Wentling 2007b). Similar patterns of variability will be sought within the socio-cultural samples undertaken for current research.

Table 1 illustrates the interchangeability of different concepts used in the psychology literature, where meanings might overlap. The elements of different theories reflect the similarities of terminology associated with the definitions of motivation reported in the psychology literature, and so reveal how complex a matter assessment of motivation has become.

Table 1: Similar and unique elements and terminologies in theories of motivation

Terminologies Elements		Values (Rokeach 2000)	Needs (Murray 1964)	Goals/ Aspirations (Kasser & Ryan 1996)	Motives (McClelland 1967)
Similar elements	Accomplishment	Sense of accomplishment Self-respect	Achievement (desire) Understanding	Self-acceptance (growth) Financial Success (money)	Achievement
	Relationship	True friendship Mature love	Affiliation Succorance	Affiliation (relatedness) Community feeling (helpfulness)	Affiliation
Unique elements	Aggression		Aggression		
	Enjoyment	Happiness Exciting life Pleasure			

Here, as shown in Table 1, the abstraction of values, needs, and goals reveals dual sets of motivation, but intersect at some instances, including motivation that reflects the *self*, but also in the relation to the *other*. What is more difficult here is how to identify this duality, in specific instances of actual behaviour, as well as across culture.

In order to clarify what motivates individuals within a particular culture, it is necessary to understand how that culture values certain clusters of human behaviour. McClelland (1987) has made a clear distinction between motives and values. In his study, values are measured by asking people what is important to them, while motives are measured by coding the content of people's thoughts. McClelland (1987) stresses that motives and values are associated. Feather (1975) argues that both motives and values can influence valences.

Valence, according to Feather (1995), is the subjective attractiveness of each alternative. Values can be regarded as *what is important to individuals* and involve notions of the *ultimate source of behaviour*. These ultimate sources of behaviour can then be represented as goals: cognitive representations (Elliot & Fryer 2008) or aspirations (Kasser & Ryan 1996). Such formations are relevant to the investigation of patterns of sustained difference in goals of participation in an activity such as online wiki authoring.

As shown above, there are varying conceptualisations of values, needs, goals, aspirations and motives reported in the literature. Although researchers such as McClelland (1987) distinguishes between motives and values, Elliot and Fryer (2008) distinguish between motives and goals. Since motives are the content of individuals' goals (Austin & Vancouver 1996), a close look into Table 1 shows clusters of commonly related values, but also limits to goal-fulfilment. For instance, people who value true love and friendship (Rokeach 2000), may still have a need for affiliation (Murray 1964). The need for affiliation can be represented as an affiliation motive (McClelland 1987). Those individuals seek to meet their goals of relatedness (Kasser & Ryan 1996), so that overall many motivations can lead to one behaviour. The complex matter is that if OER users are asked to report their motivations, how can these motivations be clustered to identify a shared function?

The one thing that is common to all these conceptualisations of motivation is that all of the theories are concerned with an understanding of *why* people are driven to act in a certain way. Motivation derives from a need to achieve a goal, but at the same time is driven by a value. Indeed, theorists are concerned with studying outcomes through an understanding of *strings* of reflective knowledge of values generating behavioural intentions, or how a human impulsive system elicits behaviour through motivational orientations (Strack & Deutsch 2004). These ‘strings’ of reflective knowledge of values, are, on the one hand, relating to what is expressed by OER users and, on the other hand, involved the assumption that what they express, provide a ‘complete’ and ‘true’ picture of their motivations – which can be questioned. There may be a way to deal with this ‘wrong’ assumption, as will be discussed in this chapter.

One way of explaining motivation has been to assume that it is a rational behaviour, assessing the likely advantage or disadvantage of a given act. Logic is the study of reasoning and involves evaluating reasons as either *proper* or *improper*. Logic is not in itself the study of how people reason, but rather, how they ‘should’ reason. Developing a more complete system of logic means first developing an understanding of how people actually do reason (Bonevac 2003). The issue of rationality is a core aspect of many contemporary mental theories, which are largely concerned with the relationship between logic, an invisible construct of the human mind, and observed human performance (Piaget 1953). It involves a debate between *internalists* and *externalists* about rational choices.

Internalists argue that beliefs, desires, and indeed identities are mental entities that have motivational force in relation to social action, because they permit the expression of motivations. For externalists, actions can be explained instrumentally; thus, they do not rely on mental representations, but explain observable behaviours by considering contextual variables (Aguiar & de Francisco 2009). If ‘rationality’ depends on individual mental processes, what would happen if someone finds achieving a goal beneficial, but at the same time cannot achieve such a goal? Does that involve conflict between desire and ability? Again, behaviour should be explained by internal beliefs

and values, as well as external and contextual instruments. But individuals are different, and so their beliefs and contextual factors are different, since culture, community, politics, and the social system differ. How best to assess whether any of these variables provide proper or improper reasoning? Which of these contributes more to an assessment of how motivation behind open education resources authoring varies across cultural groups?

The literature suggests that there is a set of both individual (internal) factors and environmental (external) influences that impact upon human motivation and influence an individual to initiate behaviour. These factors include individual needs, cognition, traits and beliefs; while the external factors involve social responsibilities, social norms, job requirements, and law and regulations. These factors interact, to impact upon how an individual goes about making a rational choice, moving towards the achievement of specific outcomes. An individual may provide a reason, or a set of ranked reasons, that explain their choices. These reasons may include one or more factors that reflect needs, beliefs, social obligations, goal aspirations, or community norms, or all of these factors. In other words, behaviour is an outcome, or the ‘visible’ side of motivation.

Theories of motivation not only discuss motivation from different perspectives (biological, ethological, environmental, and cognitive), but overlap at times, and contain contradictions at other times. One way forward is to categorise motivation theories, to reveal dominant models and to help select positions which assist in addressing the cultural differences in motivation, on which the research for this project is founded.

Classifying motivation theories

Researchers in many studies have aimed to classify motivation theories. Their efforts have resulted in the invention and reinvention of different modes of classification. In this section different classifications are discussed, in order to assess and choose an appropriate motivation model to help in developing the research framework used in examining OER motivational differences across cultures. In other words, the literature is used here to support the development of an appropriate theoretical model to be adopted (with some adaptation) to allow explore similarities and differences in OER motivation across cultures.

As argued above, a basic assumption in theories of conscious motivation is that humans have reasons for their behaviour, as well as intentions to pursue their goals (Aarts & Hassin 2005). Within this logical or rational processing, decisions are made based on both the perceived values of the outcomes of an action and the probability of its achievement (Strack & Deutsch 2005). Feather (1982) argues that positively-valued outcomes lead to *approach*, while negatively-valued outcomes lead to *avoidance*. Rokeach (2000) considers values to serve adjustive, ego-defensive, and self-actualisation functions. Within such a consideration, values can be prioritised.

Although Rokeach (2000) has used ranking to identify priorities, Schwartz and Sagiv (1995) use a scale, which provides a graduated ranking from *positive* to *negative* dimensions. Such a view simplifies the mental processes – and actually does not consider any conflict involved. Even when taking one side, approach or avoidance, there are many reasons explaining the behaviour. The models considered here are used to manage the variability of behaviours categorised not to suggest that human behaviour is in itself a codified arrayed system.

Goal theories have focused on the study of the ‘conscious’ ways that people strive toward their desired end-state. Goals too are thus complex and multiple. For example, pre-service teachers have a goal to complete their studies in order to graduate and become teachers (Richardson & Watt 2005). Richardson and Watt (2005) found that students undertaking studies in education, because 1) they have the desire to become teachers, as well as for related reasons, including the desire for social status (such as level of respect in the country); 2) career fit (such as ability and a demanding occupation); 3) prior considerations (such as family support); 4) financial reward (good salary and economic well-being) and 5) being able to spend more time with the family. This suggests that although some individuals have the same goal, desired end, they have different reasons.

Goals can be either intrinsically motivated, for instance, by the desire to feel competent, gain mastery and/or satisfy curiosity; or extrinsically motivated, by a desire to receive external praise, external rewards, or recognition from others (Sinclair, Dowson & McInerney 2006). Then there is unconscious motivation, or automatic motivation, described as motivation that leads an individual to respond immediately to an environmental condition. Once it is activated, ‘unconscious’ motivation operates outside conscious awareness.

According to Chartrand and Bargh (1999), automatic process refers to a behaviour that is carried out with minimum awareness. A person’s perception may trigger their intention and direct it towards an actual behaviour, yet that person is not aware of what triggered the intention that resulted in his or her behaviour. Does this mean that at times, individuals may not be able to be rational about their behaviour? In other words, does this then mean that investigations of motivational behaviour, such as this one, may be limited in their capacity to extract reliable information from OER users in relation to their own behaviours?

A study undertaken by Barnett (2007) involved an investigation of unconscious motivation that leads some people to be therapists. Barnett was particularly interested in understanding the origin of the desire that therapists had to ‘*help others*’. Barnett (2007)

based his research on Owen's (1993) question (Owen 1993 cited in Barnett 2007): why do altruistic individuals choose to care for others, while other individuals remain more focused on their businesses? Barnett (2007) reviewed therapists' autobiographies, and found that they reported their own experiences of loss, loneliness, and rejection at some time in their lives.

Interviews conducted with nine therapists added further support for the finding that they had experienced loss and deprivation at some point in their own lives. Unconscious motivation is not only a response to environmental conditions, but can be impacted upon by internal values. Whether caused by conscious motivation or unconscious motivation, helping others will be discussed in detail later in this chapter. In the meantime, it appears possible to gain insights into motivation for specific behaviours, even if it is conducted unconsciously. Inquiry techniques such as narration may explain any 'unconscious' or 'implicit' motivations for participation to OER – as discussed further in this chapter.

Goal attainment in motivation

Conscious and unconscious motivation share features of goal attainment. In other words, in relation to the outcome measures, research to date shows there is a similarity of goal attainment between conscious and unconscious motivation (Gollwitzer & Bargh 2005). To explain, goals are represented mentally. They can even become automatically activated, based on an association between these representations, as in the case of commonly experienced situations. The goal is then activated in an unconscious manner. However, once activated, it operates the same way as conscious goals in terms of its effect upon memory, thoughts, and the behaviour selected to pursue that goal. Thus, once a goal is activated, consciously or unconsciously, there will not be differences in terms of how thoughts and behaviour are guided towards the desired end state. Self-evaluation, goal striving, goal projection, sustained goal activation and goal persistence (Gollwitzer & Bargh 2005) are involved in either case – and are likely therefore to emerge in sampling of specific populations for the purpose of determining their motivations for such activities as voluntary OER authoring.

To some extent, the research which has established how motivation works shows that both conscious and unconscious motivations may be in play. It was found, however, that those individuals who had a clear intention enacted more planned responses (Gollwitzer *et al.* 2008). Of course, despite the presence of intention, there might still be a failure to initiate a goal-directed behaviour (Gollwitzer *et al.* 2008). Choosing to do a specific job (the goal) can for instance be caused by either *conscious* motivation (such as the intention of the students who wanted to become teachers), or *unconscious* reasons (such as feelings of loss and rejection in the early life of therapists). Although it is said that unconscious motivation is an automatic response to environmental conditions, the case of the therapists shows that unconscious motivation can evolve over long periods of time and develop internally in an individual's mind. How then can such motivation be surfaced through research? To gain an accurate picture of motivation for contribution to OER, research methods should be selected and designed to collect data about both conscious and unconscious motivations.

Hope of success versus fear of failure

One of the most prominent theorists to contribute to the study of achievement motivation is Atkinson (1964) who extended Murray's theory (1938, cited in Atkinson 1964). Murray (1964) developed a taxonomy of basic human needs. One of the twenty human needs described in this taxonomy is *desire*. Desires cannot be achieved without effort and intention. It is suggested that those who are high in achievement need, strive to attain success because they perceive themselves as able to achieve their goals (Kukla 1972).

How then can achievement-orientation as a motivation be described, and so investigated? Atkinson (1964) viewed achievement-oriented behaviour as a result of a conflict between *approach* and *avoidance*. With each, there is a possibility of success and a possibility of failure. The anticipated emotions associated with behaviour, the emotion of pride and the emotion of shame, are in conflict. The conflict of emotion involved in hope of success and fear of failure results in achievement-oriented behaviour. The tendency to *approach* achievement-related goals (Ts) depends then on three factors, which are represented by the following equation:

$$T_s = M_s \times P_s \times I_s$$

M_s is motivation for success (the disposition to strive for success); P_s the probability of success in a task (a cognitive goal expectancy); and I_s is the incentive value of success (the capacity to experience pride in achievement).

On the other hand, *avoidance*, the tendency to avoid failure, (T_{AF}) is also determined by three factors, as represented by the following formula:

$$T_{AF} = M_{AF} \times P_F \times I_F$$

M_{AF} is motivation for to avoid failure; P_F the probability of failure in a task; and I_F is the capacity to experience shame when failure.

Thus, the result of achievement motivation (T_A) can be represented by the following formula:

$$T_A = T_s - T_{AF}$$

T_s is the tendency to approach achievement-related goals and T_{AF} the tendency to avoid failure.

In this model, ‘expectancy’ concerns the perceived likelihood of success. This model can be recognised as ‘cognitive’ rather than ‘mechanistic’ (Weiner *et al.* 1971), because humans in their learning and behaviour perform expectancy-value analysis in a ‘multiplicative function’ (Weiner 1992, p. 162) rather than behaving according to drives or habits. So, is there still potential for motivations towards certain behaviour to be categorised into clear structural patterns – a useful means of analysis of cross-cultural motivation?

Weiner (1992, p. 188) argues that Atkinson's (1964) model has shortcomings, since it is not able to explain why there are some individuals who approach their goals, but at the same time their avoidance shows as $M_{AF} > M_s$.

Moreover, combining the motives (achievement-oriented activity T_s and failure avoidance tendency T_{AF}), means those who might score high in both motives or score low in both motives can be grouped into an 'intermediate group'. Complex hypotheses with different possible alternatives, (as illustrated in Table 5.5 & Table 5.6 in Weiner 1992, pp. 189-190), show that conflict between hope of success and fear of failure leads to the same achievement motivation T_A . To this degree then, approach and avoidance orientation remain complex, and perhaps contextual. Many factors may be in play, but most importantly, it is argued that subtraction of avoidance motivation from approach motivation should not be made.

Although hope for success and fear of failure are traditionally related to achievement motivation, Sokolowski *et al.* (2000) found that hope (approach) and fear (avoidance) are also related to power motives and affiliation motives. They refer to these power and affiliation motives as hope for affiliation/fear of rejection, and hope for power/fear of power. Sokolowski *et al.* (2000) apply a multi-motive grid (MMG) to assess people's approach (hope) and avoidance (fear) across the three main motives: *achievement*, *power*, and *affiliation*, based on the findings from a self-report questionnaire.

Unlike Atkinson (1964) who studied *approach* motives and *avoidance* motives separately from each other and in relation to achievement motive only, the multi-motive grid represents *approach/avoidance* motives across *achievement*, *affiliation* and *power* motives. Although the results of factor analysis did not differentiate the three approach motives (hope of achievement, affiliation and power) and avoidance motives (fear of failure, rejection and power), the results of the confirmatory analysis supported the six-factor model (Sokolowski *et al.* 2000) presented in Table 2 (which includes corresponding statements that were embedded in their self-reported questionnaire):

Table 2: Some selected statements from the MMG (Multi-Motive Grid) relating to Achievement, Affiliation, and Power

Statements of the Multi-Motive Grid (MMG)	Achievement	Affiliation	Power
Feeling confident of succeeding at this task	HS		
Thinking about lacking abilities at this task	FF		
Feeling good about meeting other people		HA	
Being afraid of being rejected by others		FR	
Hoping to acquire a good standing			HP
Being afraid of being overpowered by other people			FP

Note: MMG = Multi-Motive Grid. HS= Hope of Success, FF= Fear of Failure, HA= Hope of Affiliation, FR= Fear of Rejection, HP= Hope of Power, and FP= Fear of Power.

The MMG, according to Michalak and others (2006), focuses on an implicit system of emotions across three domains: feeling proud/ashamed (*achievement*), feeling accepted/rejected (*affiliation*), and feeling influential/inferior (*power*). Explicit goals include not only *approach* goals such as making new friends, and *avoidance* goals such as avoiding hurting friends, but also ambiguous goals, that cannot be classified as either *approach* or *avoidance*. These include, for instance, not being nervous, or being well-balanced (Michalak *et al.* 2006). This suggests a case of conflict between approach and avoidance and again suggests a complexity of motivation. Furthermore, while achievement motivation is more related to *self*, both power and affiliation motivations express the one's goal in relation to *other*, and yet any of these three motivational orientations differ across cultures (McClelland 1987).

Anderson (1996) illustrates that approach and avoidance systems logically imply interdependence between approach and avoidance tendencies, as they are not one-dimensional. A single goal involves multiple motivations, as with approach-avoidance conflict. Moreover, Anderson (1996, p. 16) sees that all motivations have a similar function, in that 'they place values, positive or negative, on aspects of the environment'. Thus, human behaviour is determined by achieving a balance between success and failure, approach and avoidance, rewards and punishments, and hopes and fears – especially when it comes to achievement goals. Michalak, Heidenreich and Hoyer (2004) find that goals are in conflict with each other, and to a great degree, they consist of more avoidance goals than approach goals (Elliot & Thrash 2002). Approach and avoidance play a central role in human functioning, and are integrated towards

successful adaptation; that is, approach motivation facilitates thriving and avoidance motivation facilitates surviving (Elliot 2008).

In their first study, Elliot and Thrash (2002) found that *approach* tendencies and *avoidance* tendencies are systematically linked to types of personality. But personality itself is shaped by culture (Benet-Martinez 2007; McCrae & Terracciano 2006; Triandis 2001). So, will approach and avoidance motivation – more specifically for contribution to open educational resources, differ across cultures?

Approach and avoidance behaviours do help social-psychology account for human motivational patterns of conduct, and will help deepen the understandings of voluntarism in online, open educational resources, to describe and explain trends towards wiki authoring.

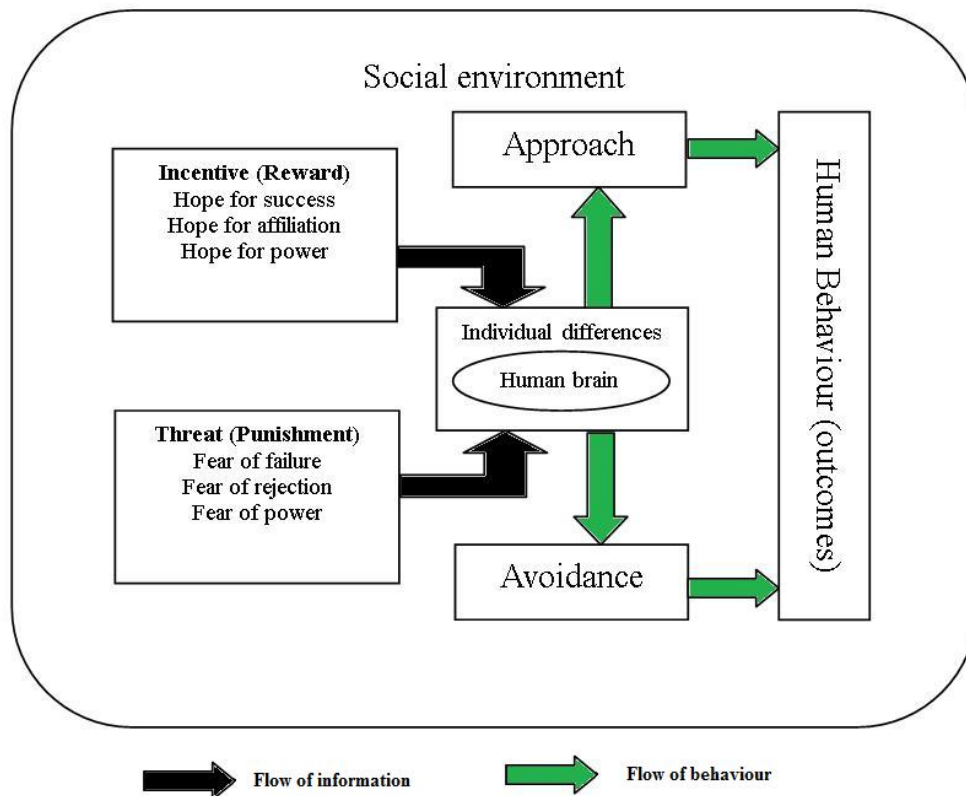
Goal achievement: Approach and avoidance

Goals are cognitive representations of something that may happen in the future. Goal-directed behaviour is thus proactive and not reactive. This mental image of future possibility has a causal effect on present behaviour (Elliot & Fryer 2008). Goals encompass both the goals themselves as objects, and some sort of approach and avoidance tendency. However, needs and motives sometimes affect behaviour without goal mediation, which raises the largely-overlooked question about need-oriented and motive-oriented behaviour relative to goal-oriented behaviour (Elliot & Fryer 2008).

Gable and Strachman (2008) introduce a model that considers motives, approach/avoidance goals, mediating processes and outcomes, as well as considering threats and incentives from the environment, in an attempt to establish relationships between goals, motives and outcomes. To someone who is approach oriented, successful interaction with the social environment provides incentives such as companionship, fun, and understanding, while painful interactions are those that fail to provide any of these rewards (Gable & Strachman 2008). Moreover, sensitivity to both approach and avoidance is associated with adoption of those goals. That is, approach to social rewards (such as making new friends), and avoidance of social punishment (such as avoiding loneliness) are linked.

Approach and avoidance motives and goals are associated with different patterns of social outcomes (Gable & Strachman 2008). Once again, these prove to be complex – even contradictory – behaviours. In other words, motivations for achieving any goal do not always involve rewards that benefit the individual by achieving the goal. Sometimes there are issues that the individual wants to avoid by achieving that goal. So, will contributors to OER seek understanding and learning, and perhaps some enjoyment, as well as protecting themselves from being bored or being isolated? Avoidance, here, does not necessarily mean not committing to a certain behaviour – which also happens – but committing to certain behaviour to avoid negative issue.

Since approach and *avoidance* can be linked to the three motives: *achievement*, *affiliation* and *power* (Michalak *et al.* 2006; Sokolowski *et al.* 2000); and since there are individual differences (McCrae & Costa 1987) impacting upon the way a person approaches and avoids certain outcomes (Elliot & Thrash 2002), augmented by the way an individual is interacting with his surrounding environment (McClelland 1967), a new model is needed to help clarify these issues. This model should consider how individuals undertake the processes of evaluation when hoping for success (motivation that stimulates them to approach their desired outcomes) and fearing failure (stimulus to avoid undesired outcomes) (Cain & LeDoux 2008). It must incorporate the complicating factors arising within the social – and cultural – environment, as shown in Figure 1.



Source: Following the work of Cain and LeDoux (2008)

Figure 1: Hopes and Fears, and Approach and Avoidance and the Social Environment

This model takes into account individual differences (i.e. thoughts, attitudes, emotions, traits, as well as gender and age) and socio-cultural and contextual influences (including culture, economics, politics, and education system). Culture and motivation are strongly linked, and it can be argued that many cultural differences produce motivational differences (Kitayama & Cohen 2007; Kitayama & Markus 2000; Kitayama *et al.* 1997; Markus & Kitayama 1991; McClelland 1987; Morling & Kitayama 2008).

Douglas and Craig (2009) summarise a large body of research which has considered culture as synonymous with nation, and hence cultures are generally considered to be bounded by political borders (Douglas & Craig 2009). This is a problematic assumption given the physical mobilisation and media globalisation of the twenty-first century (see especially Castells 1996, 1997). More discussion of motivation and cultural difference

is presented in the next chapter. In the meantime, having noted the impact of environmental factors, it is important to consider how intrinsic and extrinsic motivational factors interact.

Intrinsic motivation versus extrinsic motivation

In order to design a study to examine cross-cultural patterns of motivation behind voluntary behaviours such as contributing to open educational resources, it is necessary to survey those motivation theories of most use to such an analysis. There is no best way to classify motivation theories (de Charms 1968). Weiner (1972, 1992), for instance, draws on two forms of metaphor: theories that consider persons as machines, and theories that consider persons as rational beings. As discussed earlier, individuals may be rational beings, and think before any behaviour, assessing conflicting outcomes, but most importantly, their environment plays a significant role in these mental processes. Rotter, Seeman and Liverant (1962) and de Charm (1968) adopt an organismic approach to the study of motivation, arguing that individuals are either internally directed or externally driven.

Deci (1975) argues that there are some contextual elements that impact upon human motivation. Such elements include extrinsic rewards, surveillance, deadlines, evaluation, and competition. How then do such internal and external factors operate in open educational resources, and how do they affect individuals who contribute or do not contribute? How can these factors be recognised when researching motivation for contribution/non-contribution to OER? Individuals are oriented to their environments, and concerned with information that regulates their behaviour in different situations and domains (Deci & Ryan 2008) – such as open educational resources. There are five micro-theories which constitute what is called self-determination theory. These evolved theories will be examined in turn, before reconciliation, providing a workable model for that will be designed for the purpose of examining OER motivation.

Self-Determination Theory and its five sub-theories

Self-Determination Theory (SDT) is developed in the last four decades. It involves five mini-theories. While some of SDT mini-theories deal with motivational phenomenon as a process, others deal with it as content. Keeping this view in mind, each mini-theory is discussed, in order to choose the most relevant mini-theory that might be adequate in explaining OER motivation across cultures.

Self-Determination Theory (SDT) considers what it sees as the interplay between the ‘extrinsic’ forces acting on individuals and their ‘intrinsic’ motives and needs (interest, curiosity, care values, abiding values) held to be inherent in human nature. It articulates a meta-theory which remains of particular interest because of its focus on *how* social and cultural factors may facilitate or undermine human motivation (Deci & Ryan 2010). Ryan and Deci (2004) argue that SDT incorporates propositions they collect into five ‘*mini-theories*’ (Deci & Ryan 2010):

- 1) Cognitive Evaluation Theory (CET)
- 2) Organismic Integration Theory (OIT)
- 3) Causality Orientation Theory (COT)
- 4) Basic Needs Theory (BNT), also referred to as Basic Psychological Needs Theory (BPNT)
- 5) Goal Contents Theory (GCT).

These theories contribute to a Macro Theory of Self Determination. The integration of these five mini-theories provides a solid foundation for a Theory of Self-Determination which incorporates types of social regulation, and their associated processes, perceived locus of causality and quality of behaviour, in order to identify the nature of human motivation across an internalisation continuum (from non-self determined to self-determined), as discussed in the following section.

Building on internal and external feelings, Deci (1972, 1975) makes a distinction between intrinsic motivation and extrinsic reinforcement. Intrinsically motivated people are those who engage freely in activities to experience interest and enjoyment;

while extrinsically motivated individuals are instrumentally focused on contingent outcomes. Such external instruments may include reinforcers such as money and/or verbal praise.

Based on his research into the impact of extrinsic rewards on intrinsic motivation, Deci (1972, 1975) argues that money decreases intrinsic motivation, while verbal reinforcement tends to increase it. The undermining of intrinsic motivation is caused by changing the locus of causality from internal to external through the cognitive evaluation of inequity. Inequity, according to Adams' Theory of Inequity (cited in Goodman & Friedman 1961), exists when a person perceives that the ratio of his outcomes to inputs is unequal in comparison with the ratios of others. Outcomes refer to rewards.

1) Cognitive Evaluation Theory

In an examination of cognitive evaluation theory (CET) in a natural work setting, Boal and Cummings (1981) found that reward systems may decrease intrinsically motivated individuals. However, they also found that CET alone is not enough to explain intrinsically motivated behaviour, especially in cases when people were paid to perform simple tasks. These findings suggest that CET cannot be relied on to fully explain how motivation operates in work settings. Can CET then explain volunteers' motivation when indirect (or moral) rewards are given to volunteers to enhance their intrinsic motivation?

Positive feedback (verbal reward) enhances intrinsic motivation (Deci 1972), yet tangible rewards, such as payment, decrease intrinsic motivation (Lepper, Greene & Nisbett 1973). Feedback helps to explain to individuals whether they are progressing or not (Locke & Lathan 1990), and so helps to enhance and extend motivation. Expectations of tangible rewards thus undermine intrinsic motivation (Deci, Koestner & Ryan 1999b). When an event prompts a change in perceptions towards a more external perceived locus, intrinsic motivation will be undermined – and vice versa (Deci & Ryan

1985b). When an event increases perceived competence, intrinsic motivation will tend to be increased and vice versa (Deci & Ryan 1985b). Once again, motivation is complex, and often contradictory. But some issues do become clear.

Controlling aspects of the social environment such as deadlines, punishment, competition and evaluation are conducive to a shift towards a more external locus of causality which undermines intrinsic motivation, while informational aspects (such as feedback) enhance intrinsic motivation (Deci 1972; Ryan & Deci 2000a). Generally, self-controlling forms of regulation can be associated with undermining intrinsic motivation, whereas more autonomous forms of self-regulation will maintain or enhance intrinsic motivation, and so are likely to be especially relevant to processes of teaching and learning – and to voluntary work on ‘open’ forms of online participation and information exchange. More specifically, if people expect to receive recognition from their contribution to open educational resources, will that affect their intrinsic motivation? If they do not receive the recognition they expect, will they stop? What if there is mix of other benefits they can get from their contribution? Some people enjoy their work (intrinsic motivation), but at the same time, they work for financial reward (extrinsic motivation); yet the increase in reward does not affect their level of work enjoyment.

2) Organismic Integration Theory

Organismic Integration Theory (OIT) is based on the assumption that people are ‘*naturally*’ inclined to integrating their ongoing experiences (Ryan & Deci 2004, pp. 14-15), and using external prompts from others as stimulus to remain committed to activities that lack intrinsic reward. Under such circumstances, individuals are expected to internalise an activity’s external regulation. To this extent, individuals can be regarded as autonomous, even when enacting what is extrinsically motivated behaviour. The internalisation process is thus the main process in self-determination and is best presented on a continuum. The more regulations are internalised, the more they become part of an integrated self, and the more they form the basis for what appears self-determined behaviour. The degree of internalisation of regulation (on the continuum)

thus makes degrees of autonomy (Ryan & Deci 2004, pp. 14-15). These five degrees of autonomy can be described:

- 1) *Amotivation* is a lack of intention to act, which results from the feeling that an individual is unable to achieve a desired outcome, because of lack of perceived competence (Deci 1975), or because they do not value the outcome (Ryan 1995).
- 2) *External regulation* is the least autonomous form of extrinsic motivation. Individuals are motivated only by rewards, or to avoid punishment. External regulation has an external perceived locus of causality.
- 3) *Introjected regulations* involve regulations that have been internalised, but not truly accepted as one's own. Individuals are motivated to avoid guilt and shame, or to attain ego enhancement and feelings of worth.
- 4) *Identified regulation* is a form of extrinsic motivation that involves a conscious valuing of behavioural goals and an acceptance of a behaviour as personally important.
- 5) *Integrated regulation* is considered the most autonomous form of extrinsically motivated behaviour. Individuals have identified values, goals, or needs that have already become part of the self. Integrated regulation is still considered extrinsic however because it involves personally important outcomes, rather than 'inherent' or 'innate' interests and enjoyment.

This theory (OIT), thus has a special focus on different types of extrinsic motivation, and the contextual factors that either hinder or promote internalisation and integration of these controlled regulations (Ryan & Deci 2000a, 2000b). An adapted version of 'taxonomy of human motivation' (Ryan & Deci 2000a, 2000b, 2004, 2005) is represented in Figure 2:

Types of Motivation	Amotivation	Extrinsic Motivation				Intrinsic Motivation
Quality of Behaviour	Unwillingness	Passive Compliance				Active Commitment
Types of Regulation	Non Regulation Lacking intentionality; behaving as a function of unregulated drive, emotion, or external force.	External Regulation Intentional responding controlled primarily by external contingencies	Introjected Regulation Behaviour controlled by internal contingencies related to self-worth and generalised approval, accompanied by the experience of pressure and anxiety	Identified Regulation Relatively volitional action regulated by one's sense of importance of the activity or role for one's values and self-selected goals	Integrated Regulation Acting autonomously from integrated sense of self, in accord with a coherent identity	Intrinsic Regulation Volitional engagement in activities out of interest and spontaneous satisfaction
Associated Process	Perceived non-contingency, Low perceived competence, Non-relevance, Non-intentionality	Salience of extrinsic rewards or punishment, Compliance/Reactance	Ego involvement, Focus on approval from self or others	Conscious valuing of activity, Self-endorsement of goals	Hierarchical synthesis of goals, Congruence	Interest, Enjoyment, Inherent satisfaction
Perceived Locus of Causality	Impersonal	External	Somewhat External	Somewhat Internal	Internal	Internal
Nature of Self Determination	Non self-determined	Internalisation Continuum				Self determined

Source: Adapted from Ryan & Deci (2000a, 2000b, 2004, 2005)

Figure 2: Types of motivation across Internalisation Continuum

Internalisation and integration of uninterested behaviour occur when providing a rationale for a behaviour. Internalisation is the process of taking in a value or regulation, while integration is the process of fully transforming external regulation for oneself (Ryan & Deci 2000a). Thus, the status of an individual's motivation for behaviour can range from unwillingness (amotivation), through the process of internalisation and integration, to passive compliance (extrinsic motivation) to active personal commitment (intrinsic motivation). Ryan and Deci (2004, p. 18) stress that:

although behaviours governed by integrated regulations are performed volitionally, they are still considered extrinsic because they are done to attain personally important outcomes rather than for their inherent interest and enjoyment.

This claim is however problematic. Integrated regulation involves a process of synthesis of the meaning of a value or goal (Ryan & Deci 2004) and it is seen to have an '*instrumental*' value rather than enjoyment. Moreover, it is difficult to determine whether engagement with a particular activity is regulated by internalisation or intrinsic motivation. This difficulty is because there are individual differences in what people find interesting, as well as cultural differences in what groups of people find valuable (Koestner & Losier 2004, p. 102).

Deci and Ryan (1985b) found that intrinsically motivated students (those who strive to achieve understanding for its own sake) demonstrate positive attitudes toward research (such as being research-active and interacting with their lecturers); while extrinsically motivated students (those who seek to satisfy learning needs but not for learning itself) have negative attitudes to research (and so avoid interaction with their lecturers). This finding tells us that different forms of motivation may produce similar effects – in this case, commitment to study; yet the study of behaviours which result can proceed differently. This also suggests that what might be seen as intrinsic for one person might be extrinsic for another, and so too across cultures.

Intrinsic and extrinsic motivation can be evaluated as low or high, depending on the value a person places on a goal and so the extent to which s/he receives satisfaction from attaining such a goal (Breen & Lindsay 1999). If students have ill-conceived ideas about the meanings of their discipline, they might withdraw, fail, develop inappropriate approaches to learning or drop courses, depending on their levels of goal and enjoyment measures (Breen & Lindsay 2002). This not only suggests that people have intentions relating to the goals they want to achieve, but also they are able to rank their motivations – and this indicates that the ranking itself determines whether a goal is fully internalised or is still seen as external – which suggests the need for a more flexible classification for intrinsic and extrinsic motivations.

In their own empirical research, Koestner and Losier (2004) asked participants from two domains, politics and education, to provide reasons for participating in political events or reasons for continuing studying, respectively. Their study aimed to distinguish the affective, cognitive and behavioural consequences of intrinsic motivation as opposed to extrinsic introjected and identified motivation. They found evidence that introjection placed individuals at risk when negotiating important transitions to education; students were pursuing their education because of the pressure they felt to avoid guilt. However, they found that intrinsic regulation related to positive outcomes, such as successful adaptation to school transition and active information processing.

Identified regulation was more significant than intrinsic motivation for healthy transition and adaptation. Thus, Koestner and Losier (2004) concluded that internalisation and intrinsic motivation work in a '*complementary fashion*' to promote adaptation and growth. Moreover, while intrinsic motivation works with short-term goals as it energises emotions such as excitement, identification works more with long-term goals as it provides commitment and fosters positive emotions such as pride in accomplishment.

An adapted version of the conceptual characteristics of the introjected, identified, and intrinsic regulatory style (Koestner & Losier 2004, p. 105) is presented here as Table 3. This shows that while all individuals are committed to their goals, some have positive emotions, for either excitement or values, and others had negative emotions that show their conflicted orientations. Does this mean that those who contribute to open educational resources have different goal orientations from the approach to the conflict between the approach and avoidance? With the positive emotions related to goal involvement, can it really be easy to distinguish between excitement in the short term and identity in the long term especially in non-paid voluntary work in open educational resources since it is common in voluntary to have 'non-long-term commitment'?

Table 3: Regulatory styles and goal orientation

	Regulatory style		
	Introjection	Identification	Intrinsic
Involvement level	High	High	High
Emotion level	Negative	Positive	Positive
Locus of causality	External	Internal	Internal
Regulation guide	Conditional self-regard	Identity and value	Excitement emotions
Goal orientation	Approach/avoidance (conflicted)	Approach (long term/ outcomes)	Approach (short term/ process)

Source: Koestner and Losier (2004, p. 105)

In relation to online learning research, intrinsic motivation is commonly considered ‘playfulness’, while internalised extrinsic motivation is called ‘usefulness’. Perceived usefulness can have a positive impact on the intention of e-learners to continue using e-learning services, while playfulness has more positive effects, leading individuals to use e-learning services in the first place.

Perceived ease of use has little significant impact upon student attitudes towards e-learning, while instructors’ skills and attitudes have positive impacts upon learners’ perceived ‘playfulness’ and ‘usefulness’ (Lee, Yoon & Lee 2009; Lee, Cheung & Chen 2005). This indicates that even with intrinsic motivation, termed playfulness here, external factors, such as teacher attitudes and skills, play a role in e-learning intention. Furthermore, both playfulness (intrinsic) and usefulness are needed to secure participation. But, usefulness involves both a sense of value (identification), and might include the sense of reward – perhaps avoiding possible troubles. Therefore, when addressing the research problem, motivation should be considered as well as factors relating to the education system

3) Causality Orientation Theory

If internal or external regulations affect human motivation, so too do aspects of personality. Measures and results of aspects of personality constitute the third mini-theory, Causality Orientation Theory (COT). Deci and Ryan (1985a) have designed a 7-point Causality Orientation Scale (GOS) to assess three different modes of functioning in terms of the source of initiation and the subsequent regulation of behaviour. Table 4 provides a summary of the findings of Deci and Ryan’s (1985a) study.

Table 4: Types of event and behaviour orientation

	Events		
	Amotivated	Controlled	Informational
Description of Behaviour	Undermine motivation decrease behaviour recurrence	Facilitate controlled- determined behaviour (non-integrated, extrinsically motivated behaviour)	Facilitates self- determined behaviour (intrinsically motivated behaviour and chosen extrinsically motivated behaviour)
Orientation	<i>Impersonal orientation</i> promotes amotivation (self-derogation)	<i>Control orientation</i> is more related to pressure compliance	<i>Autonomy-orientation</i> promotes self- determined functioning
Example of Questionnaire item	What if I can't live up to the new responsibility (inability)	Will I make more at this position? (Money)	I wonder if the new work will be interesting (Interest)

Source: adapted from Deci and Ryan (1985a)

As shown in Table 4, an *autonomy orientation* involves regulating behaviour on the basis of interests (intrinsic motivation) and self-endorsed values (well integrated extrinsic motivation). *Controlled orientation* involves regulating behaviour on the basis of how a society advises individuals to behave (external and introjected regulation). *Impersonal orientation* involves the intention not to act (amotivation and lack of intentional action). This indicates that amotivation includes unwillingness to act, when people actually do act, or not acting at all – which suggests dimensionality in amotivation.

Event categorisations, as shown in Table 4, allow investigation of how an individual's attitude towards or justification for their response to an event or projected event, can reveal activities of the type online participation tends to present. Such 'personal' orientations – usually understood by individuals and their peers as 'just how I am', can be elicited by the sort of 'projective' questioning indicated in the sample questionnaire topics shown in Table 4. Can contribution to OER be linked to behaviour orientation? Each event is a response linked to a particular orientation towards an action and value. Such orientation – undertaken in a projective context – are generally, however, understood by individuals as factored upon 'needs' – shifting focus to the next mini-theory, outlining how psychological human needs are understood.

4) Basic Needs Theory

According to Ryan (1995, p. 413) psychological needs are 'functional'. Although needs are ultimately universal, their more complex psycho-social expression will vary across age, gender and culture. Need satisfaction contributes to well-being (Deci & Ryan 2000). As he explains, 'not only are one's conscious desires not definitional of needs; conscious wants and desires may often run counter to basic needs'. For example, the value of independence leads an individual to avoid relying on others, but such a value conflicts with relatedness needs. Consequently, the value of independence can negatively impact upon integration and well-being. Ryan (1995, p. 414) shows how evaluation of psychological needs

also allows empirical investigation of whether values of specific culture foster the psychological growth and health of its members or engender desires, practices, and lifestyles that are incongruent with psychological needs, leading to individual distress and stagnation and, at a cultural level, fragmentation and alienation.

The 'regulation of behaviour', according to BNT, promises much for a cross-cultural study of volunteer motivation in an online context, where a new form of social relatedness is in play. Ryan (1995) points out that there is a lack of research in the area of the 'regulation of behaviour' which gives enough consideration to the 'social-contextual condition'. Personality integration can be viewed as either a process or as a trait. When the environmental conditions are seen to be intermediating – the focus is on the *social psychology of self-regulation* (Bandura 1991; Beer 2002).

Satisfaction of needs and thus well-being may, therefore from this perspective, differ across cultures (Deci & Ryan 2008). The issue of psychological basic needs is controversial in contemporary studies of motivation, because it stands as an opposite to cultural relativism (Deci & Ryan 2004). The acquisition of identity is held to primarily occur through a process of assimilation. Families and societies encourage (or discourage) some roles for some persons, through social pressures, constraints and reward systems (Ryan & Deci 2004). Although Markus, Kitayama and Heiman (1996) have argued that SDT in general is applicable only in individualistic Western cultures, Chirkov, Ryan and Willness (2005) found that all cultural orientations can be factored into its schemata, the responses being either autonomy regulated, or more directly controlled.

The literature so far does not strongly demonstrate differences in motivation within this theorisation. In other words, how can a cross-cultural study operate within this theorisation? Cultures, or cultural values, can be distinguished using dimensions. Triandis (1995) uses four dimensions³ to represent culture: *horizontal individualism* (HI); *horizontal collectivism* (HC); *vertical individualism* (VI); and *horizontal collectivism* (HC). Hofstede (2001) identifies five values of national cultures, represented in dimensions; each nation has its position, that reflects the intensity and direction of a value, on the value dimensions. These value dimensions are: *individualism*, *masculinity*, *power distance*, *uncertainty avoidance*, and *long term orientation*. Theories that deal with values as means for cultural identification are discussed in more detail in Chapter 2.

Chirkov, Ryan and Willness (2005) argue that each culture has its norms and practices which are internalised by its members to varying degrees. They compare Brazilian and Canadian students, using Triandis' (1995) cultural model of individualistic and collectivistic orientations, since goals and preferences vary across cultures, and so needs have different 'functional' purposes. Participants in their study were asked to report how important and frequent specific practices, reflecting various cultural orientations, are in their own social context. Chirkov, Ryan and Willness (2005) asked participants to rate, 5-point *Likert*-type, *why* they would engage in different cultural practices, and whether such practices are regulated by identification (personal value); integration (a value that is reflectively accepted and fits with one's other values); introjection (self-or other approval); and/or external enforcements (rewards or punishment contingencies).

Chirkov, Ryan and Willness (2005) found that although Brazilian students have a higher level of autonomous regulation of all four practices in comparison to Canadian students, results also show that cultural fit is positively associated with the internalisation of

³ While individualism-versus-collectivism focuses on the degree of independence to interdependence, the horizontal-versus-vertical focuses on the degree of equality in the hierarchy. More specifically in 1) vertical individualism, people are independent and they distinguish themselves from others; 2) vertical collectivism, people are interdependent, and they distinguish themselves from others; 3) horizontal individualism, people are independent and they see themselves as equal to others; and 4) horizontal collectivism, people are interdependent, and they see themselves as equal to others.

horizontal practices for the Canadian students. They also found that the Brazilian sample cultural fit is positively associated with the internalisation of vertical practices, which suggests what can be called cultural internalisation. This suggests that cultural context thus complicates the model, but more importantly that the ranking for the goal itself (whether as integrated value or as external contingency – for example) determines the level of internalisation.

5) Goal Content Theory

The vertical and horizontal practices reflect goal orientation. This is consistent with the fifth mini-theory, Goal Content Theory (GCT). Goals have their own impact on motivation, and they differentiate forms of well-being, as discussed earlier. *Intrinsic goals*, or intrinsic aspirations, include caring for the community (or community contribution), close relationship and personal growth; while *extrinsic goals* include financial success, popularity, fame, and appearance (Kasser & Ryan 1996). Deci and Ryan (2000, p. 260) stress that ‘it is necessary not only to consider *what* goals people pursue, but also *why* they pursue them’. They explain that intrinsic goals are associated with growth and self-actualising tendencies, while extrinsic goals are associated with rewards or praise.

Kasser and Ryan (1996) identify seven goals directed to an individual sense of well-being. These goals can be *intrinsic* or *extrinsic*, and can *theoretically* be classified into the main three motives: *achievement*, *affiliation* and *power*, as shown in Table 5:

Table 5: Proposed intrinsic and extrinsic achievement, affiliation and power aspirations

	Intrinsic	Extrinsic
Achievement	Self acceptance (growth)	Financial success (money)
Affiliation	Affiliation (relatedness)	Social recognition (fame)
Power	Community feeling (helpfulness)	Appealing appearance (image)

Note: Physical fitness (health) is excluded from the classification due to its ambiguous intrinsic/extrinsic nature.

Individuals may of course select goals that do not represent their own interests and values – or do not represent them well (Sheldon & Elliot 1999). Sheldon (2004b) discusses the perceived locus of causality (PLOC), arguing that individuals sometimes fail to choose appropriate goals that meet with their actual needs, interests, and values. In other words, Sheldon (2004b) investigates whether chosen goals are concordant or congruent (Sheldon & Elliot 1999). Sheldon (2004b) finds that self-concordance goals (or self-integrated actions) can be defined as goals that inspire a person's interest (intrinsic goals) and deeply-felt core values (identified goals), while non-integrated actions involve external goals and introjected goals. These extrinsic goals such as money, popularity and beauty (Kasser & Sheldon 2002 cited in Sheldon 2004b) are likely to be false positive, as opposed to intrinsic goals such as intimacy, community and self-knowledge (Sheldon 2004b).

The view of whether a goal is intrinsic or extrinsic complicates the goal orientation model. More specifically, while a goal can be either intrinsic or extrinsic depending on the level of internalisation, from the point of view of goal achievers, the goal itself can represent the horizontal and vertical practices, relating to the level of equality, rather than the level of independence which is more associated with individualism-collectivism practices.

Such complexity would suggest that self-oriented versus others-oriented practices better represent the cultural orientation, since both intrinsic and extrinsic goal content – as illustrated in Table 5 – can be classified 'theoretically' as *self-oriented* or *others-oriented*. Self-oriented goals can include self-acceptance and financial success, while others-oriented include affiliation, social recognition, community feeling, or appealing appearance. So, to deal with such complexity, it is important to distinguish between goal content and value orientation first.

Values and goals are however related. Kasser (2004), in developing a self-determination theory of values, proposes, that values reflect both intrinsic and extrinsic motivation. He argues that SDT does not take values into account. Values sometimes reflect the self (intrinsic), and sometimes reflect coercive processes (extrinsic) (Kasser 2004). To explain, he suggests that values may sometimes serve as functions to extrinsically motivate people, and at other times, represent the growth of oneself.

Although studies in SDT pay attention to the need for both autonomy and relatedness, the need for competence remains unclear. Kasser (2004) argues that people are more oriented towards intrinsic values than extrinsic values. However, when environmental conditions thwart needs satisfaction, people will re-orient to extrinsic values. The change in value orientation suggests, in relation to motivation towards OER, the environmental conditions might impact upon OER users, and change their personal, or cultural, value orientation. Will it be possible to determine such value orientation change in relation to OER participation? Are there any possibilities that both personal values and environmental conditions co-exist and impact upon the individual's motivation? Personal values differ across cultures, as well as environmental conditions. How, then, can this complexity be addressed in relation to enhancing the understandings of OER motivation across cultures? Furthermore, if environmental conditions play a role in goal orientation, can they play a role in inability or unwillingness to achieve a certain goal?

Causes of amotivation

While there has been considerable attention given to the study of intrinsic motivation and extrinsic motivation in the literature, the study of amotivation, it can be argued, is neglected. There is a need to explore the complexity of this motivational deficit beyond the one-dimensional model (Frederick 2009; Legault, Green-Demers & Pelletier 2006). Ryan and Deci (2000a) define amotivation as lack of intention to act, whether not wanting to act at all, or acting passively with no sense of intention. Amotivation is said

to arise from: 1) inability due to lack of contingency; 2) lack of perceived competence; and 3) negative belief in the value of an activity or its outcomes (Ryan 1995).

The reasons for amotivation thus vary. Amotivation and intrinsic motivation are each treated as one dimension (Deci & Ryan 2000). However, Vallerand *et al.* (1992) found that intrinsic motivation can be multi-dimensional, involving: 1) knowledge; 2) accomplishment; and 3) stimulation. Similarly, Pelletier *et al.* (1999) distinguish four amotivational dimensions: 1) effort beliefs; 2) ability belief; 3) helpfulness belief; and 4) strategy belief.

Similarly, not all tasks are inherently inspiring or interesting. Legault, Green-Demers and Pelletier (2006) provide a theoretical conceptualisation of the reasons for amotivation of high school students in relation to their academic achievement. The reasons for amotivation are empirically supported using factor analysis. Reasons for amotivation include: 1) Task value (such as studying is not important); 2) Ability belief (which might demonstrate a lack of confidence); 3) Task characteristics (such as studying is boring); and 4) Effort belief (such as lethargy/laziness and not enough energy to study). All of these amotivational factors are argued to be relevant to a study of motivation for user input into open educational resources. This suggests that individuals who do not write to open educational resources might 1) find writing to OER is not important; 2) lack confidence in their own knowledge; 3) find writing itself a boring task; or 4) not have the energy to write to OER.

Dimensions of amotivation discussed above deal with the task as a value (content) rather than a process. More specifically, an individual's self-concept in relation to their *ability* refers to the extent to which an individual believes he/she is able and skilled to perform a particular task (Durik, Vida & Eccles 2006); also referred to as *competence-belief*. *Subjective task* values refer to the values that individuals assign to a task. Although a task can be described as more or less intrinsically enjoyable, task values may extend beyond task enjoyment. They might have *attainment value* or *utility value*. *Attainment value* refers to the extent to which an individual prioritises task performance,

while *utility value* refers to a task that has a practical significance in fulfilling other pursuits (Durik, Vida & Eccles 2006).

Furthermore, an examination of the scale items of each dimension, as produced by Legault, Green-Demers and Pelletier (2006), indicates that some items present a task as a value while another represents an attitude towards the system. For example, the first dimension reflects the values system within education, while the third dimension, ‘task characteristics’, represents feelings (or attitudes) towards studying as a process. These amotivational factors are also affected by social conditions. For instance, the four classes of reasons for amotivation in the Legault, Green-Demers and Pelletier (2006) stem from inadequate social support. Lack of competence is associated with low-ability belief and in turn, low-ability belief is associated with low performance. The degree to which this helps illustrate motivation for non-contribution is important to the design of the projected study into open educational resources authorship.

Adding dimensions to amotivation is a significant extension to SDT. Since SDT and its applications, including the work of Legault, Green-Demers and Pelletier’s (2006), mainly work within a learning context, further investigation is needed to explore the applicability of SDT beyond the education domain, where social or individual commitment is missing. For example, in volunteer-based real world organisations (RWO), volunteers are known to contribute their time and effort for many different reasons (Clary *et al.* 1998b). Is SDT still applicable in the case of voluntarism? Is it too complex and variable a context for clear structural analysis of motivation?

The dynamics and functional effects of goal regulation need further analysis to examine the forces that initiate behaviour (perceived locus of causality) as well as the meaning of goal contents (Ryan *et al.* 1996). Much of people’s goal-directed behaviour appears to be a product of internalisation (Ryan *et al.* 1996) and a feature potentially useful in project design – but this is a processing which needs careful data collection and analysis, since not all human behaviours are intrinsically motivated (self-determined

behaviour). Some behaviours are undertaken for extrinsic reasons (or controlled behaviours); and again each of these motivational dimensions is a complex mix of personal and contextual influences, as has been shown.

Adding to such complexity is how researchers see the internalisation process. Carver (1996) for instance, points out that individuals perceive identified regulation as personally important; thus, Carver (1996) sees that identified regulation, for practical reasons, is equivalent to intrinsic motivation in its sequences. Koestner and Losier (2004) conceptualise intrinsic motivation and internalisation as working in a '*complementary fashion*', in which intrinsic motivation focuses on the excitement of meeting short term goals, while internalisation focuses on endorsed values that ensure commitment in the long term.

Behaviour is therefore derived from both personal excitement or endorsed values, and both can be considered 'approach behaviour'. These endorsed values include values of success, affiliation, and power. Extrinsically motivated individuals take on goals to attain rewards (approach) or to avoid punishment (avoidance). These rewards and/or punishments are called external regulation (Koestner & Losier 2004). Even if individuals attain feelings of worth and ego-enhancement (approach) or avoid feelings of guilt or shame (avoidance), they are extrinsically motivated – albeit through introjected regulation (Deci & Ryan 1985b, 2000; Kasser 2004; Rosecrance 1981; Ryan & Deci 2000a). Can OER users approach contribution for reasons such as enjoyment, and at the same time avoid contribution for reasons such as lack of writing skills?

Motivation is mixed – and in ways liable to be impacted upon by extrinsic, yet introjected acculturation. In the case of the study projected here, will such patterns hold up in the context of online activities? Is the regulatory function of the social context of an OER user as powerful, once that context is dis-located by digital media's global orientation? Can both external regulation and introjected regulation be differentiated within OER participation?

To approach or to avoid a certain goal is, however, impacted by the traits of personality. The review of literature shows that there are broad links between personality traits of extroversion, positive affectivity, and the behavioural activation system, leading to a tendency to approach, while broad links between personality traits of neuroticism, negative affectivity, and the behavioural inhibition system lead to a tendency to avoid. Although these two ‘*super traits of personality*’ may not encapsulate all of the different personalities, they provide good understanding of the function of personality in regard to motivation (Larsen & Augustine 2008). Would these super traits of personality differ across cultures and affect the way individuals see and interact with OER? Certainly, socio-psychological studies of motivation reveal general patterns of how individuals negotiate the ‘mixed’ pressures of decision-making as they work to approach or avoid certain behaviours.

Issues remain, and research continues. Sheldon (2004b), for instance, disagrees with ‘*packing*’ the psychological needs of SDT into three main needs: *competence*, *relatedness*, and *autonomy*. However, in a recent study, Sheldon and Gunz (2009) found that these needs (which work as motives) are aligned with behavioural preference. Different motives may trigger approach and avoidance of the same target (Kenrick & Shiota 2008). The same target (goal/outcome) may elicit simultaneous conflict and balance between approach and avoidance responses (Kenrick & Shiota 2008).

To some extent, this complicates the use of motivation theory. The existence of appetitive drives (*approach*) versus aversive responses (*avoidance*) may provide an important mechanism for prioritising an action. Prioritising actions depends not only on rational thinking. Emotions may play a role in this process. In general, emotions are more active since there are so many (Roseman 2008). Moreover, emotions are directly linked to the nature of motivation (regulatory style) as mentioned earlier (Koestner & Losier 2004), and they too are culturally licensed or prohibited, and need to be understood contextually.

Although most research in approach-avoidance motivation is systematically linked to achievement goals (Elliot & Thrash 2002), other issues of the cultural differences in behaviour, including achievement, affiliation and power (McClelland 1987), can also be linked to the approach-avoidance model. Affiliation motives and power motives also appear, as in the Multi-Motive Grid, to be classified into approach and avoidance (Sokolowski *et al.* 2000). Koestner and Losier (2004) argue that three regulatory styles of SDT, *Introjection*, *Identification*, and *Intrinsic* approaches toward goals can be expressed through avoidance, but also through the conflict between approach and avoidance, and through approach respectively. Overall then, the theorisation of motivation is tending towards consensus on how extrinsic and intrinsic forces act to produce approach or avoidance. While there is debate over how different processes interact, standard understandings are emerging of how motivation can be described.

Towards a unified theory of motivation: An intrinsic-extrinsic approach-avoidance model

Two things are clear: motivation is responsible for directing behaviour; and the approach-avoidance distinction is viewed generally as fundamental to the study of human behaviour. Approach goals are easier to assess, and they elicit positive cognition by leading people to focus on what they see as desirable outcomes. Avoidance goals are difficult to monitor, and they elicit negative cognition by leading people to focus on undesirable outcomes. Both the process and the outcomes can influence the feeling of well-being (Tamir & Diener 2008). In approach motivation, behaviour is directed to/by a desirable/positive event, while in avoidance motivation behaviour is directed to/by undesirable/negative outcomes (Elliot 1999). Although the distinctions seem clear, actual attribution of motivation within life experience remains problematic.

Long time ago, it was argued that in every situation that a life being faces, there is conflict between varieties of response, which cannot all be made at the same time (Miller 1944). The conflict between approach and avoidance ranges on a continuum from pure approach-approach at one extreme, through double approach-avoidance in the

middle, to pure avoidance-avoidance at the other extreme (Miller 1944). Furthermore, findings from experiments provide further support for the existence of a continuum model (Fenz & Epstein 1962; Miller 1944) or a hierarchical model (Elliot & Church 1997) of approach and avoidance. Like Miller (1944), McClelland (1951, p. 202) felt that he was instrumental in establishing a distinction between the motive for success and the motive to avoid failure:

... there are at least two kinds of achievement motivation, one of which appears to be oriented around avoiding failure and the other around the more positive goal of attaining success.

This distinction was based on ‘theorising’ underlying motivational processes rather than observable behaviour *per se*. Although approach-avoidance is considered both an empirical and theoretical entity, it does not encompass the complexities of thought and action in achievement settings. For example, contextual and situational factors, as well as perceived *self-others* attributional relationships, may impact upon achievement motivation (Maehr 1977) – suggest that approaching and avoiding OER participation may be attributed to *self-others* relationships.

Meanwhile, theorists continue attempts to structure motivation into classification grids. Achievement goal theorists have incorporated a distinction between approach and avoidance into their frameworks. Instead of providing simple classifications, motivation grids became complex. For example, theorists have identified three types of achievement goals (Dweck 1986; Nicholls *et al.* 1989; Vansteenkiste *et al.* 2007):

- 1) learning or task involvement goals which focus on task-mastery and competence (approach orientation)
- 2) performance or ego involvement aimed at attaining favourable outcomes (approach orientation)
- 3) performance or ego goals aimed at avoiding undesirable outcomes.

Both performance-approach and mastery goals focus on attaining competence, while performance avoidance goals focus on avoiding incompetence (Elliot 1999). Mastery goals promote intrinsic motivation by fostering a perception of challenge, while performance goals undermine intrinsic motivation by enhancing anxiety and pressure, as well as the perception of threat (Elliot & Harackiewicz 1996). Elliot and Harackiewicz (1996, p. 463) note how

approach and avoidance forms of motivational regulation activate diametrically divergent sets of intrinsic motivation process, and it is on this basis that we view the approach-avoidance distinction as a more powerful discriminator of intrinsic motivation effects than the performance-mastery distinction per se.

At the same time – a matter of increasing complexity – theorists see avoidance itself does not necessarily lead to behavioural withdrawal. *Passive avoidance* takes the form of physical or mental withdrawal, while *active avoidance* displays less-free choice persistence (Elliot & Harackiewicz 1996). Elliot and Harackiewicz (1996) find that performance goals focus on avoiding incompetence undermine intrinsic motivation relative to mastery goals, and goals that focus on attaining competence. Performance-avoidance participants value competence as much as mastery and performance-approach participants, but they evince a decrease in intrinsic motivation. This suggests that an approach-avoidance orientation can impact upon motivational processes independent of the perception of competence (Elliot & Harackiewicz 1996). In relation to OER participation, this suggests that users may face avoidance, even when contributing.

Displaying avoidance might not only involve non-contribution (passive avoidance), but also resistance to contribution (active avoidance) if there are issues of conflict between reasons to approach and reasons to avoid a certain behaviour, as discussed earlier. Such active-avoidance within OER participation means that those OER contributors are competent rather than intrinsically-motivated. In other words, they might be committed to OER, due to the benefits they may get in the long term, rather than feelings of enjoyment and excitement they may get in the short term – as explained earlier.

The complexities of motivation modelling

Available models that explain motivation are still complex, despite attempts to simplify them, but most importantly that current models are not adequate enough to explain, for instance, approaching and avoiding OER participation from cross-cultural perspectives. For example, Elliot and Church (1997) propose an integrative model that incorporates classic and contemporary approaches to achievement motivation. They argue that mastery goals are grounded in achievement motivation and high competence expectancies and that these mastery goals facilitate intrinsic motivation. Elliot and McGregor (2001) subsequently propose a 2 x 2 achievement goal model. They argue that both the approach-avoidance (valence) dimension and the mastery-performance (definition) dimension are integral to a competence construct.

		Definition	
		Mastery (Absolute)	Performance (normative)
Valence	Positive (approaching success)	Mastery-approach goal (i.e. learning / understanding)	Performance-approach goal (i.e. do well)
	Negative (avoidance failure)	Mastery-avoidance goal (i.e. Worrying about not learning)	Performance-avoidance goal (i.e. avoiding poor performance)

Source: Elliot and McGregor (2001, p. 502)

Figure 3: The 2 x 2 achievement goal framework

In one of their studies, Elliot and McGregor (2001) show that the mean of mastery-avoidance goals is the least noted form of goal regulation, and close to the midpoint of their scale. Other forms of self-regulation rank from lower to higher, as performance-avoidance, performance-approach goals, and mastery-approach goals. Figure 3

illustrates the 2 x 2 achievement goal framework proposed by Elliot and McGregor (2001). This again suggests that there are many views to goal content, from goal achievement, to the three main motives, to mastery-performance, to process or value, to unrestricted definitions beyond the main 3 motives. The later conceptualisation of goal content seems to be more relevant to the study of OER motivation, since goals or reasons for contribution or non-contribution to OER mostly remain unknown, and what can be said to be known are actually what can be reported explicitly – but the implicit reasons need more investigation. Although Elliot and McGregor's (2001) model appears simple, it does not provide an explanation for not achieving a goal. Furthermore, Although Elliot and McGregor (2001, p. 517) argued that the achievement goal framework can be extended, they did not clearly explain how – they concluded that:

we think the 2 x 2 revision maintains the appealing characteristics of the original, while affording an extended conceptualization that has a broader reach, yet is not in danger of construct proliferation [...] Thus, from our present vantage point, the maximum degree of complexity that we envision for a mature achievement goal framework is a 3 x 2 conceptualization.

Furthermore, the 2 x 2 model does not have the capacity to explain situations when there are different goals for the same behaviour. For example, Van Yperen (2003) points out that mastery-approach goals and task interests are congruent because they direct individuals towards the same end, or when mastery-avoidance goals cause evaluative anxiety, and distract attention in individuals who perform a task. This again suggests that regardless of goals, conflict between approach and avoidance exists.

Cury *et al.* (2006) argue that most research on the 2 x 2 framework, approach and avoidance forms of both mastery and performance goals, fails to interpret results that attend to the approach-avoidance distinction or to explain performance-avoidance and/or mastery-avoidance. This suggests the need for more flexible conceptualisation of goals and a more flexible continuum of approach-avoidance, not only to avoid *either-or* distinctions, but also to allow conflict and balance between approach and avoidance tendencies.

Although such research suggests a patterned and logical system behind an approach-avoidance model of motivation, some researchers question that 'logic'. Covington and Müeller (2001a) remain dissatisfied with the whole distinction between intrinsic and extrinsic motivation, critical of its inherent assumption that intrinsic and extrinsic motivational processes are not only separable, but incompatible. In support of their argument, Covington and Müeller (2001a) assert that:

- 1) Intrinsic motivation alone never exists. For example, students may be oriented towards learning not only because of their intrinsic interest in learning, gaining pleasure from both pride in learning and curiosity about a topic. At the same time, they may seek to do better in order to show their instructors how good they are (praise) or to gain advantage over fellow students (gaining good grades).
- 2) Individuals may seek both intrinsic and extrinsic rewards (considering them as independent orientations). This does not suggest a total absence of motivation on a continuum.
- 3) There is evidence of a positive relationship between intrinsic and extrinsic motivation. For example, hobbyists (motivated by pleasure) may convert their interests to professional ends (gaining money).
- 4) Extrinsic rewards do not always lead to a reduction in intrinsic motivation (as evident in the case of professional hobbyists).

For all these reasons, Covington and Müeller (2001a) avoid the intrinsic-extrinsic dichotomy, and argue that the most important thing is to understand the reasons that individuals strive to do well. They have developed a quadrapolar model of need achievement to support their argument. They distinguish individuals into:

- 1) *Over-strivers* (those who have high approach and high avoidance). They experience feelings of conflict: they have high hope of success (pride) and high fear of failure (relief) as well as intrinsic appreciation.

- 2) *Success-oriented* (those who have high approach and low avoidance). Those who are success-oriented experience positive and satisfying properties (intrinsic), and task-oriented purposes (extrinsic).
 - 3) *Failure-avoiders* (those who have low approach and high avoidance). Those who are failure-avoiders experience fear-driven reasons such as aggrandising their ability status, or defensive actions and anxiety as they may compete for extrinsic rewards
 - 4) *Failure-acceptors* (those who have low approach and low avoidance). They tend to disconnect, due to repeated failure and the absence of both approach and avoidance.
- Regardless of any of these four types of goal achievers, notions of ‘low’ and ‘high’ *approach* and *avoidance* suggest more flexibility beyond these four types; and it can be argued the above taxonomy, despite its attempt to incorporate *intrinsic-extrinsic* motivation, does not recognise goal content.

In general, there is a need to implement a more flexible model that considers intrinsic-extrinsic involvement levels, and approach-avoidance goal orientation, but also considers cultural and contextual impacts upon individuals. Within such a needed framework, *self-oriented* and *others-oriented* goal content should also be considered, since goal content determines the individualism-collectivism cultural orientations. But, how can *self-oriented* and *others-oriented* categories be implemented in this model?

Extending academic reasons for including broader social motivation

Much of the research in the area of achievement motivation has focused on academic goals, and especially those associated with intrinsic curiosity or learning, such as exploring, experiencing and discovering. More recent research is focused on achievement motivation in relation to broader social and performance goals. Such social goals include, for instance, making friends, respect and being liked, cooperation and sharing, developing understanding and helping peers in understanding, while performance goals include the competitive drive towards doing better than others.

These multiple-goal alliances organise behaviour via a number of self-regulation mechanisms, where individuals struggle to establish and maintain a sense of worth and belonging in a given social order (Covington 2000). However, Yperen (2006) incorporates this into earlier models, linking approach-avoidance with indicators of well being in his assessment of Elliot and McGregor's (2001) 2 x 2 framework. Table 6 provides a summary of his thoughts. Van Yperen (2006) found that dominant mastery-approach goals tend to be associated with positive affectivity, self-oriented perfectionism, and the outcome variables of intrinsic motivation. By contrast, dominant performance-avoidance goals he found associated with negative affectivity, socially-prescribed perfectionism, and the outcome variables of extrinsic motivation and amotivation.

Table 6: Approach versus avoidance and self-orientation versus social-prescription

Positively-valenced dependent variables (approach)	Negatively-valenced dependent variables (avoidance)
Approach scales of achievement goals	Avoidance scales of achievement goals
Positive affectivity	Negative affectivity
Self-oriented perfectionism	Socially-prescribed perfectionism
Outcomes variables of intrinsic motivation (pleasure, accomplishment, and experience stimulation).	Outcome variables of extrinsic motivation (external regulation, introjected regulation, and identified regulation) and amotivation

Source: outlined and summarised from Van Yperen (2006)

Although Van Yperen (2006) successfully, to large extent, made a link between achievement goals, approaching and avoiding goals, the approach goals are linked more to self-oriented perfectionism and intrinsic motivation while avoidance goals are linked more to others-orientation and extrinsic motivation. This is a problematic view since for instance, as discussed earlier, identified regulation can be seen as intrinsic where it might involve values of the importance of friendship. His valence model does not reflect the conflict between approach and avoidance. Amotivation itself is argued to be highly related to the self rather than to others, since it is mainly related to an unwillingness to do a certain activity or inability to do so. Although Van Yperen's

(2006) model seems to be successful, to some extent, to link approach-avoidance valence to constructs of SDT, it does not provide an adequate methodological tool to examine cultural differences. Furthermore, it tends to link avoidance to the social orientation while approach to the self orientation – a matter that can be questioned.

In a study that aimed to measure the impact of intrinsic versus extrinsic goal framing on autonomy-supportive versus internally-controlling communication, Vansteenkiste *et al.* (2005) found that intrinsic goal framing resulted in higher task involvement, higher relative autonomy, and more conceptual (deep) learning, while extrinsic goal framing resulted in lower task involvement, lower relative autonomy and more rote (superficial) learning. Vansteenkiste *et al.* (2007) subsequently integrated these positions into the 2 x 2 framework (Elliot & McGregor 2001) to assess the approach forms of task involvement and ego involvement in the relationship between intrinsic versus extrinsic goal framing and performance. Conversely, extrinsic goal framing undermines performance. It thwarts task-focused approach and activates ego-involvement. Intrinsic goal framing increases performance. It promotes task-involvement and hinders ego-involvement. In each case, however, it socially defines both the value of tasks and goals, and the centrality or otherwise of ego-enhancement as a consideration.

As these models develop, there have been shifts from *intrinsic* versus *extrinsic* motivation (STD), to *autonomous* versus *controlled* regulation, to *autonomy-supportive* versus a *controlling social environment*; to intrinsic versus extrinsic *personal goals*, and finally to intrinsic versus extrinsic *goal framing* (long-term/short-term). Overall, however, results from goal framing studies fit well with the contentions of Self-Determination Theory (Vansteenkiste, Lens & Deci 2006), suggesting that its trends have held up under any amount of modification. Different attempts to integrate the many dimensions that explain human behaviour produce the following insights:

- 1) Human behaviour is not a mechanistic reaction to an event. Reactions are cognitive, and include evaluation processes of the benefits and risks that might impact upon behaviour.

- 2) The stimulation of motivation might happen internally, for the purpose of enjoyment or curiosity (learning), or externally, either from social obligation, or to attain benefits. Intrinsic goals are always approach-valenced. Those who have extrinsic goals are struggling between balancing effort to learn and succeed, and worry about failing or not learning. Those who accept failure are amotivated.

Much research has aimed to integrate multi-dimensional motivation, including work by Covington and Müeller (2001a), Elliot and McGregor (2001), and Ryan and Deci (2000a). It focuses on understanding different motives and their outcomes, extending frameworks beyond the 3 x 2 model conceptualised by Elliot and McGregor (2001), to accommodate the following issues:

- 1) Although Ryan and Deci (2000a) have identified one dimension for intrinsic motivation and another for amotivation, further research has found that intrinsic motivation and amotivation can itself include more than one dimension. For example, Carver (1996) sees it is difficult to distinguish identified regulation from intrinsic motivation (see also Sheldon 2004b), while Legault, Green-Demers and Pelletier (2006) identify four dimensions for amotivation.
- 2) The three regulatory styles of Self-Determination Theory, *Introjection*, *Identification*, and *Intrinsic* motivation, can deal with goals through avoidance, conflict between approach and avoidance, or approach (Koestner & Losier 2004). This complicates the motivation model.
- 3) An absolute distinction between *intrinsic* and *extrinsic* motivation is not realistic. Intrinsic and extrinsic motivation can co-exist (Covington & Müeller 2001a).
- 4) *Task interest* and *mastery-approach goals* direct individuals towards the same end (Van Yperen 2003).
- 5) Performance goals that focus on avoiding incompetence undermine intrinsic motivation relative to mastery goals and goals focused on attaining competence (Elliot & Harackiewicz 1996).

- 6) Not all types of goal are considered in the different theories of goal achievement. Mastery goals for example are ignored in the approach-avoidance dichotomy in the 2 x 2 framework proposed by Elliot and McGregor (2001).
- 7) Whether achievement goals (mastery and/or performance) are approached or avoided, a question such as ‘is achievement an individual or social construct?’ can be asked (Plaut & Markus 2005).

There is, therefore, evidence that for all their complexity, these models remain incomplete, and that they take insufficient account of social context, as a source of values or intervention, to influence motivation variably, according to the underlying culture. A new model that integrates Self-Determination Theory (SDT) and Goal-Valence Theory (GVT) can be proposed. Table 7 summarises a proposed model, designed to the needs of the examining OER motivation across cultures, where approach-avoidance motivation and the different levels of motivation toward self-determination will need to be unified in one model.

Table 7: Unified model of motivation

Motivation					
Amotivation		Extrinsic Motivation		Intrinsic Motivation	
Values	Ability	External regulation	Introjected regulation	Endorsed values (Usefulness)	Interest based
Social	Self	Social	Self	Social	Self
Task Outcomes	Process Characteristics	(H) Reward/ (F) Punishment	(H) Ego-enhancement/ (F) Guilt reduction	(H) Success Affiliation Power	(H) Enjoyment (Playfulness)
Avoidance		Approach (Hope) /Avoidance (Fear)		Approach (Hope)	

This proposed model uses three main dimensions of motivation: 1) intrinsic motivation, 2) extrinsic motivation and 3) amotivation.

- 1) Each of these dimensions constitutes two possible sub-dimensions. One of the sub-dimensions reflects the self, and another reflects the social others. The self-sub-dimensions are enjoyment, ego-enhancement and guilt-reduction, and ability; while

the social-sub-dimensions are endorsed values, rewards and punishments, and task values.

- 2) Intrinsic motivation. Individuals can be *intrinsically* motivated by:
 - A) Approaching *enjoyment* (Deci & Ryan 2000)
 - B) Approaching *endorsed values* such as learning for its own sake (success); community belonging (affiliation) or knowledge sharing (power) (see for example Vallerand *et al.* 1992).
- 3) Extrinsic motivation. *Extrinsically* motivated individuals are regulated by:
 - A) *External reinforcements* which are rewards (incentives that individuals hope for and approach: such as learning for a degree, communicating with others to avoid loneliness, and hoping to acquire good social standing) or punishment (where individuals fear or try to avoid experience such as avoiding failure, rejection and the fear of someone's power).
 - B) *Ego-enhancement* that includes pride in success, opportunity to meet people, be respected and reducing guilt (giving time to educate others, helping family members and working hard to maintain standing).
- 4) Amotivation. The Amotivation dimension can be classified into two possible sub-dimensions:
 - A) Issues related to the *unwillingness* of individuals to act because they see either a task (e.g. an assignment) or a process (e.g. learning) as not valuable (e.g. because there is no job demand for graduates from such a course).
 - B) The *inability* of individuals to undertake a task or process (such as research) or to complete it successfully.

The model not only integrates the categories located by earlier researchers, but accepts findings which reveal 'mixed' and even contradictory human responses. It is particularly relevant to the proposed research, which seeks to examine motivation within a multi-cultural and so comparative frame.

Human motivation across cultures

Research within a multi-cultural environment has recently begun to raise issues of universalising or 'essentialist' tendencies within motivation modelling such as that

outlined above. Salili (1996), for example, has argued that achievement as addressed by McClelland is Western, individualistic and ethnocentric in its biases, while his own research establishes cultural difference in achievement motivation. For instance, Chinese students reported as more affiliation-oriented in achievement motivation than individualistic British students. Individualistic British students reported as more competitiveness-oriented in achievement motivation than Chinese students.

Kitayama and Markus (2000) argue that individuals in European-American cultures are likely to insist that happiness is attained by personal striving (or personal achievement), while in East Asia, happiness is considered as the self in relationship with others. From this point of view, although Ryan and Deci (2000b) argue that relatedness and autonomy are basic needs for individuals in all cultures, there is evidence that both autonomy and relatedness vary across individualist and collectivist cultures (Rothbaum & Trommsdorf 2007).

There is generally then a negative association between relatedness and autonomy across cultures. Miller *et al.* (1990) found that in India, responsiveness to others' need (a core component of relatedness) is viewed as a moral mandate. Americans, by contrast, tend to view such responsiveness as a matter of personal choice. Jacobsen (1983) found that while a Middle Eastern child values obligated responsiveness, a Western Israeli child values voluntarily responsiveness. Therefore, in collectivist societies, individuals emphasise obligation and others, and de-emphasise personal choice and endogenous motivations (Eisenberg & Fabes 1998).

The findings extend into more complex levels of behaviour and motivation. Oishi and Diener (2001) found that if the goal is high independence, European-Americans become more satisfied at goal accomplishment, while if the goal is low-independence (interdependence), then Asian American are more satisfied. Hofstede (2001) argues that individuals from individualist cultures are more self-oriented, while those from collectivist cultures are more community-oriented. Oyserman *et al.* (2002, p. 9) have re-evaluated individualism and collectivism, finding 'duty' to be one of the common

elements of collectivism: 'I would help, ..., if a relative was in financial difficulty'. Oyserman *et al.* (2002, p. 41) conclude that although Americans are attuned to others, 'they are not collectivists, ... they do not feel obligated or duty-bound to their groups'.

Making use of free time is influenced by culture, the varying cultural responses arrayed on what is called in Europe and the U.S a 'north-south' dimension⁴ (Converse 1972). People in 'north' countries report spending their time in watching TV, reading and volunteering, while individuals from 'south' countries spend their time in resting, cooking and eating. Allocating and balancing time between work and leisure is an issue of post-industrialisation societies where new technologies mean less time in 'isolated and undesirable unpaid work' (Gershuny 2003, p. 136).

Regardless of whether goals are self-oriented (self-interest goals) or others-oriented (ego-social goals), culture has an impact on the definition and valuing of those goals (Hofstede 2001). Males for instance tend to have self-oriented goals, even in collectivist cultures (Itakura 2001, p. 130). This explains why women have a long track-record in voluntarism (Calasanti & Slevin 2001, p.137) although it seems that they are reducing their volunteering activities (Petrzelka & Mannon 2006).

An individualistic view of goals focuses more on self-esteem linked to success, than failure situations, and yet from a cultural perspective, the judgement of success and failure, this differs across cultures. For example, while the Japanese who have interdependent views of the self positively engage with interpersonal emotions such as friendly feelings, Americans positively engage with independent emotions such as pride (Kurokawa, Kitayama & Markus 2000). Such cultural differences cannot be reduced to differences in cognitive content. Values, meanings, and practices of a culture are *lived*

⁴ This distinction is of course problematic in developed Southern Hemisphere nations such as Australia, and is rarely used.

rather than being *cognised* (Kitayama & Markus 2003); and the socio-cultural context is all-important.

The notion of culture impacting upon motivation involves both the unconsciousness, and practice of values in more routine ways, as a form of '*habitus*' (Bourdieu 1984). Cultural values expressed in core philosophical, religious and historical texts, and observations are significantly different between East and West; and shape individual behaviours (Cross & Gore 2005); so that individual decisions about choices involve conscious and unconscious decisions, made within varying codes dictating 'what is right'. Even within these cultural contexts, individuals select from a wide array of cultural choices and options that meet with (and indeed form) their 'personal' desires (Cross & Gore 2005).

There are, however, problems in categorising the values-systems which frame a specific cultural context. Distinguishing cultures as either individualistic (as in Western countries) or collectivistic (as in Eastern countries) involves an assumption that cultures are static, and grossly over-simplifies complex cultural formations. With the impact of globalisation and media connection, all societies encounter and adopt new cultural practices.

The individualism-collectivism dichotomy involves an assumption that individuals within their societies are either entirely individualistic or collectivistic, while research shows biculturalism (or multiculturalism) impact upon individuals in terms of their values and the sense of identity, across generations (Der-Karabetian & Ruiz 1997). For example, although it is widely held that the conceptualisation of the self for Chinese is socially-oriented, research on Taiwanese students shows that they use two separate ways of construing the self: individual-oriented and social-oriented, providing support for a bicultural self model (Lu 2008). Does that mean it will be difficult to assess individual-oriented and social-oriented practices in human motivation? The proposed

model helps simplify assessment, since each dimension involves sub-dimensions of individual-oriented and social-oriented motivation within the adapted universal model. This adaptation is to include the approach-avoidance conflict and re-theorise the dimensionality of intrinsic and extrinsic motivation and amotivation.

The dynamic nature of culture means that self-determination theory (or any other theories of motivation) and their applications across cultures need to take care to assess motivation at a certain point of time, and in a certain location. Universalising tendencies need to be resisted. Generalising results obtained from individual research subjects to an entire culture can be problematic. An individual's motivation changes over time, and across social contexts (or cultures). At the same time, context puts multiple demands on individuals who tend to adapt their responses accordingly.

The strict codification of motivational behaviours outlined earlier must evolve and adapt in many ways, as it confronts culture. For instance, although many of the researchers and theorists contributing to motivation models claim that *autonomy* cannot act as an indicator of well-being for non-individualistic countries, Ryan and Deci (2005) argue that there is no inherent conflict between *autonomy* and *collectivism*. They explain the conflict between SDT and cultural perspectives as produced by theorists equating *independence* with *autonomy*. People can be *autonomously-individualistic*, but they can also be *autonomously-collectivistic*. It is cultural context that creates these orientations; and since it is aimed to assess cultural orientations in motivation for participating in open educational resources, cultural context is a key factor.

In an assessment of autonomy in different cultures, Chirkov *et al.* (2003) draw on work by Triandis (1995), who identifies four types of behaviour around two dimensions, horizontal/vertical axis distinguishing individualism/collectivism. Participants in their study were from the United States, Russia, Turkey, and South Korea. Results, however, suggest that individualistic practices are internalised more than collective practices

within both vertical and horizontal dimensions. Moreover, horizontal practices were more internalised than vertical practices for all cultures. Surprisingly, the level of internalisation is lower for US participants than those from other countries. Turkey shows the highest internalisation for vertical individualism practices and horizontal collectivism practices. These results suggest that autonomy is a basic need that individuals from all cultures experience.

Autonomy should not to be confused with independence. Chirkov (2009), for instance, points out that it is often claimed that the nature of collectivism in Eastern nations means that its citizens avoid autonomy, personal freedom, and democracy, ‘preferring’ control and authoritarian rule. Yet study of democratic principles, such as representation and voice, among individuals from democratic Canada and non-democratic China show similar patterns in reasoning and judgment (Helwig *et al.* 2007). Chirkov (2009) argues that Self-Determination Theory is at the heart of a battle for a humanistic and liberating cultural psychology of motivation. A methodological issue should be stressed here is that people from collectivist cultures tend to rate higher especially in questionnaire scales (Kâğıtçıbaşı 1997); which suggests that questionnaires alone are not the best approach to study cultural differences.

This critical re-examination of motivational modelling suggests that not only must the models elaborated to date be modified, but that cultural context influences individuals into patterns of decisions and behaviours which may defy motivation dimensionality. The research proposed here, is to examine voluntary participation in open content. In the context of the spread of information sharing among individuals around the world, involving a process of information democracy and education access, self-determination theory can help in the design for a collection of behavioural data, to locate behavioural patterns responsive to ‘local’ cultural contexts.

To evaluate how far the adequacy of the proposed model in explaining cross-cultural OER motivation is yet to reach a conclusion. The following chapter turns to an examination of current views of cultural influence. While there is, once again, a cross or comparative-cultural emphasis, this time the aim is to move beyond simplistic or *either-or* 'East-West' explanations. The next chapter introduces in more detail, the complex cultural and contextual factors to be considered, and how far its comparative cultural sampling will complicate the motivational models proposed above. It will discuss how culture affects the values and beliefs of individuals and thus differentiates their behaviour. However, as discussed in this chapter, human motivation, although seemingly universal, differs across individuals and contexts/cultures.

Chapter 2

How culture complicates motivation

Researchers engaged in cross-cultural work have begun to question the universal applicability of motivation. Cross-cultural research suggests that motivation in several Eastern cultures is more socially directed, while it is more individually oriented in Western cultures. However, ‘recent theorizing and empirical evidence suggests that these constructs [Individualism & Collectivism] do not necessarily form opposite poles and may coexist’.

(Kâğıtçıbaşı 1997, p. 31).

Such a view not only involves a dichotomisation of culture and motivation, but also ignores cultural change. ‘The dynamic nature of culture conveys the top-down-bottom-up processes where one cultural level affects changes in other levels of culture. Specifically, the model proposes that globalisation, as the macro level of culture, affects, through top-down processes, behavioral changes of members in various cultures. Reciprocally, behavioral changes at the individual level, through bottom-up processes, become shared behavioral norms and values, modifying the culture of a macro level entity’.

(Erez & Gati 2004, p. 583).

Without a theoretical explanation of the meaning of the discrepancies between the individual and the cultural levels, the picture is confused. Thus, it is not always clear whether the different factor structures at the cultural and the individual levels imply different construals of Individualism/Collectivism, or whether we are talking about statistical (arti)facts ... More work needs to be done along these lines, given the lack of correspondence between the individual- and the culture-level measures.

(Kâğıtçıbaşı 1997, p. 33).

This chapter considers the influence of culture and its relationship with polity, economy, and religion, including issues of cultural conflict and the contemporary postulation of an East-West cultural divide. Despite difficulties of restricting cultural formation through what have long been permeable national boundaries, there is a need to collect and consider evidence through factors including national categories.

Individuals in each nation are assumed to be influenced by the ‘national culture’, despite the complexities introduced through history, globalised media, diasporic communities, and many other tendencies. Rather than examining such variation however, current research will test respondents’ self-reports against the proposed model projected in Chapter 1, with a view to discovering how far cultural differences becomes evident. Inquiry into such ‘differences’ will then be deepened, by developing critical, follow-up studies, able to provide for more qualitative, culturally attuned, data and analysis. How meaning works within a culture, is therefore as central to current research, as how it can be codified across cultures. Therefore, cultures will be examined at a number of levels in the discussion that follows.

The importance of understanding meanings within a culture

Misunderstanding the needs of people and their cultures can cause failure in any social ventures, from business to political policy. Organisational theorists note for example, that without taking into account the needs of employees and their culture when trying to establish a venture such as an awareness of change program, it cannot achieve its aims (Beer, Eisenstat & Spector 1993). Incentives, for instance, should be culturally-appropriate (Erez 1997).

A similar situation arises when academic professionals and curriculum designers seek to develop curriculum for culturally diverse groups. For example, students enrolled in curriculum design courses learn that they must take into account intercultural issues, especially when the curriculum is designed for diverse global audiences (Wood 2007).

Cultural awareness is especially necessary to the design of good learning programs. The formula seems easy enough. In the design of e-learning activities for collectivist cultures, learning strategies should focus on group work; while in individualist cultures, learning strategies should give learners greater freedom in terms of knowledge expression and creativity (Adeoye & Wentling 2007a). Iyengar and Lepper (1999) argue, for instance, that the view of provision of choice differs across cultures: it enhances motivation more for Anglo American children who are independent selves, than for Asian American who are interdependent selves. Iyengar and Lepper (1999) argue that European-American students as more *intrinsically* motivated when making their own choices than when choices are made for them by others; and while Asian-American students perform better when their mothers make choices for them, the European-American students do not perform well when others make those choices.

It is argued that individuals from ‘individualist societies’ assert their individuality by making their choices independantly from others, but individuals from ‘collectivist societies’ make choices that meet with the expectations of the larger group they are connected with, since the need for relatedness impacts upon individuals in decision making (Iyengar & DeVoe 2003). But how absolute are these distinctions? Do all individuals always respond in these ways? Is the model complete? Does it capture the range of choices and behaviours – and does it proceed from an adequate understanding of the cultures it claims to describe?

Elements of culture include religions, beliefs, institutions, customs, languages, the arts, technologies, and the whole way of life. Political and religious teachings are among the significant factors that shape cultures and affect the behaviour of people who live in a specific culture. Human behaviour differs from one party to another, across space, and

through time. Interpretation of behaviour is thus full of complexities. Historical events, for instance, affect our cumulative experience, and lead us to behave in specific ways in current situations. Similarly, religion, as a system of beliefs, helps people to find life path ways (Bowker 1973), has a long history of reshaping culture (Douglas & Craig 2009).

Although there is a debate as to whether current versions of religions can be seen as causes or results of cultural difference (Hofstede, Hofstede & Minkov 2005), religions today still organise, directly and indirectly, the social and spiritual life of many individuals (Hood, Hill & Spika 2009; Pohlong 2004). The relationship between religion and culture can be viewed, as Pohlong (2004) argues, from three different perspectives: 1) both provide moral codes of conduct that regulate behaviour; 2) both are institutionally expressed; and 3) since culture embodies values and norms, religion is one mode of value determination. Thus, religion is one possible expression of culture.

Furthermore, religion at this cultural level is also seen as a political force (Foucault & Voeltzel 1999). In some national cultures, there is still a dualism between religion and the state; and such interaction between religion and the state, over centuries, has reshaped many cultures (Mostyn & Hourani 1988; Parkes 1970). This dualism has expressed itself in many nations as they move from being traditional societies to more secular states (Jonathan Fox (2008) cited in Madeley 2009).

Religion and societal values are associated. While strong religious beliefs are typically associated with conservative traditional values (Hood, Hill & Spika 2009), less conservative cultures introduce the flexibility of modernity. Modernity includes the propensity to produce many kinds of identity spaces (Friedman 1994), and encompasses two key dimensions: the development of more open social structures, and the evolution of new forms of institutional structure (Goldscheider 1971). Modernisation involves many different facets: institutional, technological, valuational and behavioural (Sharma 1998), but is frequently read as a structured and systematic Westernised model of the world (Aronoff 1984). Is this global culture then pulling many socio-cultural actors into its pot?

What is culture?

Culture is a complex and difficult concept. It involves a range of processes, topics, intellectual circles, historical events, political and ideological dimensions, and even paradoxes, many of which cannot be resolved (Jenks 2003). Traditional definitions of culture as a body of artistic and intellectual work differ from anthropological and sociological definitions. These refer to culture as involving what individuals belonging to different societies do and think, without regard to intellectual or artistic merit (Pohlong 2004).

Culture refers then to a system of symbols and meanings manifest in our life style, food, music, and ways of communicating (Jandt 2007). These differ from one culture to another (Gudykunst & Ting-Toomey 1991; Hall 1989), and can cause conflict when people from different cultures interact (Faure 1995). Understanding the different methods of communication can help to avoid or bridge communication conflicts (Faure 1995; Fisher-Yoshida 2005), but it does not standardise or ‘globalise’ those communication practices.

Culture affects daily activities and how we understand and value them. Our mind’s programming alerts us what to do and what not to do, according to what we have learned, in ways that are acceptable to our surrounding societies (Hofstede 2001). Thus culture affects the individual’s selection of specific behaviours. According to Markus and Kitayama (1991), *independent* people from Western cultural backgrounds usually promote their own goals, while in *inter-dependent* Asian cultures it is more common for people to promote other people’s goals. Whether such a cultural orientation holds up in relation to voluntary open educational resources authoring will be assessed and discussed in this chapter. To what extent such cultural generalisation is possible within an increasingly globalised online community of users?

Modernity and orientalism: Beyond *either-or* cultural framing

Technological change, accompanied by an enhanced diversity of interests, produces a variety of new experiences, interests and activities (Martin 1995). How then do cultures accommodate such influences? ICT reshape values and preferred practices of *producer* nations (Castells 1996; Winston 1998), which can be argued causes forms of cultural imperialism that goes beyond real societies to virtual practices. Western cultural imperialism, expressed through global capitalism, ICT and software, has been held to promote the values of liberal democracy, accelerating the movement towards Free/Open Source Software (F/OSS). Despite such values however, it can also be argued that these force unwelcome change on participating nations and cultures, for instance standardising inappropriate intellectual property right systems, which mean that ‘the advances gained by the “haves” do not benefit the “have-nots”...’ (Kimppa 2006, p. 44). Thus, it can be argued that *democracy*, *participation* and *access* can still reproduce inequalities.

Are there other even more complex influences? This chapter posits the existence of a socio-techno divide between Western and Eastern culture, and especially in Middle Eastern nations – regardless of their levels of economic prosperity. Although cultures interact, and a global culture is held to be emerging, localised acculturation still restricts and directs change in some domains. Triandis (2001) stresses the need for more research in specific domains, to establish the existence of different patterns of individualism and collectivism in each society, and to assess how these interact with the complexities of cultures.

Added to this focus on the cultural values within communication technologies are those relating to voluntarism. Volunteering content in open educational resources, for instance, has the potential to reveal this complex intersection between technological ‘system values’ and those of the volunteer’s home-culture. To date, study of the volunteer process has been very broad, and many areas remain uncovered. For example, Metzger and Elshaug (2001) found that psychological processes that lead to burnout are the same among paid workers and volunteers. However, their study suggests that

additional factors, such as altruism and intrinsic motivation, are of particular importance, and crucial in recruiting more volunteers. Researchers so far have tried to examine if intrinsic and extrinsic motivations can be associated with individualism and collectivism, as will be discussed soon.

Finkelstein (2010) found that *collectivism* is more strongly related to altruistic motivations and the desire to strengthen social ties than *individualism*, and he argues that collectivism is strongly associated with the development of a volunteer role identity. The findings from such study suggest that *individualists* and *collectivists* might differ in their reasons for volunteering. This research raises questions such as: are there any differences in the voluntary OER participation among individualist users and collectivist users? Will *helping others*, as common reason for volunteering (Clary *et al.* 1998b; Hustinx *et al.* 2010b), exist across individualist and collectivist online OER users? If yes, are there any differences among the two cultural orientations?

In new media productivity centres, the ‘volunteer’ labours of internet users are crucial to the work of websites. They are central to ‘networked symbolic productivity’ (Cook 2006, p. 975). These networks involve cultural activities where people, mainly younger adults who live in cities, cluster to apply and use knowledge (Cook 2006). With the main business of websites such as Wikibooks and Connexion being to provide open content educational resources, academic volunteers are crucial for content innovation and reliability. Nations outside the large Anglophone language group of ‘producer’ nations are heavily reliant on voluntary work of translation and ‘localisation’ of such materials. How then is such work to be achieved if there is no cultural orientation towards voluntary online behaviour?

If the matter of distinction between individualism and collectivism is questioned, can then intrinsic and extrinsic motivations be correlated with individualism and collectivism? Research into cultural responses to online behaviours and motivations for active participation needs to consider contemporary issues of cultural definition at the outset. Said (1994) has raised the problem of an *either-or* cultural framing or reactive

East-West mode of cultural distinctions, reifying differences which may not in fact exist and metamorphosing a contrastive *either-or* framing into a social, economic and political hierarchy.

Said (1994) critiques Western cultural dominance with his concept of “Orientalism”, which details Western positioning of the East during the era of European imperialism in the 18th and 19th centuries, showing that these continue to be used to define Eastern cultures under modernity. In response, views by the East of the West are also shown to be formed in the same powerfully *either-or* codes. If politics and social contexts reshape behaviours, is independence (the descriptor of individualist cultures) or interdependence (the descriptor of collectivist cultures) a context-free?

As Said (1994, p. 236) argues ‘History is not a calculating machine’, the current state of culture cannot be claimed to be ‘static’. Our understandings of its influences are not objective and are not always even well, informed. There are always complex realities affecting cultural responses (Said 1994, pp. 236-237). Understanding these realities and responses is itself complex – but one thing is clear: the ongoing elaboration of *either-or* cultural framing, contrastive East-West sets of definitions suppresses rather than enhances research understandings. Unlike Said (1994), common categorisations like individualism and collectivism, West and East, independence and interdependence, and self-oriented and social-oriented are widely used in the psychological and/or cultural studies. Then it becomes critical to question: how far it is possible to detect, and so avoid, East-West dimension in a comparative study of motivation among online OER users?

Said’s main focus was on ideologies directing the behaviours of people as actions and reactions amass. He examined two particular cultures during colonial and post-colonial times to show changing values or ideologies in response to Western imperialism. Two conflicting ideologies emerge: the *Orientalism* of the West, that sought *Imperialist* control, and in response, forms of *Nationalism* or *anti-Imperialism* in Eastern nations, especially in the Arabic-Middle East (Said 1994). Despite the diversity of the West,

Said sees it as one formation. To this extent, Said's own – influential – hypothesis has attracted critique – including refutation from Eastern scholars. But, if political ideologies can be distinguished, that means values can be distinguished too; so behaviour is not context-free.

Politics, education systems, and religions can be said to reshape and impact upon behaviours of people. Said sees *imperialism* as the cause of *all* problems and conflicts between the West and the Islamic-East. Bernard Lewis (1993) agrees that *imperialism* distorted understandings between the Islamic world and the West, but sees *imperialism* as also having made significant contributions to the Islamic world in relation to modernisation. It introduced advanced infrastructure, modern education, and parliamentary systems, even if these worked better in India than in Islamic nations. Lewis argues that the problems of the Islamic world relate to ongoing autocracy and the strong power of the religious state, and not to Western policies or activities. Turkey, for instance, has a modern education system and parliamentary system, despite its Islamic identity. It has gone further towards the separation of religion from the state, undertaken in the West as part of the project of modernity – yet still centres its cultural identity in Islamic traditions. To this extent, Said's hypothesis that orientalism in the West sustains a view of monolithic Islamic culture, is overturned. There is evidence of both hybridisation, and clear instances of diversity. Can politics be attributed to outcomes and features of certain education systems?

Other scholars suggest that Edward Said misunderstood not the West views of the East, but the West itself. Said claimed, for instance, that the West cannot accept the non-Western: that it seeks an exclusionist self-identity. Yet Ibn Warraq (2007) provides many examples that show that the West has been accepting the non-Western since ancient Greek civilisation, and is paradigmatically open to foreign ideas. Warraq argues that Said has misunderstood history, and therefore produced a flawed methodology and analysis. While Said considers Western Orientalism as the foundation for colonisation, Warraq argues that in fact both the French and the English have studied the East since the sixteenth century, well before colonised enterprises were established in the Arab Islamic regions. For Warraq, the problem lies in the radical ideologies of the Middle

East itself, rejecting Western contact and so denying themselves the West's dynamic economic innovation.

Both, Ibn Warraq and Bernard Lewis, thus argue that what Said's work suggests: a need for self-definition, pluralism and more open disposition to the other, has in fact existed – even with the 'privileged' force in the contrastive framing. This raises two issues for the study proposed here. In the first place, both Said's own formula and the evidence of those who critique the overly monolithic cultural characterisation behind it, assert the existence of a great deal of cultural diversity within cultural formations – even the supposedly rule-bound and centralist 'oriental'. This then suggests that all studies approaching a culturally-embedded set of social behaviours with a view to understanding their operation – in this case motivation behind voluntary online participation in OER – should step cautiously when elaborating models of 'difference'. If activists in open content websites, such as Wikipedia and FaceBook, are motivated by political ideologies (al-Mubarak *et al.* 2005; Bayat 2011; Carr *et al.* 2011; Fattah & Fierke 2009; Haass & Indyk 2009; Halliday 2003; Harb 2011; Khondker 2011; Maroya 2004; Ottaway & Hamzawy 2011; Owais 2011; Schiff 2006; Shapiro 2004; Waterbury 2001), would it be possible the contributors to OER are also motivated by political ideologies? Yet, behaviour is not context-free. The complexity here is that politics itself intersects with religion.

How far do such models reflect the reality of behaviours which have evolved inside a given culture – with all of the complexity and variation likely to be arrayed within it? and how far are they produced within a localised, academic form of 'orientalism', seeking to create a clear 'logic' of contrasting categories, to manage and make sense of their data? Eastern and Western scholars argue for recognition of complexity in the East, and for the need to adapt to, and even adopt, some 'Western' practices.

Firas Ahmed (2009), for instance, questions Said's argument. He argues that Islam's interaction with democracy does not necessarily result in a medieval style of governance. Although religion plays a significant role in the Muslim world in reshaping the cultural, social, and moral bases of their societies, most Muslims are not interested

in a totalitarian religious state (Ahmed 2009). While Islam controls what people do and should not do, freedom is also an issue. A Western observer may question Islam about such issues as its capacity to maintain an economy free from mismanagement and corruption, the freedom of citizens from tyranny, or the freedom of women from male oppression (Lewis 2002a), but so do many 'inside' the Arab-Islamic social order.

Politics and religion both have believers who use minimal information as a form of rational irrationality (Caplan 1999). What counts in the debate between Said and his critics is the degree to which orientalism, by over-stating the cultural East-West divide, can in fact be shown to work to sustain its consequences, as the 'East' moves beyond Western categorisation.

But do the 'irrational beliefs' that have resulted in the integration between religion and the state in the 'East' and 'rational thoughts' that have led to the separation between religion and the state in the 'West' affect individuals' orientation in the participation to open educational resources? Can the rational/irrational orientations be demonstrated in participation in OER? Does the ideological debate between the East and West appear in contributions to OER? One way forward is to move on from debate over the historical-cultural formations of *orientalism* and its Eastern responses, to examine instead concepts of how cultures form certain patterns of behaviour, or 'pre-dispositions', from within their own everyday practices.

How cultural behaviours form and are reproduced: The work of Bourdieu

Apart from the argument that behaviour is not a context-free, Bourdieu (1984) introduced the term '*habitus*' to describe how a system of acquired dispositions functions on the practical level and contains the organising principles of actions. People face opposition in all social life situations between the immediate and the deferred; the easy and the difficult; the function and the form (Bourdieu 1984, p. 196). Bourdieu's

(1998) theory of action distinguishes the many spaces of hierarchicised social positions elaborated within any and all societies, and so the spaces of differently gendered or acculturated lifestyles. According to Bourdieu (1998), all humans struggle to acquire resources (capital) and at the same time, to distinguish themselves from others. Thus, culture and comparative social positions aggregate along with their own forms of capital.

Culture, according to Bourdieu (1998), acts as a source of social domination where, contrary to popular belief, intellectuals are the key players. They are cultural specialists, who create symbolic power and who (re)design and manage the systems in which others deploy their activities. Cultural capital is an accumulating process, enacted through pedagogical actions – it is accumulated like economic capital as we ‘invest’ in the development of skills, instruments, and reputation. Seen this way, human actions are not mechanical responses, but rather expressions of *habitus*, in which tradition and beliefs filter and shape both individual and collective responses. Bourdieu (1998) thus rejects the rational view of action. Rather than an individual assessing the ‘choices’ offered – whether responding to his own ‘self’ advantage or that of the ‘collective’ – such choices are already marked suitable or not, within a given socio-cultural model, its *habitus*.

Can shared information between individuals, through open content spaces, as matter of ‘common good’ contradict with what can be called accumulation of knowledge capital? That individual is ‘pre-disposed’ towards investment, or not, is a certain form of ‘capital’ accumulation. For example, we should not blame the victim of the culture-of-poverty (Bourdieu 1998), who is enacting forms of social capital valued within a different *habitus*. Within such an assumption – rejection of the rational view of action – does that mean that individuals contributing, or not contributing, to OER do so because they are accumulative forms of investment in education? Does that also mean the decisions they make can be explained as collective responses rather than forms of individual rationale?

In Bourdieu's analysis, those who grow up within a culture-of-poverty are likely to be participating positively in their communities, on their own cultural terms. From the basis of an understanding of a given *habitus*, adaptive or 'change' behaviours can be built. For example, Christ and Wang's (2008) findings indicate that grasping new procedural practice norms can influence the ability of students from low-socio-economic-status backgrounds to effectively participate in classroom literacy activities, and enhance their ability to engage in these new practices. This suggests that in relation to open educational resources participation, teachers could play a significant role in directing traditionally educated students towards engaging ICT in learning, even with students from low socio-economic backgrounds.

Pohjola (2003b) indicates that levels of income impact upon the adoption of ICT, but also that education plays a significant role in adopting and implementing new technologies. This education must, however, consider the levels and types of 'cultural capital' brought to the use of ICT, since research shows that student satisfaction with ICT training impacts on how far ICT will subsequently be used (Techatassanasoontorn & Tanvisuth 2008). There are also broader cultural considerations, operating beyond the level of tactics of teachings. Again, not only cultural values impact upon behaviours of people, individual factors such as economic status and contextual factors such as education systems or schoolings may impact upon individuals.

How can economic status be determined? Swartz (1997) shows that Bourdieu (1984) extends the idea of capital to all forms of power: Cultural capital (cultural goods and services such as education); Economic capital (money and property); Symbolic capital (legitimation), and finally Social capital (network and acquaintances), seeing each as a means of maintaining position in the social order (Swartz 1997, p. 73). One way of maintaining this position in the social order is through education, within all levels, either public or private schools. Private schools, in both developing and developed countries, provide a competitive advantage over public schools, their most salient selling service being the social capital they provide – especially since the income and education levels of parents of private school students are relatively higher than those in

public schools (Jimenez & Lockheed 1995). Can public or private education be used as indicators of socio-economic status?

Bourdieu himself considered *habitus* a means of ‘subjectivity’ within the subject-object dualism, providing a space upon which objective social forces can be personally negotiated. To this extent however, *habitus* contradicts Bourdieu’s own intention to work objectively (King 2000, p. 417); a goal he systematically sought in his massive empirical social survey of French cultural taste (Bourdieu 1986). King (2000, p. 431) extends the notion of *habitus* to argue that social life is a network of interactions between individuals, where the individual learns from others as much as from individual *habitus*.

This social interaction and ongoing influence introduces further complications, in relation to examining cross cultural OER motivations, where online participation in OER is simultaneously embedded in the ‘local’, and seeking to amass new forms of ‘capital’ through ‘virtual’ contacts. Considering that interaction processes impact upon individuals and their behaviours, how can such interactions be examined and understood as forms of accumulative education? Many open content spaces, such as blogs, wikis and discussion boards, allow asynchronous interaction – which means a sense of indirect influence impacts upon individuals. But within such a network of interactions, will it be possible to distinguish between direct and indirect effects?

Teachers are an important component in education systems; their capabilities and skills, it can be argued, impact upon individuals. However, considering teachers as skilled or not skilled is not a realistic claim; they are controlled by the level of ICT equipment in schools – a matter that is said to be impacted by culture-of-poverty or culture-of-richness. Teachers in Arabic countries, for instance, are reported as being not skilled in the use of ICT (Hamade 2009; Hamdy 2007), and this is said to impact upon their desire to encourage their students in ICT use. External issues also influence their decisions. For example, the International Bank for Reconstruction and Development (World Bank), has stated in its report (MENA Development Report 2008) that to reform

education in the Middle East, internet connectivity has to enter schools, and training needs to be given to teachers in implementing new teaching techniques and improving their IT skills. At the same time, cultural issues such as interoperability and pedagogical values behind designing education settings, or understanding learning activity management systems, may need to be considered when designing ICT based learning objects (Harper *et al.* 2005). It is that 'system' where many factors interplay: teacher skills, ICT equipment in schools, and curriculum, but above all educational policies that control that system. Students or learners are part of that system; and their traits and values are argued to affect on their behaviours.

However, it must here be stressed that although ICT and social media have been used in recent social movements in Middle East (Barry 2011; Bayat 2011; Bhuiyan 2011; Carr *et al.* 2011; Ghannam 2011; Harb 2011; Khamis & Vaughn 2011; Khondker 2011; Mourtada & Salem 2011; Ottaway & Hamzawy 2011; Owais 2011; Skinner 2011), there is still evidence that ICT are not yet effectively used in education (Shirazi, Gholami & Añón Higón 2009). To this extent, the pedagogical and technological *habitus* of Middle Eastern education is clearly being established as not oriented towards the use of ICT: a matter of serious consequence for a study investigating the use of open educational texts in schooling. How then is the Middle Eastern cultural orientation to digital information exchange being impacted by global informational flows? How is it likely to respond to new opportunities for self-defined educational materials, and are these new informational forms designed with the 'affordances' or cultural 'pre-dispositions' which match those of a Middle Eastern educational *habitus*?

Globalisation and the specifics of cultural context: economy, polity, and religion

Culture can now be viewed as an open and dynamic system that spreads across time and space (Hong & Chiu 2001). A culture as a static form no longer exists, especially in the era of multiculturalism. When studying the impact of culture on motivation, it must be

acknowledged that culture, or cultural values, is rapidly changing due to influences of *globalisation*. This concept has a number of meanings and different perceptions. Most attention has been given to its negative impacts on people: the views for instance that it has been dominated by powerful international corporations, with local corporations and governments seem to be powerless – cases of inequalities (McGrew & Held 2007; Zarro 2007). Globalisation has been associated with capitalism and *cultural imperialism* (Tomlinson 2002), re-working a cultural *either-or* dimension, in which East and West are replaced by the economic exploited and the exploiter.

Cultural globalisation refers to the transmission of various forms of cultural product, such as forms of arts and media, beyond national borders. This view of cultural globalisation is seen and recognised as a diverse and complex phenomenon that involves many cultures, originating from many different nations. It deconstructs and constructs many social identities, raising controversial issues that impact upon national cultures and responses to them (Crane 2002). Entire accounts of world history are now considered as “sequences of ‘miniglobalization’” (Robertson 1990, p. 21).

Regardless of the complexity of cultural globalisation, the concept of ‘culture’ itself has its own inherited complexity. Each culture has its value preferences, and these value preferences change over time (Wallerstein 1990). A part of this complexity also involves individuals themselves, who produce similar selections of values, expressed through *habitus*, formed in equally complex ways. As Wallerstein (1990, p.31) points out:

... while all persons share some traits with all others, all persons also share other traits with some others, and all persons have still other traits that they share with no one else.

Capitalism in particular, with its demands for open social systems, worker mobility, resource and product flow, and identity expressive consumer choice, has resulted in what can be called *chaotic cultural identity*. Economic capitalism has reshaped political power, producing a decline in traditional governmental power, demanding the separation of state and traditional cultural authorities such as religious institutions,

social ‘caste’, or master-apprentice skills hierarchies. Within global capitalism, powerless nations remain outside world trade networks, to their serious disadvantage (see for instance Cuba or North Korea), yet recognise that they will become subject to powerful cultural influence once ‘inside’ (for instance Russia, after the collapse of communism).

Tomlinson (2002) has discussed a number of different definitions to conceptualise cultural imperialism, the operational definition founded on the view that cultural imperialism has involved a use of economic, political and religious powers to exalt and spread the habits and values of a foreign culture at the expense of the local. How do individuals of non-main-stream culture respond to cultural imperialism? Do OER users find in open educational resources a way to resist cultural imperialism?

Nor is this only a matter of history. Such powers are not expressed in totally unalloyed ways in the modern context. With human rights and equity movements, many ethnic minorities, for instance, can persist within powerful capitalist societies. Such societies are in fact more secular than the powerless nations, and so less prone to seeking to standardise all social and cultural values – another instance of mixed values within modern systems. Wallerstein (1990) argues that the increase of the capitalist economy has been accompanied by both the rise and the decline of nations, suggesting that rather than a *either-or* tension: ‘global capitalism’ / ‘local nationalism’, there is a more diverse set of forces at play. He comments that ‘a multifarious set of patriotisms offers little in the way of explanation, especially for the loser in the cyclical shifts’. He sees that ‘official ideology and empirical reality’ (1990, p. 47), often cancel each other, so that global capitalism has in many instances produced the diversity ‘choice’ that its own ideological formation espouses. Then, it becomes important to question: are OER users, both from *powerful* Anglo countries and *powerless* Arabic countries, able to report their ‘official ideology’ and ‘empirical realities’ and realise the differences, if any?

Fifteen years later, Wallerstein (2005) argues that a new world system has politically organised itself as different nation-states with various degrees of power, but that the

wealthiest states have in fact become more multicultural – to an extent where, according to Wallerstein, they become *not*-nation-states. At the same time, however, capitalism's constant movement toward social and political democratisation has allowed and even encouraged religious ethnicities to contest in multiple ways, which has resulted in '*a chaotic world system*', currently becoming less tolerant than before (Wallerstein 2005). Although impacts of multiculturalism complicate such study, the 'toleranceless' simplifies the examination of cultural differences in motivation, since individuals are becoming more attached to their cultural and ideological beliefs than ever before.

Since the increase in numbers of *not*-nation-states, the sense of nationalism (and of belonging) acting as a psychological phenomenon on citizens of these nations is being questioned. With modernity and the spread of ICT, the sense of belonging can be seen to be reflected instead in the digital sphere, as a new form of symbolic capital expressed as electronic *habitus*. Giddens (1991), for instance, defines modernity as opposite to traditional cultures. Modern nations are characterised by industrialisation, bureaucratisation, secularisation, mass education and rapid communication. Modernisation has been accompanied by rising levels of material well-being (Giddens 1991). Under modernity, psychological belonging is now supported by the use of technological resources to achieve *high presence availability* (Tomlinson 2002). Both social and cultural capitals are increasingly tied to online connectivity and high levels of participation.

To this extent, use of ICT suggests a curious inversion of modernity: a return to more collective values and a new form of online-*habitus*. To test such a development however, a project of research such as this must remain sensitive to cultural behaviours, which may produce even more complex variations in formations of 'collective' versus 'autonomous' practice. It is important at this stage to test research-based findings on 'cultural predispositions' for reductive, or even deterministic, influences, and to assess how far they may be open to both post-structural views of modernity's operations under late capitalism, and seemingly 'collectivist' impulses of ICT and online participation. To take this step is to bring into the frame the cross-cultural studies of researchers such as Hofstede (2001) and to critically examine his findings.

Culture's consequences at the national level: The intensity and direction of cultural dimensions

Hofstede was interested in cross-cultural studies. He conducted an international study of cultures across nations, publishing on different issues relating to “*culture's consequences*” in 1980, 1991 and in 2001. Hofstede's theory constitutes four (and later five) cultural dimensions, through which he examines dominant cultural formations to create a typology of cultural predispositions: *power distance*, *uncertainty avoidance*, *individualism*, and *masculinity*, and later *long-term orientation*.

He analysed 116,000⁵ responses to paper-and-pencil questionnaires, from sixty-seven countries, within subsidiaries of a large multinational organisation (IBM). Hofstede argues that human behaviour reflects forms of cultural mental programming. While mental programming cannot be seen, human behaviour can be observed. Figure 4 illustrates Hofstede's (2001) three levels of mental programming. Hofstede was particularly concerned with studying the middle level, *collective* values – a focus which makes his work of additional value to this research, given its focus on cultural impact on individuals to contribute to OER.

⁵ This number of responses differs in different editions. Furthermore, this number was questioned by McSweeney (2002).

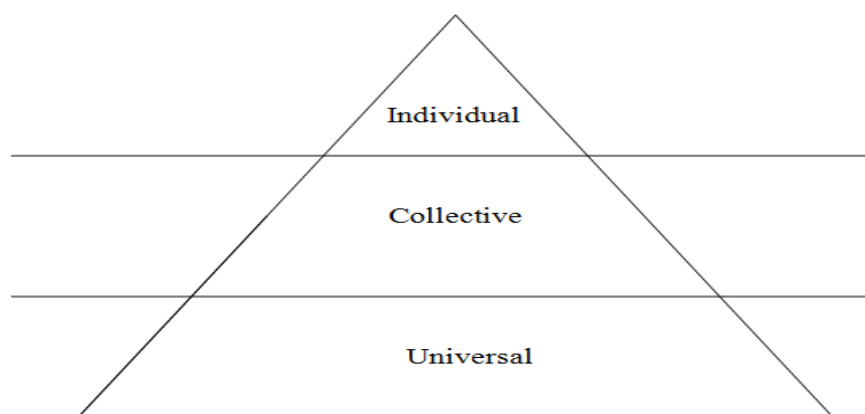


Figure 4: Levels of human mental programming

Source: Hofstede's (2001, p. 3)

Although Hofstede (2001) has produced country scores for many countries, including all Anglo countries and six Arabic countries: Egypt, Iraq, Kuwait, Lebanon, Libya, Saudi Arabia, and the United Arab Emirates. However, he produced mean scores for these six countries dealing with them as a region. Produced means for Arabic countries, as one region, has attracted criticism. In a recent update, value scores of each of these countries have become available (Hofstede, Hofstede & Association for Management Education and Development. 2005; Hofstede, Hofstede & Minkov 2005). However, At-Twajri and Al-Muhaiza (1996) extend Hofstede's study, and in particular they focus on producing indices for the cultural dimensions of five Gulf Cooperation Council states (GCC), which include Bahrain, Kuwait, Oman, Qatar and Saudi Arabia (see Appendix F for a full list of the cultural dimension index).

Theorising what he calls 'cultural consequences', Hofstede (2001) isolates an intensity and a direction in each cultural value. He defines culture as 'a collective programming of mind that manifests itself not only in values but also in superficial ways: in symbols, heroes, and rituals' (Hofstede 2001, p. 1) – matters which Bourdieu (1984) would identify as 'symbolic capital'. Hofstede (2001) argues that the behaviour of individuals partly derives from the individuals themselves, and partly as a consequence of relating to others in the community – an argument that supports the proposed model of human motivation. Communities share common, or collective, values that direct the individuals

in that community – this can perhaps be seen as extrinsic, but does that mean that community does not reshape intrinsic motivation?

National culture, according to Hofstede (2001, p. 12) involves ‘the *collective values* of individuals within a specific nation’ – always supposing that nation is monocultural, and without regional or historical variation – and discounting class, gender, or issues of subcultural ‘taste’, such as those Bourdieu established in France. Nations certainly have clear, or relatively clear, borders on the world map. But do those individuals in each of these nations share equally in economic or cultural capital, technological access, and in some cases even language? Such standardised conditions are rapidly changing under late globalisation (Castells 1996, 1997). Hofstede (2001) argues that shared conditions affect the value system and impact upon role differentiations, family patterns, educational systems, politics, law and legislation, to produce a ‘national’ culture.

Beginning from the hypothesis that such a formation exists, and contributes meaningfully to individual and collective behaviours, Hofstede (2001) set out to identify similarities and differences among different national cultures. His four, later five, dimensions across which such differences were established, each need further assessment, for their potential in examining how individuals participating in OER use may be strategising that participation, according to divergent ‘cultural’ predispositions.

Individualism (IDV)

This dimension examines how people define themselves and how they see others. Based on McClelland’s theory of achievement (Hofstede 2001; McClelland 1987), it considers goals of individuals such as earnings, recognition, freedom, or the use of personal time. In individualist nations (individualist cultures) people are expected to look after themselves and their immediate families, and prime goals are based on personal or individual considerations (Hofstede 2001). People in such cultures are expected to be competitive, and tend to be loosely integrated into their communities (Hofstede 2001). Such people report values of personal freedom and independence, and individual

decision making is encouraged. Individuals focus on personal achievement and self-reliance is encouraged as a form of “*I-consciousness*” (Hofstede 2001, p. 227).

In contrast to individualist cultures, people in collectivist nations (collectivist cultures) set goals prioritising other people in their communities. They are more concerned with group well-being over individual well-being. There is more emphasis on group decision making. They are integrated into strong relationships with other groups, and their in-group relationships are very cohesive. Stable relationships continue throughout the person’s life and are considered a source of protection, or security (Hofstede 2001).

Beyond these foundation dimensions, Hofstede (2001) found strong and positive relationships between a nation’s wealth and individualism score. In his analysis, high individualism is related to economic conditions, while collectivist cultures focus less directly on economic capital accumulation. Hofstede found individualist nations are located in the Western world, while collectivist nations are traditional societies, and mostly marked as developing nations. Within individualist cultures, people expect the right to express opinions, and are encouraged to use their initiative, and to compete with co-workers to achieve their goals, while in collectivist cultures, opinions are held to be predetermined, and individuals set out to achieve goals within established groups, rather than as individuals. Figure 5 provides examples of representative nations in relation to national variations in cultural individualism.

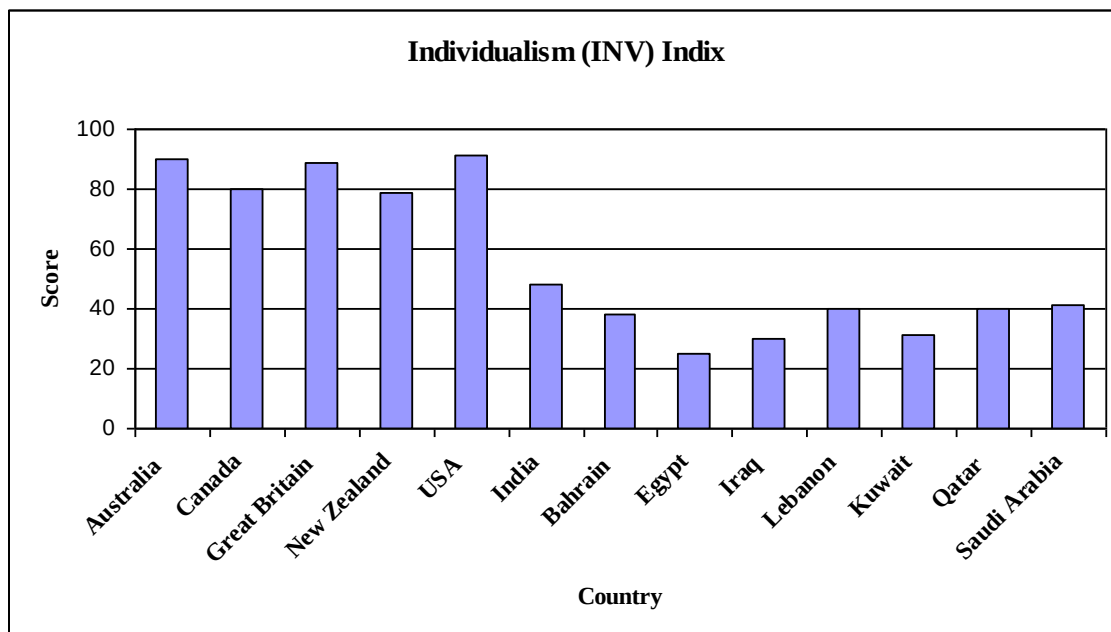


Figure 5: Individualism index for selected nations

Source: see source notes in Appendix F

As it appears from Figure 5, Arabic countries return rates of individualism at around half the reported value rate of Anglo Western nations. Despite the critical reservations discussed earlier, in relation to both cultural variability under late modernity and the conceptual dangers of highly *either-or* cultural framing, such findings do indicate the presence of significant degrees of cultural difference in relation to reported behavioural values among individuals. Since there are significant differences in values related to individualism, can such values be examined in participation in OER?

Masculinity (MAS)

To Hofstede (2001), masculinity, as a cultural value, can be used to code distinctions between social roles distinguished by gender. In *masculine* cultures, there are specific and segregated roles for men and women, while in *feminine* cultures there is an overlapping of roles between males and females (Hofstede 2001). While the distinction preserves a somewhat unfortunate gendering in its own right, it establishes a useful set of categories.

Hofstede (2001) found that men and women from masculine cultures are equally assertive and ambitious. They are interested in acquiring money and other material objects, and do not care deeply about the quality of life. In masculine cultures, individuals focus on self-expression, success, strength, ambition, and performance – masculine in the sense that these qualities and values are associated with traditions or history.

In contrast, *feminine* cultures seek to enhance the quality of life, such as a friendly work environment and promoting cooperation (Hofstede 2001). In feminine cultures, individuals focus on beauty, harmony, modesty, and service-orientation. Hofstede (1984) argues further that people in masculine cultures work in order to work, while in feminine culture they work in order to improve quality of life. Feminine cultures blur gender roles, seeking participation for all while in masculine cultures there are clear gender roles (Hofstede 1984). Figure 6 shows national variations in cultural masculinity. This time the selected nations share higher levels across modern and traditional societies.

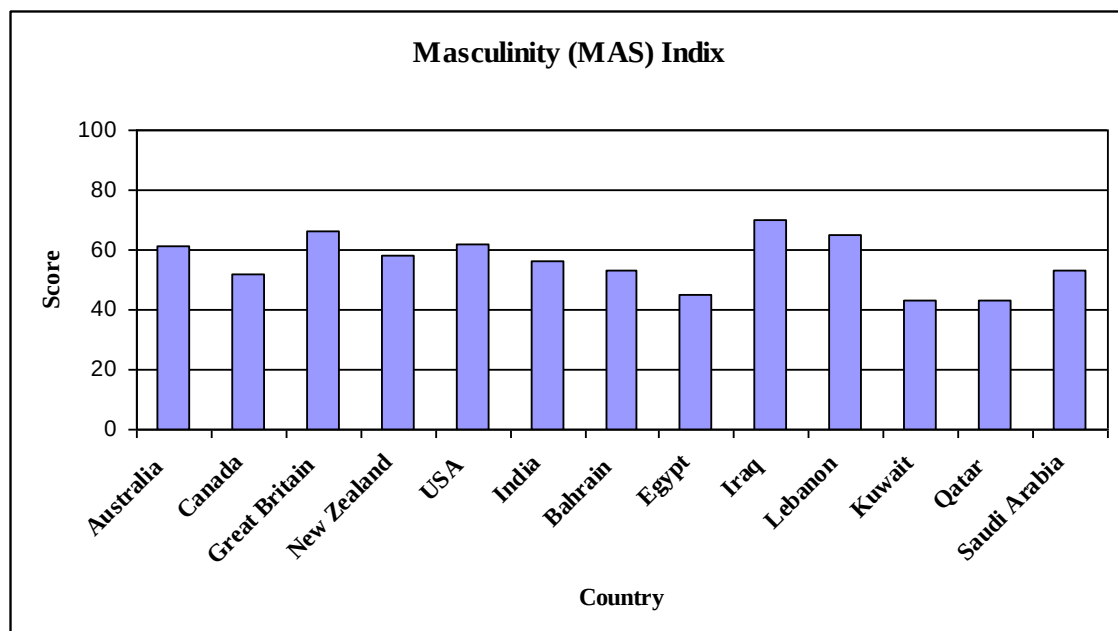


Figure 6: Masculinity index for selected nations

Source: see source notes in Appendix F

Is participation in OER controlled by gender role? Can ambition be examined through the quantity of content provision? Considering that volunteers seek to enhance quality of life for their communities, does contributing to OER provide evidence of femininity rather than masculinity? Research shows that females place higher importance on benevolence and help others in real-world non-profit organisations (Briggs, Peterson & Gregory 2010), yet, men volunteer more in Wikipedia (Nov 2007a), Linux (Hertel, Niedner & Herrmann 2003), and Wikibooks (Sajjapanroj *et al.* 2008) and are dominant in virtual organisations. The findings suggest that online volunteering is coded among participants as reserving such behaviour to males. The tendency is thus counter-intuitive, and suggests potential within Hofstede's dimensions for establishing the presence of complex value-formations within the act of OER participation.

Power distance (PDI)

Power distance refers to situations where less powerful people expect and accept an unequal distribution of power (social inequalities) in their communities (Hofstede 2001). Power distance not only manifests in social relationships (parent-child, husband-wife, manager-subordinate, and teacher-student), but involves the distribution of prestige and wealth (Hofstede 2001). To examine power distance, Hofstede looked at the process of decision making in terms of negotiation and trust between a manager and their subordinates. In high power distance nations, the power is centralised, and the communication is one-way, from high status to low status.

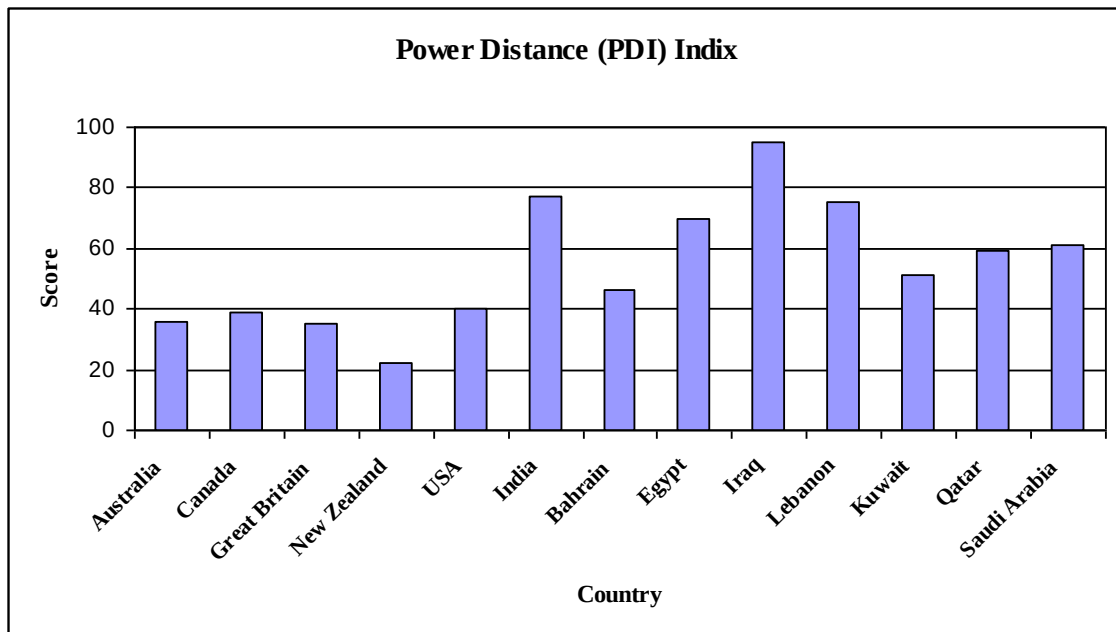


Figure 7: Power Distance index for selected nations

Source: see source notes in Appendix F

In low power distance nations, communications are a two-way process and people expect to be involved in consultation and deliberation in order to ensure harmonious interaction (Hofstede 2001). In large power distance nations most people are dependant, while in low power distance nations the majority are independent (Hofstede 2001).

In large power distance nations, high power holds privileges, while in low power distance nations, rights are more evenly distributed (Hofstede 1984). In high power distance countries, people tend to have more hierarchical social structures, emphasise status and value authority, while countries of low power distance modify social hierarchy, and are more egalitarian, and value equal rights for all.

In low power distance cultures, power is based on formal positions such as managers with their subordinates and teachers with their students. There, the use of power is legitimated, while in high power distance nations the legitimacy of power is often irrelevant. Sources of power are not status related, but operate through voluntary

affiliation and the bonding of families, friends, and groups led by charismatic people, or anyone can concede power (Hofstede 2001, pp. 97-111).

Do *produsers* to OER from high power distance cultures contribute due to communication from teachers to their students, while in low power distance cultures they contribute because people seek equality through information democracy? Power relations are not easy to examine, especially when they are more informal than formal. Modernity introduces a more complex picture in relation to OER participation.

Uncertainty avoidance (UAI)

While uncertainty avoidance is an integral part of human thought and behaviour, individuals differ in their attitudes toward uncertain situations and subsequent responses – and those attitudes and responses vary, once again, across cultures.

Uncertainty avoidance indicates the extent to which a society feels anxiety and threatened when faced with ambiguous and uncertain situations. National cultures that have low tolerance for uncertainty (high uncertainty avoidance) tend to be less risk taking, avoiding ambiguous situations, and viewing competition as a threat, while people in those nations value security over adventure. Such societies value conservatism and traditional beliefs. To avoid such situations of risk, they establish more rules, written or unwritten; either legal or religious codes, and usually do not tolerate differences in behaviours and ideas (Hofstede 2001). Cultures strong in uncertainty avoidance are active, emotional, aggressive, and seek security, while weak uncertainty avoidance nations are unemotional, more relaxed and flexible, less aggressive, and accept risks or unexpected events more readily (Hofstede 2001).

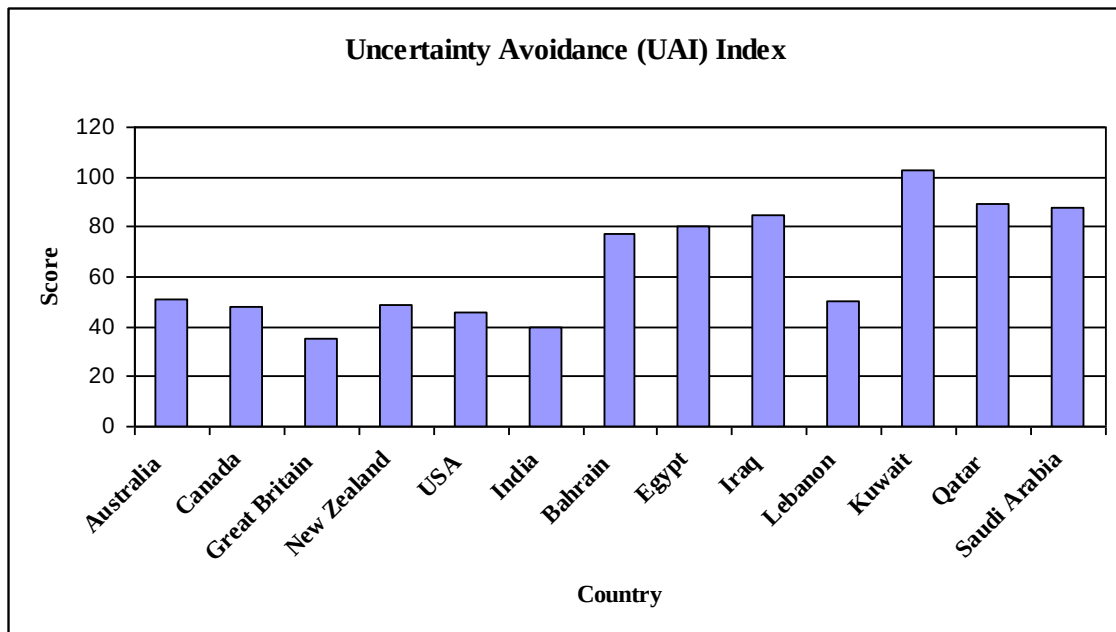


Figure 8: Uncertainty Avoidance index for selected nations

Source: see source notes in Appendix F

In weak uncertainty avoidance cultures, employees are more willing to take risks, while in strong uncertainty avoidance cultures they do not easily leave or change their positions or organisations (Hofstede 1984). Weak uncertainty avoidance means employees prefer fewer rules, while strong uncertainty avoidance cultures need written rules and regulations (Hofstede 1984). Once again, as Figure 8 indicates, there is clear cultural variation across indices of uncertainty avoidance. Is contribution to OER influenced by the available support? Can lack of support lead to no contribution?

Measuring the immeasurable

Despite Hofstede's cultural dimensions theory being widely accepted and used, his work has also been criticised for its lack of insight into the richness, depth, and variability of culture. In the first instance, the concept of national cultures, as developed by Hofstede, is questioned by those who point out that culture cannot be confined to national borders (Alexander & Seidman 2001; Baskerville 2003; McSweeney 2002). McSweeney (2002) in particular argues that Hofstede measures immeasurable forms of what he considered mental programming, since the processing of a person's thoughts is

unseen, and remains unconscious, even to the individual concerned. Hofstede (2002) in his response to McSweeney (2002), agrees that mental processing is unseen, but argues that people do not behave in random ways; rather their behaviour is a mirror of their mental processing, making it intelligible, and so reportable, to those involved in his research.

McSweeney (2002) also notes, however, that Hofstede's results derive from an analysis of data collected from IBM employees, and so did not represent a 'national culture', even if a large number of people participated. McSweeney (2002) further doubts Hofstede's claim to have had 117,000 responses: the number of responses should not be more than 4000 (40 countries x 50 respondents per country x 2 rounds). Hofstede's (2002) response argues that the organisation is in itself a community of people, and the people who worked in that organisation were from specific nations, and brought 'their culture' to that organisation (Hofstede 2002). Hofstede (2002) further explains that his aim is not to study cultures, but to study only the similarities and differences among different cultures.

McSweeney (2002) argues with the criticism that only four (or five) dimensions are not enough to identify cultural values in any depth. Hofstede (2002) notes that there are other studies have identified other values within culture, so that his study contributes further knowledge to cross cultural studies. The debate reminds us, if nothing else, that this too is a contested field – and that these sets of dimensions are, limited, and changeable – not an absolute explanation or permanent representation of truth.

Baskerville (2003) reviewed the citations that Hofstede used in building his theory, and argues that Hofstede's theory is extensively cited in disciplines other than social science, but that sociologists and anthropologists believe that Hofstede's theorisation is limited in providing understandings of culture (Baskerville 2003). Baskerville (2003) refers to a researcher who conducted further studies based on Hofstede's indices and found them inaccurate. Chanchani (1998 cited in Baskerville 2003) sought to validate Hofstede's dimensions of value in India and New Zealand. Chanchani (1998) argues that the

quantification of culture, based on numeric dimensions and 2x2 matrices (uncertainty avoidance x power distance, individualism x power distance, and masculinity x uncertainty avoidance) (Hofstede 1984, 1986, 2001) is not useful in understanding cultures (Baskerville 2003). Regardless of replication, methodological and epistemological aspects make Hofstede's study unique.

Hofstede neglects, for example, the fact that there are thirty five cultures across fourteen nations in the Middle East, according to the *Encyclopedia of World Cultures* (Levinson 1991 cited in Baskerville 2003). Within a dominant culture there exist many subcultures, based on social class, race, geography, ethnicity and language (Jandt 2007). Religion too can play a significant role in distinguishing subcultures (Neusner 2003). Hofstede in his response claims that his results were based on analysis of data at the macro level (Hofstede 2003), while Baskerville (2003) contends that Hofstede's identification of the characteristics of different nations is socio-economic in origin, rather than an identification of cultural values.

Hofstede's theory and methodology may then be misleading. McSweeney (2002) and Baskerville (2003) question the validity of Hofstede's model, and especially its applicability beyond organisational contexts. Culture, they claim, simply cannot be represented in indices and matrices. Research into social cultural phenomena is not like research in the natural sciences.

While research in socio-cultural sciences can be approached from different perspectives, the validity of results depends on an appropriate choice of research methods and epistemological frames. For the present study, therefore, Hofstede's model of cultural consequences presents something of a problem. However, are there some aspects of his model that are still of value for the examination of cross cultural motivation for contribution to OER?

Regardless of the criticisms mounted above, the strength of quantitative approaches to the study of cultures is that they allow statistical techniques into the study of cross cultural differences. Factor analysis, analysis of variance, and regression analysis are common analysis techniques in cross cultural studies, allowing examination of social phenomena from different perspectives (van de Vijver & Leung 1997) – as in the present research where many variables impact upon OER motivation across cultural samples, and hence there is a need for multicultural measures.

As discussed in Chapter 1 and this chapter, factors, that impact upon human motivation, include individual differences, represented in gender, education, and age; and contextual difference, represented in education system and the ICT infrastructure. Regression analysis will be useful for evaluating the influence of one or more independent variables on a dependable variable – which is motivation for contribution to open educational resources. Regression analysis allows the identification of relationships that hold both across and within cultures. Furthermore, the analysis of variance evident in cross-cultural research, in general, and cross-cultural psychology, in particular, provides a strong foundation for the current research.

Hofstede depends on culture-level approaches to study cultural differences. However, the individual-level approach to study cultural differences, where the individual is the unit of analysis, will also be considered to examine variation in motivation for participation in OER across cultures; especially because this approach is widely used in cross-cultural psychology (van de Vijver, Hemert & Poortinga 2008). Statistical techniques that deal with issues of multiculturalism do not differ from cross-cultural phenomena. Much of research in this area depends on measures that facilitate the study of cultural issues including the study of the socio-political and cultural experiences of individuals from a wide array of social identity groups as well as the contexts in which they may occur' (Gamst, Liang & Der-Karabetian 2011, p. 2).

Discussion of suitable data collection techniques and analysis design for such work will be taken up in Chapter 7. A more detailed examination of culture theory, including those providing dimensions that simplify identification of cultural similarities and differences, will be discussed in Chapter 3, with a special focus to what Hofstede's dimensions may offer to a study of OER participation will help assess the potential of his cross-cultural modelling for the projected study.

Chapter 3

The ‘Cultural Consequences’ of going digital

Further research is needed to develop a parsimonious and exhaustive cross-cultural framework to analyze cultural content on international web sites that will provide marketers with an effective tool to develop culturally adapted web sites.

(Singh *et al.* 2006a, p. 94).

... Hofstede’s cultural typology has been extensively replicated and supported as an important part of cultural theory. Furthermore, according to Clark (1990), there seems to be an overlap among different typologies of culture, and their dimensions correspond to Hofstede’s typology. However, further validation of the coding scheme in different contexts will expand the boundary conditions,... [and] provide further validation ...

(Singh & Bartikowski 2009, p. 161).

In Chapter 2, it was discussed that, according to Hofstede (1986), students from *individualist* cultures wish to experiment with how to learn, while students from *collectivist* cultures want to know what to do. Students in *individualist* cultures participate in group discussions, and their teachers ‘facilitate’ and organise these discussions. Students in *collectivist* cultures tend to speak individually only when teachers ask them to. In *low power distance* cultures, the education process is ‘student-centred’. In *high power distance* cultures, the learning process is ‘teacher-centred’. Students like young teachers in *low power distance* cultures, and treat them as equal outside the class. In *high power distance* cultures, students prefer older teachers, and treat them with respect (Hofstede 1986). *Uncertainty avoidance* is low in *individualist* cultures, and students manage unstructured learning better than students from *collectivist* cultures. In *high uncertainty avoidance cultures*, students feel more comfortable with structured learning. Students in *low uncertainty avoidance* are innovative, and expect rewards for their originality; while in high uncertainty avoidance cultures, students solve problems using the most accurate and authoritative means available (Hofstede 1986). In *feminine* cultures, both teachers and students look to quality since teachers use the ‘best’ students as norms. In *masculine* cultures teachers use the average student as norm (Hofstede 1986).

Since *cultural consequences* impact upon teachers and students, and demonstrate cultural differences in the orientation towards education, would such consequences affect learner’s orientations towards participation in OER? Perhaps research in relation to e-learning helps enhance understandings of cultural differences in learning, and/or cultural considerations in designing learning material.

In relation to e-learning, Gamble (2009) finds that *collectivist* Chinese students are motivated by taking responsibility for their own learning and eager to construct their own understandings, using their own learning techniques (constructivist-cognitive), while *individualist* Americans students gain knowledge in more passive and standardised ways where the transfer of knowledge is independent of individual

preference (instructivist-objective). Can such conflicting results, breaching Hofstede's cultural dimensions, be explained by the impact of globalisation and the complexities it introduces into cultural values and preferences? Jones and Alony (2007) argue that more research is needed to capture shifts in cultural values that are influenced by information technology. Qualitative studies of e-learning behaviour have shown that Europeans demonstrate individualist behaviours, while East Asians show high power distance behaviours (teacher-centred) (Swierczek & Bechter 2010). Hofstede's theory of cultural dimensions thus seems to be locating contradictory data. Is this a fault in the dimensions, or in the entire approach, simplifying cultural values into only four or five directions? Alternatively, is the model working with precision – but capturing a moment of rapid cultural transitions?

Can cultural dimensions stand in the era of multiculturalism?

Many theorists aimed to identify variances among cultures or cultural values. In approaching their goals, they mainly used questionnaire including different values. Analysed responses to these surveys allow researchers to explore 'contrasts' among cultures – usually called dimensions. It is difficult to assess every theory discusses cultural distinctions. However, the selection of an adequate theory as a foundation to examine cultural differences in OER motivation was basically instrumental and methodological. The matter that is discussed here is, however, do cross-cultural measures provide an accurate picture of cultural differences – considering that cultural values are changing dynamically especially in the era of globalisation and multiculturalism?

Less developed collectivist nations, although part of globalisation, remain, to a large extent, monocultural; while more developed individualist nations become more multicultural. Does this mean that sides of dimensions relating to developing nations (collectivism, high power distance, high uncertainty avoidance, and high masculinity) remain, to some extent, stable, while sides of dimensions relating to developed nations can be seen as shifting, more or less towards the middle, influenced by many collectivist subcultures within main stream individualism? While developed countries adopt many

policies of assimilating cultural differences, developing countries become more resistant to globalisation and any accompanied cultural changes. Education policies and curriculum design may help enhance the understanding of cultural consequences and their impact upon teachers and students, and the whole education system – the vehicle for cultural reproduction.

One way forward is to examine studies of educational design in locations which serve multicultural populations. Attieh (1992) claims that the curriculum in Bahrain is designed to suit people from different countries, languages, cultures and religions. However, a curriculum should be designed not only to suit different cultures, but various sub-cultures. In Germany, curriculum is designed for students living in West Germany, as well as in the former East Germany (Mitter 1992). If, as Austin (2005) states, each culture has its own identity and specific cultural behaviours, designing a multicultural curriculum means loss of a single and central cultural identity (Helms 1993 cited in Austin 2005).

In an open content environment, there are even more challenges to developing curriculum in relation to cultural identity and behaviour. If services and procedures are developed to satisfy local needs, participants from other cultures will need to ‘localise’ examples and practices from their own experience, to suit their own culture. Is there no influence from ‘incomers’ on ‘the local’? Do online participants carry their own cultural predispositions into the new activity? And if they do, do they impact upon the procedures undertaken there by others? Culture, in the examination of cross-cultural OER motivation, is considered an independent variable which complicates categorisation. Motivation is a dependant variable, and changes from one culture to another – a more manageable variable.

Individualism, collectivism and self deception

To ask the above questions is to interrogate once again the concept that ‘national’ cultures are monolithic, and unvariable. Triandis (1995) has defined culture as a set of human-made objective and subjective elements that occurred in the past, that have survived, and that result in the satisfaction of participants. These are shared among individuals who use a common language and live in the same time and space. Objective elements include artefacts that individuals within a society consume, such as local news/media channels, roads, schools, and tools. Subjective elements include roles, associations, norms, and values. These subjective elements are organised into unique local patterns that affect social behaviour within a specific social ecology.

It is important to note that Triandis (1995), along with many others, challenges the view that psychology and so cognitive processing are universal. He offers evidence that psychology too is culture-specific, and influences thoughts and actions in ‘localised’ ways.

Triandis (1995) offers an alternative view to the individualism-collectivism construct as a pure dichotomy. Triandis and Gelfand (1998) argue that both individualism and collectivism can be vertical (emphasising hierarchy) or horizontal (emphasising equality). The results of their empirical research on individuals from the US (an Individualist Western context) and Korea (a Collectivist non-Western context) suggest significant differences between two kinds of individualism (vertical and horizontal) and two kinds of collectivism (vertical and horizontal). Both western and non-western contexts produce both categories of behaviour – but in different ways.

A number of researchers (Kluckhohn & Strodtbeck 1961; Markus & Kitayama 1991) continue to define the attributes of individualism and collectivism as an *either-or*

distinction. For example, in collectivist cultures, individuals are held to emphasise relatedness, attending to others, and harmonious interdependence, while in individualist cultures, individuals express their own unique attributes, attending to the self, independent from others (Markus & Kitayama 1991). Yet, it is important to stress that ‘others’ is a significant construct for the ‘self’ in both cultures. For the interdependent self, others are included within the boundaries of the self. Relations with others in specific contexts are the defining features of the self. For the independent self, others are important for reflected self-appraisal and social comparison and in their role as the targets of one's actions. Any of these independent selves, at any given moment, is assumed to be an autonomous entity without the others (Markus & Kitayama 1991). In both sets of definitional activities, both sides are necessary – even if differently prioritised.

A close look at Triandis and Gelfand's (1998, p. 120) questionnaire items across the axes of vertical and horizontal individualism and collectivism, shows that the *Horizontal Individualism* (HI) dimension reflects values of independence and self-reliance, *Vertical Individualism* (VI) reflects values of competition; *Horizontal Collectivism* (HC) reflects values of integrity and interdependence, and the *Vertical Collectivism* (VC) dimension reflects values of sociability and social obligation. These two vertical and horizontal axes of individualism and collectivism introduce more complexity to the understandings of culture. For example, it can be argued that there are no conceptual differences between interdependence, integrity, and social obligation since any of these concepts involve the notion of the importance of the self for the community. Furthermore, there is conflicted interpretation of ‘others’: while ‘others’ mean for individualists ‘not me’, it means ‘not us’ for collectivists. In addition, the meaning of ‘pleasure’ could differ across cultures. Similarly, the meanings of ‘social relationships’, ‘interdependence’, and ‘sociability’ can overlap (Li & Aksoy 2007).

Furthermore, such categorisation does not provide explanation of gendered roles across cultures or different system practices. According to Triandis (1995), human behaviour in any situation is determined by intention, habitual acts and the situation itself. Both

social factors and emotions form their intention. ‘Subjective culture’, as defined by Triandis, is a product of biological and cultural influences – but this attracts criticism.

To examine the dimensionality of individualism-collectivism (I-C), and assess the plausibility of horizontal and vertical dimension, Li and Aksoy (2007) undertook a study to examine multidimensional conceptualisation in a more conclusive methodology by using the refined scale items of Triandis and Gelfand (1998). Although Li and Aksoy’s (2007) first study, a combined sample of American and Turkish students, supports the feasibility of incorporating the vertical/horizontal dimension in the I-C, their additional second study shows that there is a mixed pattern of vertical and horizontal dimensions. They found a strong relationship between VC and HC, as well as VI and HI. This suggests that ‘collectivism (individualism) shared by the two pairs overshadowed the distinction between horizontal and vertical orientation’ (Li & Aksoy 2007, p. 323), which fails to support a clear distinction between HI (HC) and VI (VC).

Hofstede and Triandis are not the only theorists who have established categories for cultural values. Trompenaars and Hampden-Turner (1997, p. 20) seek to understand not cultural differences, but how a culture affects the processes of management and business. They studied the effect of culture on management building on Hofstede’s research – yet found that what one culture regards as important is not necessarily given the same importance by other cultures. Through their analysis of 30,000 questionnaires, Trompenaars and Hampden-Turner (1997, p. 20) identified seven cultural dimensions. Each dimension represents a particular value.

The first group involves five dimensions, and is concerned with relationships with others:

1. whether rules or relationships are more valued;
2. whether individuals work as independent selves or in within groups;
3. whether individuals conceal or display their emotions;
4. whether work responsibilities are specifically assigned or generally diffused; and
5. whether work status is founded on achievement or social position.

The second category concerns how people deal with problems and whether they solve them in a sequential order or in a synchronised manner. The third and final category assesses internal versus external responsibility and how much agency people claim over their environment. In other words, it asks whether people are active and able to take control over their environment, or passive in that the environment controls them.

Trompenaars and Hampden-Turner consider their own model in relation to Hofstede's theory (Trompenaars & Hampden-Turner 1997, p. 156). While Hofstede assumes that cultures are linear and static and have positions across two axes, Trompenaars and Hampden-Turner assume that cultures are more dynamic and cyclical. The dynamism of culture in their model makes it more difficult to examine the impact of culture on motivation. Not only is the matter related to dynamism, but also their model is more applicable to organisational cultures rather than national cultures.

Trompenaars and Hampden-Turner design the dimensions of their study directly to the area of business, in recognition of the specific values found in 'local' cultural practices and attitudes. It is a salient reminder of how far 'cultural variation' depends on very specialised and distinctive sets of values and circumstances able to impose variations on 'national culture' categories. Trompenaars and Hampden-Turner (1997), however, focus on successful business strategies in different cultures, rather than on understanding the values of cultures themselves. In fact, the empirical results of Trompenaars' data provide limited support for his seven-dimensional model, and the nine countries he chose are statistically insufficient to develop his model (Hofstede 1996). Therefore these values across cultures are not very suitable for the current research. Furthermore, such dimensions they proposed are working on the organisational level rather than the national culture level.

Much cross cultural research, including Hofstede's (1984, 2001) and the work by Trompenaars and Hampden-Turner (1997), stereotypes sophisticated cultural values within different framings of bipolar cultural dimensions. These dimensions are often framed, inaccurately, within dualistic, *either-or* continua (Osland & Bird 2000). While, to some extent, sophisticated stereotyping can be helpful in identifying meanings for behaviours, it does not convey the complexities within cultures; and value trumping occurs when certain sets of values take precedence over others (Osland & Bird 2000). Cultural values are embedded in context and cannot be understood without taking context into consideration (Osland & Bird 2000).

Within social constructivist paradigms, it is important to study cultural dynamics and contextual influences. Behavioural practices cannot be explained by using the umbrella of generalisation theories – universalist *etic* approaches (Clausen 2010). A relativist approach seeks to explore human behaviour within the complexity of the context of the culture, to make those practices meaningful – *emic* approaches. Relativists see that there are no context-free mental processes and behaviours; and argue that cross-cultural comparison tends to obtain overly-generalised or abstracted results. Cross-cultural psychologists, however, use relativist *emic* approaches, and incorporate absolutist or universalist *etic* approaches, seeking to establish cross cultural differences, and similarities, in the characteristics of human behaviour, as well as in motivation, mental processing and emotions (Kâğıtçıbaşı 1997).

To move forward, dimensions and/or measures of cultural values cannot provide deep understandings of cultural differences in OER motivation. More specifically, to compare cultural groups, looking for values with different intensities (for instance high/low power distance) is not enough to understand the differences at a universal level. Questionnaires, which collect individual responses, usually measure differences on that level – these are highly contextual and produce unreliable data. Hofstede's sampling techniques seek to overcome this unreliability by aggregating a large sample

of responses, to produce one-dimensional or bi-polar categories (e.g. individualistic or not), yet are insufficient to capture the variance in individual-level values.

Bearden, Money and Nevins (2006) argue that multi-dimensional measures of cultural value at the psychological individual level are more appropriate than bi-polar or one-dimensional measures. Although their findings demonstrate that measures designed for one-dimensional constructs to represent multi-dimensional individual-level traits are not usable, they do shed light on the problem. There are value differences at an aggregated level and the differences in behaviour of individuals must be studied by measuring the value differences of those individuals. Each culture has its unique values that may not exist in some cultures. Such values can be examined by interviews or observation at the individual level. It must be noted that what is crucial in dimensions/categories studies, however, is the constant reminder that any categories which emerge are to be regarded only as tools for further study. They do not, in any way, define or characterise cultures, nations, or the individuals within them.

This is not to deny that many influential social-psychology researchers and theorists have produced, and used, such models. Despite conflict among different theories of national cultural character, there is considerable overlap. Theorists of what can be called “*national character of social values*” include Eysenck and Eysenck (1969); Fiske (1991, 1992); Inkeles and Levinson (1997); Kluckhohn and Strodtbeck (1961); and Peabody (1985), in addition to Hofstede (1984, 2001); Trompenaars (1995), and Triandis (1995), discussed above. Table 8 illustrates the similarities between cultural characteristics as articulated by Fiske (1992); Rokeach (1979b); and Triandis and Gelfand (1998) on the conceptualisation level:

Table 8: Constructs of individualism and collectivism

Dimension	Theorist	Collectivism	Individualism
Vertical self	Fiske (1992)	Communal sharing Authority ranking	Market pricing Authority ranking
	Rokeach (1979b)	Low freedom Low equality	High freedom High equality
	Triandis and Gelfand (1998)	Interdependence (integrity) Differences from others (inequality) Hedonism*	Independence (competition) Difference from others (inequality) Hedonism*
Horizontal self	Fiske (1992)	Equality matching Communal sharing	Equality matching Market pricing
	Rokeach (1979b)	Low freedom Communal living	High freedom Democratic socialism
	Triandis and Gelfand (1998)	Interdependence (integrity) Same as others (equality) Hedonism*	Independence (competition) Same as others (equality) Hedonism*

* Although Hedonism is a construct of individualism, the means of measures of Hedonism across Vertical Individualism (VI), Vertical Collectivism (VC), Horizontal Individualism (HI), and Horizontal Collectivism (HC) are close to each other: Triandis and Gelfand (1998) did not provide evidence for statistically significant differences between VI, VC, HI, and HC, which may indicate that Hedonism is not specific to individualism.

Source: adapted from Triandis and Gelfand (1998, p. 119)

Rokeach (1979b), Fiske (1992), and Triandis and Gelfand (1998) are not the only theorists to articulate concepts of national character. A number of theorists have sought to distinguish national character. Clark (1990) compares dimensions of national character and saw these dimensions overlap. He usefully summarises some of the major models – as illustrated in Table 9:

Table 9: Dimensions that theorists use to distinguish cultures

Emerging domains	Dimensions as articulated by			
	Inkeles and Levinson (1997)	Hofstede (1984)	Peabody (1985)	Eysenck and Eysenck (1969)
Relation to authority	Relation to authority	Power distance	Assertiveness	Psychoticism (tough-mindedness)
Relations to the self and others	Conception of the self	Masculinity (assertiveness)/ Femininity (quality of life) Individualism (independence)/ Collectivism (interdependence)	Tightness/ Looseness	Extroversion
Relation to risk	Primary dilemmas or conflicts	Uncertainty avoidance		

Source: An adapted comparison of dimensions of national character as articulated by Clark (1990, p. 73).

While Eysenck and Eysenck (1969) and Peabody (1985) have focused on personality traits, Hofstede (1984) identifies ‘national character’, based on the collective behaviour of individuals as outcomes of their mental processes (programming). This ‘mental programming’ is held not to be limited to personal values. Individuals consider the values of their societies. Rokeach (1979a, p. 48) argues that

the ultimate function of human value [whether ends values (ultimate desired goals) and/or means values (beliefs about desired modes of behaviour)] is to provide us with a set of standards to guide us in all our efforts to satisfy our needs and at the same time maintain and, insofar as possible, enhance self-esteem, that is, to make it possible to regard ourselves and to be regarded by others as having satisfied societally and institutionally originating definitions of morality and competence.

Values in this consolidated model are thus understood to be as much psychological as sociological concepts and they are as meaningful on cultural, societal, or organisational levels as on the individual level (Rokeach 1979a). Each individual has a complex set of values, which combines concrete evaluations (such as ideologies) and objects of preference (Williams 1979). Values are learned within different societal institutions, through forms of different ‘*educational program*’; and the hierarchical structure of an individual’s (or a group’s) value system is, to some extent, an end result of the

successful '*interinstitutional competition*' of influences, through day-to-day institutional activities, acting upon that individual (Rokeach 1979c). While there are individual differences in uptake of those influences, it is possible according to these theorists, to establish recurrent patterns, clustered into social – and even national – categories.

Cultural value orientations

Schwartz (1990) criticises the individualism-collectivism dichotomy, because it promotes the assumption that individualist and collectivist values each form coherent syndromes in polar opposition – as do Hofstede's categories. Schwartz (1994) sees values rather as motivational goals, resting on and responding to basic human values, likely to be found in all cultures. These value types seek power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security. Moreover, there are dynamic relations among these values and the total pattern of conflict and compatibility yields a structured value system. This structure reveals these ten 'value types' organised into three bipolar dimensions.

1) Conservatism versus Autonomy

A person in the conservatism pole is viewed as embedded in social relations with a group, participating in its shared way of life. A person in the autonomy pole is viewed as self-directive, seeking to express internal attributes such as feelings, motives, preferences, and traits.

2) Hierarchy versus Egalitarianism

A person in a hierarchical system is socialised to comply with obligations and rules, all attached to roles ascribed by the system. A person in an egalitarian culture seeks to share basic interests and socialising, to internalise a commitment to voluntary cooperation with others, in concern for everyone's welfare. Values include social justice, freedom, responsibility and equality.

3) Mastery versus Harmony

An individual in a high mastery culture seeks to assert control in order to further personal or group interests through competence, ambition, daring and success. In a high harmony culture, an individual is trying to preserve, rather than to change, through such values as protecting the environment or seeking a world of beauty.

Smith and Schwartz (1997) explain that the availability of different analyses of the structure of values at the cultural level, especially those revealed from the different dimensional approaches, makes it possible to seek some degree of theoretical and empirical integration. At the same time, they indicate that the categories are not fully representative. Many of these studies present, for instance, the national entities of North America, Europe, and the Pacific, 'but African and Arab countries are badly underrepresented in all studies' (Smith & Schwartz 1997, p. 111). More than ten years later, Schwartz (2006a) was arguing that particular cultural orientations characterise distinct cultural regions: for example, the Greek culture is the least typical of Western Europe in terms of *higher mastery*, and lower on *intellectual autonomy* and *egalitarianism* than other Western European countries.

Cultures can be represented by shared history, religion, language and land. However, these factors of identification intersect. Comparing different cultures, Schwartz (2006a, pp. 158-160) argues that entities used in comparison are not only geographical/national (such as West Europe or North Africa), but also linguistic (English-speaking or Arabic Muslim Middle East) or even religious affiliation, so that cultural influences impact upon individuals across regions:

The culture of the English-speaking region is especially high in affective autonomy and mastery and low in harmony and embeddedness, compared with the rest of the world. It is average in intellectual autonomy, hierarchy, and egalitarianism... But, West European priorities contradict conventional views of individualism in another sense: They emphasize egalitarianism and harmony and de-emphasize mastery... The cultural groups from sub-Saharan and North Africa and the Muslim Middle East form a broad region that does break into clear sub-regions. These cultures are especially high in embeddedness and low in affective and intellectual autonomy. Thus, they emphasize finding meaning in life largely through social relationships and protecting group solidarity and the traditional order rather than cultivating individual uniqueness.

Here, the categories of investigation are directly attributed to national culture, while the elements used to distinguish cultures, in order to do comparisons, vary, and include geographical domain, language, history, and religion, as there are differences in behaviour across cultures, and cultural variations in reasons for identical behaviour, which indicate that the meaning of values itself differs across cultures.

The intersection among variables of culture attributes may lead to a methodological concern when it comes to interpretation of cross-cultural research findings – these categories seemingly misrepresent research findings. Barrett *et al.* (2004) show, for instance, that the *collectivist* people of Poland are more likely to be motivated to comply with *others-oriented* than *self-oriented* reasons. These collective-primacy individuals show a greater tendency to comply with help requests for reasons of social obligation than individual-primacy persons from the United States. As in many cross-cultural studies, sampling individualist versus collectivist elements, these categories in their own right, are conceptualised as major causes of individual variations in human behaviour, and interpreted as cultural differences. Cultures (or cultural syndromes), should be treated instead as mediator variables (Lonner & Adamopoulos 1997) – so that the issue becomes one of methodology, but reads at the level of cultural theory. How then can the categorisation models be implemented without slipping towards cultural categorisation? How much variability can be introduced into the samples, without overturning the structuring principles? One possibility is to develop a multi-level sampling technique, cross-referencing data collected in different ways.

Multi-level sampling

In cross-cultural psychology, it is common to collect data from numerous individuals, and from various countries. Such data structures are frequently referred as to a multilevel approach to analysis, where observations at one level of analysis (individuals) are nested with other levels of analysis, such as cultures or country-level aggregates. These relationships between individuals and their contexts involve ‘ecological correlations’ (Nezlek 2011). In a study to examine the relationship between cultural values at individual and cultural levels, Steel and Taras (2010) find, for

instance, that individual and national cultural values may be determined by age, gender, education, and socio-economic status on the micro characteristic level, but also by broad cultural formations such as freedom and wealth on the macro characteristic level.

Apart of acculturation, Steel and Taras (2010) found that individual characteristics appear to determine an individual's cultural values through aging, education and work experience. Such micro characteristics may then reflect individual differences in, for instance, motivation for contribution to open educational resources, in relation to the cross-cultural differences. Again, motivation depends on individual factors and contextual factors, as discussed in Chapter 1.

In a non-empirical paper, Erez and Gati (2004) propose a multi-level model of culture, focusing on global culture (the most macro level), the national level, the organisational level, the team level, and the individual level (the micro level of culture). These levels are proposed as interplay as top-down and bottom-up processes. Empirical research by van Emmerik and others (2010) found interrelationships between McClelland's (1987) motives (the individual level) and cultural dimensions (the cultural level). *National character*, for instance, could be considered in terms of mean levels of personality traits (McCrae 2001) – although once again, it is important to be careful while considering levels of approaching cultural differences, especially since both explicit and implicit motivations for contribution to OER need to be addressed.

Research in cross-cultural psychology is influenced by the scientific background of researchers and can tend to focus on universal characteristics. Such researchers tend to address psychological phenomena using quantitative approaches, while sociologists deal with social phenomena, understanding them as resulting from many factors interacting in the contextual systems of individuals – but they do not ignore individual differences. Sociologists are able to standardise measures of individual differences, such as gender, or education level and do undertake statistical analysis.

The context and values of individuals, however, are hard to represent in quantitative measures, although there have been attempts to quantify qualitative data. Such research has its own complexity. It looks at universal measures of values behind motivation, and also individual assessments of values. Here, it must be stressed that any statistical analysis results should be interpreted in regard to the logic, the theory and the actual observations: what is called ‘common-sense’ analysis (Goode & Hatt 1952, p. 237). Kâğıtçıbaşı (1997), for instance, points out that the country-level scores, as produced by Hofstede, are themselves derived from averaging the responses of a sample of individuals. These means are expected to have a parallel psychological meaning.

However, the results of the two analytical procedures (individual-level & country-level) are not identical. This complicates the process of making sense of different factor structures. To construe the presence of individualism and collectivism, or any other factors, from statistical analyses, is a difficult and problematic process. Bearden, Money and Nevins (2006) argue that multi-dimensional measures of cultural values at the psychological individual level are more appropriate than the bi-polar or one-dimensional measures. Their findings demonstrate the dangers of using measures designed for one-dimensional constructs to represent multi-dimensional individual-level traits. Regardless of value differences at aggregate level, differences in the behaviour of individuals must be studied by measuring the value differences of those individuals.

So, what does this mean for a study of motivation for voluntary participation in OER production? Motivations for voluntarism in real-world organisations (RWO), and in virtual entities, such as open source software (OSS) or open content webpages (OCW) will be discussed in more detail in the next two chapters. These motivations can at least, to some extent, be identified through quantitative measuring of values (at the macro-universal level), to help understand any differences in motivation across cultures.

Among different theories of cross-cultural identification, Hofstede’s (2001) indices for cultural values, despite sustained criticism, promise to provide categories which can help to compare motivations across cultures. These indices will be used as a form of

preliminary data, works as a basis for conducting more individualised, in-depth qualitative sampling, to consider participants' views on relationships between motivations and cultures. Qualitative assessment (on the micro-individual level) will help identify values held by individuals, which they understand to motivate their contribution to open educational resources.

Identifying shared values will help in understanding differences – and indeed similarities – within and between cultures. Such understandings of cultural values help develop and promote businesses successfully (Trompenaars & Hampden-Turner 1997) – useful in considering cultural differences when developing OER and integrating them into cross-cultural uses.

Applications of Hofstede's theory in the online context

Although Hofstede's (2001) theory has been criticised (Baskerville 2003; McSweeney 2002), it continues to be applied in fields such as management, accounting, and education. Investigation of research that applied Hofstede's model to explore differences and similarities of behaviour, especially in online environments, helps reveal cases where Hofstede's work, despite its limitations, can still produce interesting results (Marcus & Gould 2000; Nov 2007a).

In quantitative cross-cultural studies, scale is commonly used to assess differences. For example, Levy (1997) used *Likert scale* questionnaires to survey Anglo and Asian students in the USA, in order to examine differences in acceptance of Hofstede's category of power distance. The study data showed that more Asian students perceived and accepted teacher dominance than Anglo students. The power distance category does appear to persist in a time of globalisation and mobility of individuals, at least within individual reports of their own values and behaviour.

Another issue is to be considered in cross-cultural studies is language versions of research instruments. For example, Blanchard and Frasson (2005) in their study of online learning courses used multi-language questionnaires in English, French, Farsi and German, which were sent via e-mail lists attached to an online course. Responses showed that Canadian students were more interested in individualist work than French students, while collectivist Brazilians disagreed with affirmation as a value of individualist culture. This too supports Hofstede's data in indicating that Canada fosters individualist culture, while Brazilians value collective actions. Blanchard and Frasson (2005) advise tutors in e-learning to be aware of these possible differences when they plan learning strategies. Berry *et al.* (2011), however, advise 'values' researchers to conduct multi-language studies if they intend to undertake comparative research with people from different cultures. Research participants need the confidence to answer in their mother tongue, to avoid any misunderstanding/misinterpretation of survey questions.

Callahan (2005) analysed university websites from Malaysia, Austria, the USA, Ecuador, Japan, Sweden, Greece, and Denmark. Callahan (2005) aimed to examine how different cultures represent themselves on the web, and whether the design of websites follow cultural trends. Callahan's predecessors had tried to explain cultural differences in website design based on Hofstede's model. Table 10 illustrates differences in website design, building on Hofstede's four cultural dimensions: individualism, power distance, uncertainty avoidance, and masculinity – as applied or found in a number of studies.

Table 10: Website characteristics in relation to Hofstede's dimensions of culture

Dimension	High	Low	Source
Power distance	symmetry tall hierarchies focus on official seal, national emblems photographs of leaders monumental buildings	asymmetry shallow hierarchies photos of students rather than faculty images of both genders	Marcus and Gould (2000)
	monuments	images of public spaces images of everyday activities	Ackerman (2002)
Individualism	images of individuals images of young emphasis on action	images of groups images of aged and experienced emphasis on state of being	Marcus and Gould (2000)
	Privacy Independence Uniqueness Personalisation	Community/family Clubs Newsletters Links to local websites	Singh, Zhao and Hu (2005)
	Personalisation	Organisation history	Zhao <i>et al.</i> (2003)
	External hyperlinks Search engine Private chat rooms	Loyalty programs User forums Public chat rooms	Gevorgyan and Manucharova (2009)
Masculinity	limited choices orientation toward goals	multiple choices orientation toward relationships	Ackerman (2002)
	emphasis on tradition and authority frequent images of buildings	frequent images of people, especially showing them laughing, talking or studying together	Dormann and Chisalita (2002)
	graphics used for utilitarian purposes	attention gained by visual aesthetics	Marcus and Gould (2000)
Uncertainty Avoidance	limited choices restricted amounts of data limited scrolling	variety of choices long pages with scrolling	Marcus and Gould (2000)
	references to daily life redundancy	abstract images	Ackerman (2002)

Note: An updated comparison of cultural dimensionality of website characteristics following Callahan (2005)

Based on predecessor research findings, Callahan (2005) conducted content analysis of university websites, to examine the similarities and differences in website design, based on Hofstede's dimensions. The study found that Hofstede's indices were not consistent with the statistical results revealed from university website content analysis. Callahan's (2005) results, however, do not fully support the hypotheses using Hofstede's model, since most of correlations were weak; for example, there is a weak correlation between images of individuals/groups with individualism/collectivism. Callahan (2005) concluded that culture may not be the only source of variation.

Other factors that Callahan (2005) argues might cause weak correlations between cultural values and website design attributes include economic factors and educational systems, which can control the design of university websites, since each university has its own design strategy, positioning itself in a competitive market. Similarly, and in relation to the current research problem, it can be argued that culture is not the only factor that impacts upon individuals. Educational systems and economic factors might impact upon individuals who design and develop OER websites and who use and interact with these websites. Furthermore, it would be more appropriate when measuring and assessing cultural similarities and differences in motivation for contribution to OER to focus on ‘one’ single website, to avoid changing variables such as website technology, the socio-economic status of website users, and user preferences in website interface.

Other studies support this tightened focus. Segev, Ahituv and Barzilai-Nahon (2007) examined the local homepages of both Yahoo and MSN (both US in origin), and traced trends over a period of six months. The results indicate that while Yahoo local pages are quite similar to the parent page, MSN showed a heterogeneous trend in local pages, especially in relation to content, responding to cultural diversity in cyberspace. The researchers identified three design elements for their study: *background colour*, *banners*, and *number of links*, and seven content categories: *news*, *economics*, *entertainment*, *sports*, *shopping*, *technology*, and *general information*.

Segev, Ahituv and Barzilai-Nahon (2007) in their quantitative content measurement and analysis showed increasing customisation of MSN webpages – but the analysis of Yahoo identified a trend towards homogeneity. The trend towards localisation is consistent with the results of predecessor research, which found evidence of cultural heterogeneity and localisation in web design. Localisation in website design promotes usability (Marcus & Gould 2000; Singh & Matsuo 2004). Segev, Ahituv and Barzilai-Nahon (2007) attributed the reason for the increasing diversity of local home pages on MSN to the desire to make money from their local consumers (by subscription or advertisements), and argued that this is why these local pages diverged from the mother page in the US. The study findings suggest that website designers anticipate that

localised design will attract local consumers – and activate their desire to use the site. But, how reliable is that judgement – and how far does it support Hofstede's claims that different cultures, such as 'the local', in contrast to Yahoo or MSN 'central' home pages, will motivate users differently?

Using quantitative approaches and (critical) application of the indices produced by Hofstede, this study will examine the intensity and the direction of cultural values reported by participants as impacting on their motivations. The study will add to the already considerable use of Hofstede's categories in the study of different online activities and businesses, but its critical use of the model and its re-analysis of results through a more qualitative data sampling will work to prevent data categorisation from representation as 'cultural values'.

Hofstede's model goes digital

This section discusses how culture is considered in the design of websites. Lack of understanding of cultural preferences may negatively affect the behaviour of people online. Studies that explore the behaviour patterns of people who contribute to open content projects are already working to reveal how far cultural values impact upon online practices.

Several studies have explored cultural differences that can be recognised in website design (Callahan 2005; Cyr & Trevor-Smith 2004; Gould, Zakaria & Yusof 2000; Marcus & Gould 2000; Segev, Ahituv & Barzilai-Nahon 2007; Singh & Baack 2004a, 2004b; Singh & Matsuo 2004; Sun 2001; Zhao *et al.* 2003). These studies have shown that cultural differences among website visitors are reflected in website design, suggesting that different design attracts different 'cultural' populations.

Language and cultural factors are related. Language is the vehicle of culture. Every language form we use communicates specific cultural meanings. Such meanings and comprehensions are not the same in other languages, operating within the terms of their

own culture – so that culture is more extensive than language (Jiang 2000, p. 329). Each culture ‘speaks’ a form of identity (Austin 2005). It defines a relationship to the world, and is constructed across time and in a specific space (Norton 1997, p. 410). The rise of networked communication, through the internet and associated technologies, re-constructs identities, changing and reshaping what is possible for the individuals ‘identified’ (Castells 1997, p. 7 & p. 303).

As a consequence of globalisation, the localisation of websites has become necessary, in order to reach targeted culturally-specific audiences (Sun 2001). Languages are not the only cultural component (Sun 2001). Colours, flags, fonts as well as page orientation and other symbols used on websites identify the contributing culture (Badre 2001; Barber & Badre 1998). The appeal to those in the target audience is immediate. This website ‘speaks their language’, conceptually, as well as textually. At the same time, those ‘outside’ the website address may respond with another form of interest: in the unusual, or the exotic motivation, and so attraction, as has been shown, is complex and sometimes contradictory.

Regardless of criticism of Hofstede’s model of cultural dimensions, his categories have their use in cross-cultural studies in relation to website design, electronic learning, and digital communication, helping to ‘surface’ differently oriented forms of use. To test the efficacy of these categories in identifying motivation in website use, studies using Hofstede’s four principal dimensions of culturally differentiated orientations will be examined, in turn.

Individualist versus collectivist cultural orientations online

Marcus and Gould (2000) argue that, as in Hofstede’s model, individualists value freedom of choice, are actively challenging, seek to nurture their own strong private opinions, and profess ideologies of *self-actualisation*. Therefore, images of individuals are commonly found on websites from individualist cultures. In collectivist cultures, however, images of groups of people are more common on websites. Marcus and Gould

(2000) found that websites operated by tourist companies in an individualist country focused on individual tourists, while in collectivist countries the emphasis was on the national agenda of a nation's attractions.

In contrast, Callahan (2005), could not, however, identify positive relationships between images of individuals (or groups) and individualism (or collectivism), when he undertook a comparative study of university websites in Malaysia, Austria, the US, Ecuador, Japan, Sweden, Greece, and Denmark, using content analysis. Certainly, the use of 'I' was dominant in individualist cultures, while collectivist cultures used 'we' (Hofstede 2001). The family theme or images of a group of people were more common in Mexican than in US webpages (Singh & Matsuo 2004). Despite conflicting findings, more research supports Hofstede's dimensions than refutes them.

In a comparative study examining the impact of culture on information sharing in Australian and Taiwanese organisations, Chow *et al.* (1999), used different scenarios of information sharing. Chow *et al.* (1999) discovered that information sharing among Taiwanese in all scenarios depends on the sense of collective responsibility for the good of their organisation, while Australians responded differently according to their individual differences, such as personality, skills and style, positioning choice and personal expression. In other words, while Australian responses reveal individual-oriented factors, Taiwanese responses reveal collective obligation.

It seems then that OER motivations may also differ across individualist and collectivist cultures. In other words, will individualists show different interests in contribution to open educational resources, while collectivists are motivated by obligation towards their community? There are, however, broader questions: does the nature of information sharing differ in online communities from real-world organisations? Do people from 'individualist' and 'collectivist' societies interact differently with open content webpages – as in open educational resources?

Open content websites depend on online collectivism. Lanier (2006) argues that there is an assumption of online collectivism with individuals seen as ‘all-wise’, which thus brings a loss of insight in the produced content. He sees that their content and comments are seen as representing a totalising or summarising perspective – which they do not deserve. Lanier (2006) comments that the marriage between *collective behaviour and individual intelligence* does not exist in Wikipedia since its contents tend to be chaotic. Problems such as lack of authorship and accountability abound in OER sites, and are likely to impact in interesting ways on user motivation to participate.

Tumlin *et al.* (2007) also provide evidence that collectivist activity is producing a revolution in online information – but this is evidence of chaotic innovation. Tumlin *et al.* (2007) explain that the more contributors support Wikipedia (adding content and ideas and/or reviewing information for accuracy), the more credible the content becomes. The individualism-collectivism dimension may, however, still differ in online collaboration. Wiki technology enables collaboration. Contributors to Wikipedia tend to be passionate about the topics they are interested in, their preferences pulling them to express their views. The individualism and collectivism displayed online, however, may differ from the individualism and collectivism as generalised values of culture, identified at the conceptualisation level. Despite such philosophy, Wagner and Prasarnphanich (2007) found that collective motives dominate individualistic (selfish/self-directive) motives among Wikipedia’s contributors. However, do such distinctive online motives differ across cultures?

The issue is further complicated when Pfeil, Zaphiris and Ang (2006) explore significant negative correlation between adding or clarifying online information and the level of individualism. The higher the individualism of the ‘home’ culture, the less likely it is for individuals to add and or clarify information. The finding complicates any simple view of ‘culture’ of motivation for OER participation. More specifically, this suggests that while it is known the patterns of collaborative activities in Wikipedia differ across nations, it remains unknown whether motivation differs across cultures as well.

Online activities may be consistent with ‘net user’ cultures, but the reasons for such activities may still differ. Ahmed, Mouratidis and Preston (2008) compared selective Malaysian and British websites in the sectors of education, banking, and tourism. They used content analysis of chat rooms, family themes, and symbols. Ahmed, Mouratidis and Preston (2008) found that British websites focus on *self-actualisation*, while Malaysian websites focus on *social recognition* and *national identity*, via chat rooms, family themes, and symbols of national identity. A similar study comparing Malaysian websites with US websites, in three sectors: education, transport and retail sales discovered that in Malaysian websites, social events such as golf activities and information about organisational structure dominate, while in US websites, users focus on specific tasks and are provided with a wider variety of choices (Gould, Zakaria & Yusof 2000). Does motivation to contribute to open educational resources show similar kinds of orientation: individualists motivated by personal interests and choices, while collectivists by affiliative identities and responsibilities?

Hofstede’s (1986) study exploring differences in interactions between teachers and students, and between students in different nations, found that in individualist societies, teachers and students seek new knowledge and competence, while in collectivist societies they value traditional knowledge, and acquiring certificates is more important than acquiring skills. Do these values affect users’ motivation when interacting and contributing to open educational resources? Is the use of ‘I’ more likely to occur in pages for open textbooks for individualist societies, and ‘we’ in wiki textbooks for collectivist societies? Are the subjects and book titles and subtitles for individualist nations more varied and original, while titles for collectivist nations remain traditional? Are contributors to open textbooks for an individualist culture likely to have real names? All these questions require a content analysis to answer. But if there is evidence of distinctive behaviours from OER participants in the two cultural samples projected in the current research, such follow-up studies could usefully help to verify that evidence.

Masculine versus feminine cultural orientations online

Ackerman (2002) argues that in ‘high masculine’ cultures, websites have a limited number of choices, while there are multiple choices in websites designed for/in feminine cultures. The notion of ‘choice’ at the level of website design involves making comparisons. Furthermore, the number of explicit comparisons in US webpages is higher than in Mexican webpages (Singh & Baack 2004b). Marcus and Gould (2000) found that in masculine culture, websites maximise the use of graphics, sound, and animations, as well as distinguishing social roles by gender and age. In feminine cultures there is a blurring of roles between genders, and an appeal to unifying values. For instance, *Excite* website has a specific sub-domain for Japanese women (woman.excite.co.jp), yet, it does not have that distinction in most European websites.

Dormann and Chisalita (2002) in a comparative study on Austria (high masculinity) and the Netherlands (low masculinity) asked participants to evaluate some masculine values (high performance, authoritativeness, ambition (status), competition, toughness (in relation to usability problems and hard study); and then feminine values (equal opportunity, caring for others, working together in good relationships (smiling people), personal development, tenderness (the site looks soft) and quality of life (luxury buildings). Participants from the Netherlands ranked all the feminine values high (images of people laughing, studying and talking), while participants from Austria ranked high only toughness and authority (masculine values). Dormann and Chisalita’s (2002) study was not assessing the elements of the websites *per se*, but they did survey forty university websites in the Netherlands, Sweden and Denmark (feminine countries), and Italy, Austria and Venezuela (masculine countries), to identify distinctive features or elements for use in the study. Do then OER users from masculine cultures contribute to open content motivated by authority, while users from feminine cultures contribute motivated by learning?

Callahan (2005) found that images of people are negatively correlated with masculinity, while university home pages of feminine countries show more pictures of people than university home pages for masculine countries. However, their research did not find a positive correlation between masculinity and pictures of buildings. Hofstede's (2001) model would suggest that because in feminine culture the focus is more on relationships and quality of life, pictures of people – especially those who are smiling, as Dormann and Chisalita (2002) found in their study, indicate people who enjoy greater satisfaction in their life.

Hofstede (1998, pp. 194-204) found in his research that 'values follow from religion'. For example, while Catholic Christian countries seem to be more masculine and men dominate the priesthood, Protestant Christian countries are more feminine, with women playing a greater role in church leadership. In non-Christian countries, Buddhism in masculine Japan differs from that in feminine Thailand. In masculine countries traditional religious values are endorsed (Hofstede 1998 p. 199). Callahan (2005) too recognises that Malaysia and Ecuador focus more on religious symbols, again consistent with Hofstede's (1998) position. But do these cultural orientations translate into other forms of online behaviour? Is contribution of open educational resources affected by gender-role? Do individuals from masculine countries prefer contribution to social science and religious subjects? Do individuals from feminine countries contribute to life subjects, where pictures and images are extensively used?

Pfeil, Zaphiris, and Ang (2006) in a recent study to assess the impact of culture on the pattern of contribution to Wikipedia found a positive relationship between adding and clarifying information, and masculine countries. Although Pfeil, Zaphiris and Ang (2006) expected to find positive correlations between masculinity and corrective actions, such as fixing links or correcting spelling errors, in fact they found that the higher the masculinity, the lower the rate of corrective actions. While such findings suggest that actions such as correction in OER sites relates to a sense of high authority, or the desire to serve other users – by ensuring the quality of online material, this is beyond the scope of examining OER motivations across cultures. Do masculine OER users focus on the quantity of their contribution, while feminine users are interested in quality of content?

Furthermore, analysis such as this raises a number of questions: Can contributors use pseudonyms? Are the names of female and male contributors generally balanced in Wikibooks for feminine societies, but male dominated in masculine cultures? Is content within feminine cultures more varied? Do males in masculine cultures contribute more to traditionally academic subjects (such as engineering) while feminine cultures contribute to traditionally feminine subjects (such as cooking or nursing)? It must, however, be stressed here that pseudonyms may not truly reflect gender. Issues such as these can help in judgement not only of the validity of Hofstede's cultural classifications, but of variations in motivation for OER contribution.

Large versus small power distance cultural orientations online

Other aspects of Hofstede's model also appear to influence online users. Marcus and Gould (2000) found in their study of the website of the University of Utara in Malaysia (coded as a masculine culture), that there were numerous photographs of leaders of the university and long menus, filled with detailed explanations. In contrast, the website of the University of Ichthus Hogeschool in the Netherlands (a feminine culture) showed an asymmetric layout and photographs of students. This suggests that power relations appear to sustain within the 'masculine/feminine' codes.

Callahan (2005) found a positive relationship between the use of online logos and power distance. The existence of logos on websites is more frequent in high power distance communities. Communication in high power distance societies is most often one-way and power is centralised, while communication in low power distance societies is often two-way, and people are treated as equal. In the context of motivation for OER contribution, similar indicators may exist, including for instance strategies for information sharing and discussion. In other words, do OER users from low power distance cultures tend to discuss content more than users from high power distance cultures?

Segev, Ahituv and Barzilai-Nahon's (2007) study traced how the differences of local homepages of *MSN* and *Yahoo* and their parent pages (in the US - a low power distance nation), after a period of time, enabled local sites to operate according to their own local cultural preferences. Enabling customisation can be considered indicative of low power distance – and a useful coding for analysis of OER patterns of participation.

Gould, Zakaria and Yusof (2000) found that while American universities give more power to students to focus on individual goals, Malaysian universities focus on national appeal (Gould, Zakaria & Yusof 2000, p. 166). Could this also be reflected among OER users, those from individualist societies contributing to open content to achieve individual goals, while collectivist OER users are more motivated by the influence of dominant individuals and leaders?

One possibility is that the very existence of online, globally accessible information flows may be modifying the cultural categories established by Hofstede. Mushtaha and Troyer (2007) believe, for instance, that the gap between Palestinian students and Belgian students is disappearing, especially with the use of wikis. Their study examines the use of icons (objects) in an e-learning context, and shows that the Palestinian students preferred to change the icon of a girl, while Belgian users did not mind the presence of the picture of a girl. Pfeil, Zaphiris and Ang (2006), however, found that the lower power-distance Germans delete more than the high power-distance French. This finding suggests that different categories from the Hofstede model may be in play, in specific instances of online behaviour.

In large power distance societies, the education system is teacher-centred. Students speak up only if their teachers invite them to do so. Education is more student-centred in low power distance cultures (Hofstede 1986, p. 313). Linking power distance and the use and adoption of ICT, Erumban and de Jong (2006) find that the rates of ICT adoption are in fact higher in low power distance than in high power distance countries.

The preference for ICT in low power distance countries allows people to find creative uses to avoid boredom (Sørnes *et al.* 2004, pp. 14 & 15). This may be one way to explain why the majority of students agree that the use of wikis in learning has advantages over face-to-face group activities (Elgort 2007, p. 237). Talk (or discussion) pages should then show more active discussion between contributors in low power cultures. Resources for ‘further readings’ should be found more in pages for low power distance communities, as contributors work to share and spread out access to knowledge – although once again, such an expectation may be undercut by the correlation with Hofstede’s ‘individualist/collectivist’ category. It is, as always, important not to pre-empt actual data classification, in attributing behaviours to cultural pre-dispositions.

Strong versus weak uncertainty avoidance cultural orientations online

Marcus and Gould (2000) found that in websites which are designed for low uncertainty avoidance, the pages are extended, so that visitors frequently need to scroll, while in websites for high uncertainty avoidance audiences, scrolling is limited, due to the restricted amount of data. Images in websites that are designed for high uncertainty avoidance audiences are introduced to make the users feel more comfortable during their navigation (Marcus & Alexander 2007), otherwise offering little real information.

Singh and Baack (2004b) found that the frequency of uncertainty avoidance features (such as online payment systems and guided navigation), are higher in Mexican pages than US pages. However, in a similar study, Singh and Matsuo (2004) did not find a significant difference in relation to features of uncertainty avoidance between US and Japanese webpages, although they did observe that the use of local terminologies that derive from traditional modes is more frequent in Japanese web sites (Singh & Matsuo 2004, p. 870). Although the differences are not significant, Lo and Gong (2005) found that ‘active elements’, such as animations, banners, and rollover texts, are important in attracting Chinese consumers to e-commerce websites. These findings indicate that the colour, layout and navigation of a website (Marcus & Alexander 2007), play an important role within more traditional cultures.

Callahan (2005) argues that websites for high uncertainty avoidance societies will be less complex, while in low uncertainty avoidance cultures, the complexity increases. Therefore, he expected to find in webpages from uncertainty avoidance societies a lower number of links, and simpler layout. Callahan (2005) compared Greek and Danish websites, but was not able to show that the number of photos correlates negatively with uncertainty avoidance. With high uncertainty avoidance there appears to be a preference for drawings over photos for illustration purposes..

People from South Korea (a high uncertainty avoidance country) communicate using audio and video chat to deal with ambiguous situations – far more than, the British (low uncertainty avoidance) (Kim & Kuljis 2007). Furthermore, South Koreans prefer more explicit details about donations to charity websites, while British prefer simple guidance about donation processes.

Since students in strong uncertainty avoidance cultures prefer structured learning and clear learning objectives, while students in weak uncertainty avoidance cultures who feel comfortable with unstructured learning (Hofstede 1986, p. 314), will contributors from high uncertainty avoidance cultures prefer to add only to well-structured tables of contents? Do individuals from high uncertainty avoidance countries prefer to see help pages or guidelines before contributing, while low uncertainty avoidance cultures may not need the guidelines?

Direct questioning of contributors may allow identification of the existence of any cultural impacts on patterns of OER contributor preferences. Analysis of Hofstede's model of cultural predispositions shows that while there are dangers in extrapolating the categories he identifies too directly to actual living cultures, and in using them as if they equate to national cultures, the model does provide a basis for fruitful analysis of cross-cultural behaviours. The model (see Appendix F for scores of cultural dimensions) will be used, with caution, in analysis of data collected for this study on OER participation, and the motivations driving it.

Chapter 4

Motivations for contribution and non-contribution to OSS, OCW, and OER projects

The arrival and gradual embrace of prod usage clearly has the potential to significantly reshape our existing cultural, commercial, social and political institutions. Such changes are unlikely to proceed without conflict... To prepare for such possible conflict, we must continue to ‘furiously build the commons’... It is important to extend the commons to those who have as yet struggled to access it. At present, access to *produsage* remains available mainly to the affluent and well-educated - to those who have the resources, the time, and inclination to participate. What is necessary now is to ensure that a wider section of society begins to participate; [and] to be better and more active participants in and critics of cultural and social forms of engagement.

(Bruns 2008, p. 400).

The evolution and the development of open source software (OSS), open content webpages (OCW) and open educational resources (OER) have been forced forward at a rapid pace by user interaction with new technologies. The OER movement is considered to be sharing values with the open source/open content (OSOC) movement, so that together, these build a powerful paradigm. But what are the fundamental drivers behind these movements?

Applications of open content in the education process and their different uses in both developing and developed countries can help establish the motivations for ‘open’ digital informational exchange. Such study is useful in examining the use of open content in general, and education processes in particular. The use of open content, as discussed in this chapter, involves the will, the ability, and the need to share information. If open educational resources are to be used by teachers, lecturers, educators, students, self-learners and researchers, from a wide range of global cultures, each able to tailor product to their local needs, motivations for OER use must be more completely understood.

Historical background to the ‘openness’ movement in ICT

Most commentators on the diffusion of digital communication systems across society see the process as linked to 250 years of industrial development in Western societies. The communications and information revolution is viewed as the latest phase (see especially Winston 1998). Winston has argued that it is the social sphere which plays the most significant role in the dissemination and use of a new technology. Winston’s (1998) model argues that the social sphere must come to support a new technological concept or design, before it can be transformed into a prototype, ‘in the metal’. This prototype in turn will not be developed into a commercially-available product without what Winston terms a ‘supervening social necessity’ which, sees ways to use it, and an ongoing need for its functions.

Castells (1996) adds to this position, arguing that social interaction as well as the socially-established need for a specific technological function constitutes the necessity for full, system-wide dissemination of communication technologies. The ‘revolution’, which Castells subsequently hypothesises within millennial communication technology, thus links individuals of different societies together, regardless of their time differences or location – continuing the work of the now two-hundred years of industrial re-processing of human society. This, for Castells, considered within the frame of the intensified socio-economic changes brought about by digitisation, is what renders the new information technologies ‘revolutionary’. Quite rapidly, all aspects of people lives: shopping, education, banking, voting and even dating and gaming, have taken their spaces online. Information is travelling at breakneck speed throughout newly-networked societies. However, culture, the context in which the networks arise, continues to play a significant role in the dissemination and uses made of technology. In some instances, Castells (1996, 2001) shows that culture fosters and speeds up its development and roll-out to whole populations; in others, as Winston’s (1998) more elaborately plotted historical trajectories show, culture slows down or even suppresses some possibilities altogether. In the meantime, as both commentators argue, the new communication/information technologies have been taken up differentially in the many different social orders which they have entered. While in some contexts users adopt new technologies with enthusiasm, others prove resistant to, or selective in their use (Cook 2008).

It is in relation to this issue that Castells (1996, 2001) goes beyond the thinking of Winston (1998). Winston sees the social sphere as affecting technology, at the moment of its production, impacting upon what will and will not reach full industrial production and distribution. Castells, however, makes it clear that political power, exerted through economic management and infrastructure support, as much as through direct policy development, impacts upon the dissemination of technology as much as the direct expression of a community’s needs or desires.

While Winston (1998, pp. 328-329) argues that the need for a protective information-sharing network led to the invention of the Advanced Research Project Agency Network (ARPANET), Castells (1996, pp. 48-76) reminds us that the active use of this new prototype network by developers inside ARPA (and its related research centres, including communications and information exchanges as much for personal as for professional reasons) speeded up the development of online connection. The spontaneously social, as much as the purely scientific, drives communication technology.

Much the same is true of technology-innovation once it arrives at the field of marketing. No product (commodity or service) can be marketed successfully without the pre-establishment of a 'need' for the product; the stimulating of consumer desire for its use; and information relating to the consumer's ability to purchase. Marketing itself is an inherently social formation, embedded in the communication systems of the day, and itself eager to use, and so validate, any emerging new informational and communication systems (Bennett 2010, p. 122; Converse 2008, p. 10).

In the case of digital communications, the much-cited instance of ARPANET met those three conditions: 1) a need to find faster and more secure means to handle research collaboration between research centres and the US Department of Defence; 2) a support from government for funding; and 3) the desire of researchers to work collaboratively (despite the most-often isolated and even remote locations of their specialist research). With this in mind, Winston's (1998) model for how technological innovation proceeds can be adapted to reflect marketing principles:

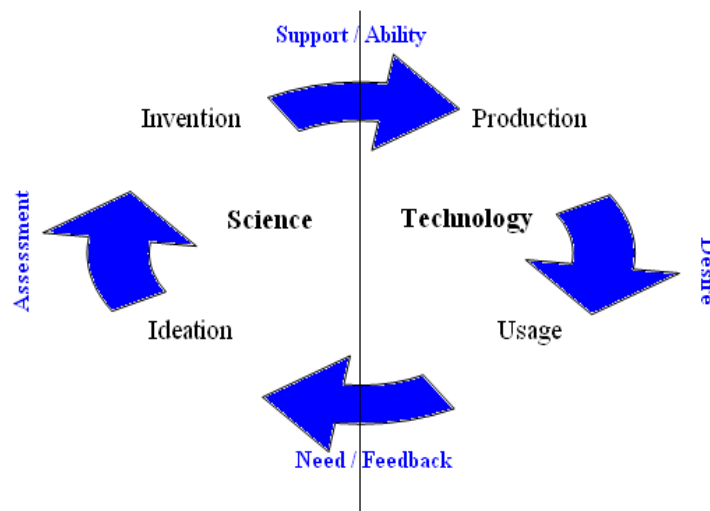


Figure 9: From Science to technology life cycle

Source: adapted figure following Winston (1998, p. 14)

Once this interlocked set of influences is understood, the communicative ‘revolution’ in the shift to open source software (OSS), and the emergence of open content webpages, can be understood to exist within a framework of consumer need, user desire, and the ability to access and link to the new systems – with all of the economics, policy interventions and infrastructure roll-outs this demands. Developments behind the provision and use of OSS and open-content thus rest on both technological and social feedback-loops: a key point in the following discussion of the development of open content out of the open source software movement. In the next section, this particular manifestation of Castells’ ‘information revolution’ will be taken up in more detail.

From open source software (OSS) to open educational resources (OER)

The history of open source software can be traced back as far as the original development of computers, and the need to develop non-expert operating systems and a range of functional software. Open source software can be defined as software whose

source code – the digital information, which drives its operations - is ‘open’ for programmers to study, improve, and customise, rather than closed down, to protect it from rival commercial developers (Bitzer & Schroder 2007).

After the collapse of the Artificial Intelligence Laboratory (AI Lab), the lab originally responsible for developing operating systems and related software for early computers, the collegial culture identified by Castells (2001) as deeply psychologically embedded in digitised communication technology development began to reassert itself, and to contest the emergent drive towards commercial protectionism of the new informational systems. The introduction of a new closed-source operating system for the VAX and 68020 computers resulted in a serious split among developers. Stallman (1999) in particular left the AI Lab, dissatisfied at having to produce a closed-source operating system (OS).

In 1984 Stallman started his own project, aimed at producing a free, open source operating system called GNU Emacs. Shortly after, he launched the Free Software Foundation: FSF. Many engineers collaborated with his scheme, not only to produce open source operating systems, but to parallel the growth of the commercialised closed source systems with a new operating system manual. This manual is believed to be the first open content material, developed by GNU Emacs OS programmers.

Open content can be defined as any digital work: text, images, sound, video, or any combination of them, which is open for users to read, edit, publish and redistribute (Liang 2007). Those programmers who supported open content – at least apart from their need for ‘expert’ social interactions to support their professional preoccupation (Castells 1996), had a clearly established need for more powerful operating systems; had the technical ability to test and further develop these operating systems (OS), and the financial capacity, either by donations to FSF, self-supported professional income, or by selling copies of OS to interested users, to promote and further develop the OS codes and content. Open source software communities such as SourceForge.net developed, with increasing numbers of programmers who were interested in editing and developing source code. The field was ready for application into specialised modes and

functions – including the new responsibilities of self-directed non-institutionalised (self)education.

The use of ICT in teaching and learning activities requires cooperation between three interdisciplinary fields: computer science, psychology and education. The computer sciences address issues related to artificial intelligence systems such as multimedia and the internet. Education seeks the best techniques to support teaching and learning. Psychology, and in particular cognitive science, addresses issues relating to how people think and learn (Woolf 2009), checking whether ICT extend or alter cognitive processing.

Social interaction plays a significant role in the development of human cognition. Within social interactions, patterns of thinking and cognitive skills are determined, in part by innate factors, but also by social institutions and the broader culture in which a human grows (Schutz 2007). Collaboration online is a new form of social interaction. When collaboration is used in education, it has been shown that students achieve greater productivity, higher achievement, better psychological health, better committed relationships, and stronger social competence (Johnson & Johnson 1994). Computer-mediated communication (CMC) tools, whether supporting synchronous or asynchronous communication, enable collaboration and coordination. However, it has been shown that social interaction does not automatically occur once these collaborative tools are used, since there may be insufficient direction or constructive guidance on how and why to use them (Woolf 2009). Since the internet has impacted upon many education stakeholders, learning has become available online, responding to the many different needs of many different students. Understanding the affordances of the various online modes of delivery and interaction however, is still in development.

After the introduction and dissemination of Web 2.0 technologies – yet another instance of the drive to sociability, which is central to digital communication design – non-specialists around the world have joined the new communicative ‘webs’ online. The term ‘Web 2.0’ is now acknowledged as a further generation of World Wide Web technology. Web 2.0 was coined by Dale Dougherty and Tim O’Reilly (O’Reilly 2007),

to distinguish between the first iteration of Network design and functioning: Web 1.0, seen as static, passive, and individualistic, and Web 2.0: collectivist, with digital tools such as file sharing, blogs and wikis, which allow web users to create and publish 'dynamic' or interactive content (Stephens 2006). The new digital tools, often referred to as social software, are broad-based and reception/use oriented. They involve communicating and interacting by message exchange, including for instance Voice over Internet Protocol (VoIP); on-line 'telephone' software such as Skype; electronic workspaces, and discussion forums. A vast range of different, but always interactive communicative techniques and uses rapidly began to develop.

Information and communication technologies (ICT) and e-learning

Learning can be nurtured by encouraging thinking and reflection, activity and experience, and interaction and conversation (Dyke *et al.* 2007). The latter is a powerful motif within contemporary social and educational thinking. When ICT are used in education, it is argued that people can learn *from* technologies or learn *with* technologies. The need to promote collaboration and social engagement within ICT has proven a central element of its development, especially influential in its application into electronic and distance learning. When ICT tools are used in education, they marginalise different dimensions from those fostered in traditional (institutional) teaching. Modes of communication, practices of communities, and social identities of participants and cultures of institutions are all foregrounded, so that ICT use-based research seeks to examine its sites of social practice (Goodfellow 2007). Furthermore, since the audience of any learning content is culturally bounded, content management of any e-learning solutions must always take into account cultural factors in content design (Costa & Silva 2010).

Take for example the use of ICT in distance learning, in relation to literacy education. ICT enable communication management and information management and their potential for flexible approaches maximises their benefits in education (Stoecker, Hilgendorf & Tryon 2008). Education theory in the field of literacy acquisition now

endorses a socially interactive process (Campbell 2009; Hammond 2005; Huang 2002; Karadeniz 2008). Learners need to 1) be supplied with learning resources; 2) have sufficient opportunity for both regular practice and interaction; 3) be active in producing and sharing learner-generated materials with other learners; and 4) be stimulated and motivated. All of these qualities are also central to the values established within the open-source movement, as representative of the ‘social’ and ‘collegial’ ethos of ICT itself – at least as argued by Castells (1996).

E-learning not only provides an enhanced *interactivity* dimension to education, it also embeds it into its system through *multimediality* and *hypertextuality* (Mari, Genone & Mari 2008). Designing electronic deliverables is a process that starts with assessing the needs of users, and ends with applying modifications upon receiving feedback from those users; and between the start and the end, it is important to design the content to maximise its adaptability to needs and to make content interesting and challenging to those users (Goff 2008; Lee 2008).

Distance learning supported by ICT requires educators to facilitate distribution of materials and information among learners (Pennells 2006). This means an ‘innate need’ (Deci & Ryan 2000) for electronic literacy for full participation in web-based activities, from business to family-based social contact. This in itself motivates post-digital learners. The interaction between an individual’s needs and the many opportunities now available across so many social contexts worldwide increases both their social attachment into their community, and their engagement into broader global activities. Their aspirations become more selective and so more focused, which leads to more positive outcomes (Deci & Ryan 2000), but also creates more pressure for ‘choice’ and self-directing diversity with OER.

Although many believe that managing open educational resources OER is easier than operating open source software (Vukovic & Martin 2009), production and distribution of OER remain complex, especially when designed to meet different learner levels. Different educational objectives, assessment models, and structures to manage online

materials expand complexity within OER, even before considering such matters as functional reliability, content currency, site and service sustainability and copyright (or ‘copyleft’ as open-source has neologised its values).

Open access and open content educational resources

In terms of the production of OSS, there are said to be two basic models: the ‘Cathedral’ and the ‘Bazaar’ (Raymond 2001). In relation to these two models of OSS production, the ‘Cathedral’ tends to involve those OER developed within existing educational institutions by their paid and expert personnel. Staff design and develop learning materials to meet the institution’s existing strategic objectives. The model has the familiar top-down structure, with examples including the UK’s OpenLearn project initiated by the Open University (Open University OpenLearn 2010i) and the OpenCourseWare programs at the Massachusetts Institute of Technology (MITOpenCourseWare 2011).

In the ‘Bazaar’ model, OSS developers have made design-tools available to instructors, students, and self-learners, who collaborate in the evolution of purpose-built learning programs. Examples include Connexions (Connexions 2011), which has sought ongoing support from across the OSS community.

At the next level, open educational resources can be either *open access* or *open content*. Open access resources tend to be produced by educational institutions (the Cathedral) while open content resources are initiated mainly by community organisations, where individuals (learners, students, and teachers) make contributions to learning materials (the Bazaar).

This emergent cultural divide indicates that one contentious issue in OER provision has been quality assurance. Open educational resources were conceptualised as inherently self-regulating. Many continue to argue that the quality of OER is indeed increasing,

driven by ‘open’ market competition (Vukovic 2009). The two conflicting production models: Cathedral and Bazaar, involve such different perspectives on quality, and such different modes of producing and ‘guaranteeing’ it, that it is difficult to anticipate any early resolution of the issue. While educational institutions are making educational resources of high quality available to learners, their motivations, and so many of their values and practices, remain institutionally oriented: focused upon extending community recognition for their brand, and advertising their other, more traditionally-delivered courses (Abelson 2008).

Learners within such ‘Cathedral’ services may well value the interaction with text and other media resources, and the capacity for sharing information with others. Interaction processes require three criteria to be accomplished properly: 1) participation between individuals (interactivity); 2) trust between individuals to share information; and 3) cooperation between individuals to pursue collectively endorsed goals (Change, Lim & Zhong 2008; Du, Liu & Brown 2010). Interactive approaches to learning such as these are situated philosophically within the framework of constructivist theories of learning (Curcher 2011). These theories emphasise problem solving, critical thinking, and the social negotiation of knowledge (Duffy & Jonassen 1992; Piaget 1973). Such interactions, whether learner-learner, learner-instructor, or learner-content (Moore 1993) can be achieved using open educational resources, and many if not most advocates of OER are affiliates at some level, of constructivist educational principles.

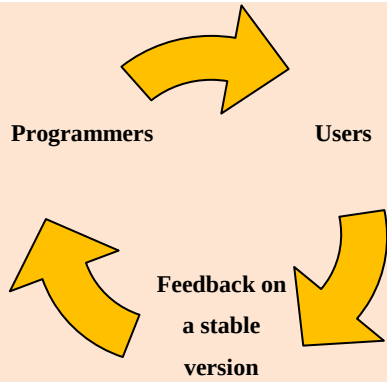
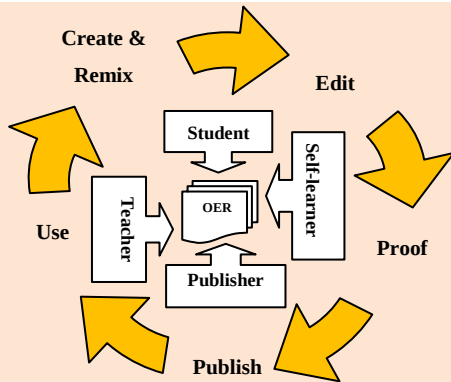
Although open texts empower constructivist teachers in ‘the Cathedral’ to develop more dynamic courses, learners across the globe are increasingly seeking to maximise the social exchange of information in their own ways (D’Antoni 2009b). The ‘Bazaar’ model allows such learners to work selectively in their own interests, to find materials which meet their many different users. The numbers of users of Connexions modules reached 850,000 in 2008. These online users from 200 countries read many authors who write in many different languages (Baraniuk & Thierstein 2008). This provides an indication that open educational resources have received a global recognition – and that fact alone indicates the pressures to contribute, as well as consume, OER materials. Collaboration between users to create and edit content has reshaped the OER production

business model. Users now are *producers* (Bruns 2008), moving from selectivity: choosing in the ‘Bazaar’ the materials of most use; to become ‘tailors’: updating and editing to ensure materials meet their needs; and then to ‘*producers*’: posting back their own original content. The principle of interactivity has spread backwards, as it were – from ‘learning’ to (co)teaching of others.

OSS and OER and their *producers*

Those *producers* have the technical ability to use the new digital open-source tools for collaborative authoring: wikis and XML, alongside the writing skills, collaborative work modes and re-organising capacities demanded in OSS/OER cultures. Table 11 presents a comparison between OSS and OER, tracing something of the developmental shift in orientation, as the online-cultural phenomenon of ‘open’ participation extends outwards from source-code and programming, to more generalised and diverse online informational and communicative uses.

Table 11: Comparison between OSS and OER and their *producers*

	Open source software OSS	Open educational resources OER
Definition	Software with source code open for examination, editing and redistribution	Educational objects whose contents are freely available for use, editing, customising and remix, and re-use.
Contributors	Software programmers (the bazaar)	Educational institutions and donating publishers (the cathedral); teachers, students, and self-learners (the bazaar)
The Needs	Developers: programmers usually have their personal needs for software and thus they develop modification. Users of this free software may download and use the software. Users may seek software customisation by programmers when they have the need.	Teachers usually use OER because these resources can be customised according to their teaching needs. OER allow teachers to trace student progress. The collaboration feature of OER provides the tool for engaging students Self-learners and students use free materials to develop their understanding, develop their writing skills, and allow networking and discussion with others
Quality Testing	Software debugging Users' feedback for improvement	Proof-reading Critical thinking
Language Support	Software programming languages (in English). Help and Manuals depend on the contributor's language	Languages of OER depend on languages of contributors. For example, French OER <i>producers</i> create French OER materials.
Modules	Operating system, End-user software, Help and manuals	Open text, open syllabus, open multimedia (audio and video), open-access courses
Location of contributors	Mainly from developed countries	Mainly from developed countries, as well as some contributions from developing countries
Production cycle and stability	 Programmers Users Feedback on a stable version	 Create & Remix Edit Student Teacher OER Self-learner Publisher Use Proof Publish

Many universities have moved to Web 2.0 applications, including the Massachusetts Institute of Technology (MIT) and their Web 2.0 project called OpenCourseWare OCW⁶ (MIT OpenCourseWare 2011b), and the University of South Australia (UniSA)

⁶ The abbreviation OCW that is used throughout the thesis stands for Open Content Webpages, and it different from the Massachusetts Institute of Technology's (MIT) OpenCourseWare (OCW).

and their Web 2.0 project, LearnOnline (UniSA LearnOnline 2011). These kinds of projects aim to take advantage of technologies that enable communication and collaboration between students and their teachers/lecturers, whether physically located in one place, or outside class time, when students have returned to their homes, or are remotely located.

Grosseck (2009, p. 482) discusses the many educational institutions that have taken steps towards engaging various iterations of the social software of Web 2.0 to boost teaching and learning activities. Grosseck (2009) explains that integrating Web 2.0 applications into education holds many advantages for learners and teachers, including cost reduction, flexibility, ease of access to information, and the promotion of innovation. Yet despite the advantages of Web 2.0 applications in education, there are a number of challenges, such as the need for fast and reliable internet connection, browsers of high capabilities such as JavaScript, and the time and effort spent to initiate online educational materials (Grosseck 2009).

Regardless of the challenges of Web 2.0 applications in education, open educational resources have helped reshape the nature of education from teacher-centred to student-decentred or self-learner-loosened models. A student-centred approach places students in an interactive environment that allows information-sharing between students, teachers, community, and family; and this approach places student at the centre of the learning process (Aggarwal *et al.* 2008). This kind of student-centred model supports what can be called ‘mass customisation’, where material is designed to serve the particular needs of individual users (Fleet & Johnson 2008). This content can be updated quickly, leading to an increased retention and grasp of the subject (Fleet & Johnson 2008).

The ‘knowledge-in-action’ movement (Richards 2009) supported by different applications of Web 2.0 has benefited the contemporary drive to ‘reflective learning’. For example, Ras & Rech (2009) have found that engaging Web 2.0 in education can increase knowledge acquisition by 204%. Furthermore, incorporating social software

into learning is desired since it enhances the experienced learning (Elgort 2007). In an extensive research review of the uses of social software in education, Minocha (2009a, 2009b) found in multiple case studies that different universities have used social software for different purposes – but all driving towards much the same ends. Table 12 summarises, what Grosseck (2009, p. 479) and Minocha (2009b, pp. 20-65) have discussed about some applications of social software within the field of education.

Table 12: Applications of social software in education

Social software	Applications
Computer gaming	Teach students about animation
3D Virtual Worlds (such as <i>Second Life</i>)	Role play that teaches students about filming
Wikis	Discuss student ideas within group Encourage collaborative authoring
Blogs	Students reflect on their new-found understandings
Social networking websites (such as <i>FaceBook</i>)	Allow students to network together
Video conference	Enable distance learning students to present their projects
Photo sharing	Encourage students to share and have discussions about photos in photography course

Source: adapted and summarised from Grosseck (2009, p. 479) and Minocha (2009b, pp. 20-65)

The following section discusses in more detail the use of wikis, blogs, and 3D Virtual Worlds in education, with an emphasis on the opportunities and challenges of these forms of social software, in education in both developing and developed countries.

Social software applications in education

Social networking systems (SNS) vary. They include, but are not limited to, applications such as social networking websites FaceBook and MySpace, instant messaging systems such as MSN Messenger and Yahoo Messenger, blogs, RSS, and file sharing as briefly discussed in Table 12. In this section, three of these SNSs are discussed in relation to their applications in education.

Blogs

The term Blog has evolved to describe a log of information presented on the web. Blog stands for 'weblog'. It describes as an online journal with one or many contributors, also described as a social publishing tool (Brasley 2008). Blogs are open content webpages that allow the 'bloggers' who maintain blogs, to post their entries on an ongoing basis. These entries are available for others to read, dated and presented in reverse chronological order (Duffy & Bruns 2006). The 'feeds', or streams of entries onto blogs have, however, proven as varied as human interests (Paas 2008).

Blogs, in the abstract, are socio-technical systems (STS) that consist of a variety of subsystems. These subsystems include: 1) a technical subsystem (for posting entries and comments); 2) a personnel subsystem (the bloggers); 3) a work subsystem design (the blog-based social system), and 4) the external environment which surrounds them and colours their evolution and use (other social software and websites). These subsystems affect each other within the blog-sphere and create a dynamic relation between bloggers and readers (Kim 2008).

Blogs were very quickly engaged into the learning process. Teachers and their students wrote and shared ideas about lessons undertaken in their classrooms (Minocha 2009a). Blogs help create conversations and bring ideas for discussion. They have the added advantage of recording ideas, allowing both teachers and students to add ideas and critique them, to develop better understanding and critical thinking skills. Writing assignments within a blog environment enables learners to engage in peer-editing activities (Brasley 2008).

One of the challenges in using blogs as learning tools, however, is the difficulty of maintaining blog entry focus. Sometimes thoughts, ideas, and critical comments can be taken in a number of different directions, according to pedagogical objectives, individual interests and levels of understanding (Brown, Huettner & James-Tanny 2007; Chen & Cannon 2006; Duffy & Bruns 2006; Flierl & Fowler 2007; Mathieu 2009; Richardson 2009; Sandars 2007).

Blogs in education need qualified teachers who have skills for choosing assignments and study tasks appropriate to blogs, as well as the skills to assess students' progress from their entries, providing them with worthwhile feedback, and at the same time keeping conversations on track (Chen & Cannon 2006; Minocha & Roberts 2008; Oomen-Early & Burke 2007). Embrey (2002) explains, for example, how ecology teachers have been engaging their students in creating educational blogs to report their daily observations of a river ecosystem, including daily news about the river, the history of the river and its impact upon the local community. In courses such as animation and film production, blogs can be used alongside computer games, where students can reflect their understandings of animation and film making (Minocha 2009a).

In developing countries, such as Egypt, where patterns of teacher-student communication are significantly different from developed countries, due to the high numbers of students per class, investigations reveal trends towards using blogs to collect student feedback on both courses and exams. El Tantawi (2008) reports that an instructor in a dental school in Egypt has been using a blog to provide students with more learning exercises, and to receive feedback about course lesson modules, especially during the more difficult parts of the course. Students expressed satisfaction with this new method of communication, and asked for it to be used in other courses.

Despite these positive reports of using blogs in education, not all instructors are ready to engage these technologies in their teaching and learning. Duffy and Bruns (2006) enquired about how teachers might design activities to harness the excitement associated with blog participation. They rapidly came to question whether instructors had the required skills to design such activities in ways appropriate to their courses. The time factor, for instance, proved an ongoing concern.

Other challenges in using blogs in education include teacher skills and overloads in maintaining blogs. Some instructors fell behind in creating relevant blog materials because they had no time for innovation. Moreover, there is a sense of resistance to using blogs in education, driven from the pressures of the rapid transition to the use of new technologies in teaching and learning (Sandars 2006). Blogs in education need to be followed up by both instructor and students with full-time attention, because following student entries and their progress is overwhelming task (Richardson 2009).

This creates an overload on instructors who must keep conversations focused. Maintaining blogs depends on an instructor's skills in facilitating and setting up norms of interactions among student bloggers (Sandars 2006).

Three-Dimensional (3D) virtual worlds

Second Life is a famous example of a three-dimensional (3D) virtual world, created by its own online residents, where remote participants can engage in social interaction via a 3D virtual environment (Bourke 2009). Bourke explains that a key characteristic of *Second Life* is its gaming-like environment. To participate in *Second Life* activities, users are required to have modern graphics cards installed on their computers and broadband internet connectivity – both features which allow for real-time animated interaction with other online participants, as in MMOGs (massively mobile online games).

Second Life moved rapidly into educational use. *Second life* has been used in universities, schools and libraries, but because it has age limits, it is used more in higher education. Many universities, such as the University of South Australia (Fewster, Wood & Chafer 2010), have built virtual classrooms for courses in *Second Life* (Kim & Baek 2010). The 3D vision and avatar use in *Second Life* enhance a learner's sense of being present and participating (Kim & Baek 2010). It provides learners and students with enhanced and extended learning opportunities and overcomes inefficiencies of traditional face-to-face instruction and the limited communication in online learning (Kim & Baek 2010).

Second Life is used in a range of different ways in education (Dalgarno *et al.* 2010; Dalgarno *et al.* 2011; Gregory *et al.* 2011). Schulte (2008) reports that Robert Amme, research professor, and Jeffrey Corbin, research associate and media specialist, used *Second Life* to create a virtual nuclear lab in their physics courses to let their students explore what is impossible in real life such as being able to assess the environmental impact of nuclear power plants. Research shows that people with disabilities have

welcomed *Second Life*, which helps them interact with full or even enhanced physical capacity, through their self-designed online avatars (Hickey-Moody & Wood 2008).

Assuming that Generation Y students are ready for and can adapt easily to learning in a 3D environment is not a realistic assumption; instructors need to adopt a number of strategies to create the readiness to use such environments successfully (Wood 2009, 2010). Berge (2008) reminds us that instructors who use virtual environments for their teaching retain 'real world' responsibilities: pedagogical, technical, social and managerial. Instructors in the virtual world must continue to pose questions and maintain discussion. Teachers still need to encourage all students to participate, and ensure that student activities, avatar design and language are appropriate. An instructor needs to be familiar with technical connectivity issues, such as speed of connection and stability, and provide technical support, or know how to seek it out. The significant responsibilities are, thus, managerial as well as pedagogical. Instructors should make sure that all students have an equal opportunity to participate in activities and to express their opinions, and guide them in techniques which help them to manage their time, and not slip into the unmanaged time-use patterns of social media.

Second Life as an online community clearly involves three types of construct: *cognitive*, *social*, and *technical* presence (Burgess *et al.* 2010). Cognitive participation can be identified through activities involving knowledge exploration and finding solutions to problems. Technical presence involves task facilitation, concept instruction and activities organisation. Communication and emotional expression mirror the social presence in the virtual environment, and add both a collaborative workplace dimension and an emphasis on interactive learning to the educational design.

Second Life, from the student viewpoint, is not just a place which replicates what is happening in real life classrooms, but a place that allows virtual social interactions, projects without either risk or cost, and simulations of actions taken in real life. The 3D virtual world develops professional imagination and creativity, and can increase the professional's presence and experience within the virtual world (Jarmon *et al.* 2009).

While the use of blogs within education can be promising in developing countries, given their levels of socio-technical requirements, *Second Life* is more technically demanding. It requires high PC specifications, high speed/high broadband internet, and stable connections – not easily available in developing countries. Although many developing countries are now establishing high specification communications infrastructure, the educational use of *Second Life* requires instructors experienced in both technical and pedagogical applications before appropriate pedagogical activities can be designed. These activities, in their own right, take time to develop.

Wikis

Wiki is a Hawaiian word meaning ‘quick’. The software enables collaboration between authors, who work through their web browsers to create content (Leuf & Cunningham 2001). This technology enables collaborative content development (Jain & Prabhakar 2006b). A wiki is thus a collaborative web space where anyone can add new content and edit content that already has been published (Richardson 2009). Most wikis include features such as registration, history (or track changes), search, track recent changes, and ‘sandbox’ where visitors can play with wiki syntax (Brown, Huettnner & James-Tanny 2007). History of content progressing – content that developed by different collaborators is a significant feature in wikis, which makes wikis different from other social software. It can be argued that this feature provides an insight on 1) the content, through track changes; 2) collaborators, through their pseudonym or Internet Address (IP); and the processes, what changes and when occurred.

The phenomenal success of wikis can be attributed to Wikipedia, the online open content encyclopedia edited by its own users (Jain & Prabhakar 2006b). MediaWiki software requires a web server that supports PHP scripts and the MySQL database (Ebersbach *et al.* 2008). Its core functions enable authors to write in rich text: changing font styles and colours, underlining sentences, creating italic words, creating headings, inserting links whether internal or external, embedding images, and writing mathematical formulae (Ebersbach *et al.* 2008).

Wikis are already widely used in education, and offer learning activities of many different forms, for many different purposes. The openness of wiki pages allows students to self-organise into synergistic learning communities, to both use and further develop the content (Butcher & Taylor 2008). Wikis, as tools for leveraging collective knowledge, are used in education to: 1) enable collaborative management of learning resources; 2) serve as repositories of collective knowledge; 3) foster teamwork and group research projects; 4) enable their users to co-author, co-edit and co-revise content in a peer-review process; 5) facilitate group dialogue and 6) enable student-student, student-teacher, and student-content interactions (Chaka 2010).

Wikis are used with primary school students as tools for collaborative storytelling, and to help them develop their writing skills (Désilets & Paquet 2005). Apart from developing collaborative work skills, part of their broader social development, children learn more about the uses of computers, both for information searching and participating in social and cognitive activities.

Désilets and Paquet (2005) were commissioned to examine the possibilities of using wikis to establish cooperative learning programs in schools, but found that the issues were pedagogical rather than technical. Once school management adopts the idea and supports the move toward inter-school collaboration, problems relate more to designing activities to suit collaborating schools and their students in relation to curriculum design and activities design: this design must suit both schools and encourage students to work together.

Augar, Raitman and Zhou (2004) have used wikis in their university classes to ‘break the ice’ during tutorials. They ask students to exchange pictures and to provide information about themselves. Pedagogical activities are designed to promote both active engagement and interactive exchange. At the end of the course students had all completed the assignments at satisfactory levels, suggesting not only that wikis promoted more fluid social relations in classes, but that these interactions extended beyond class-time and into out-of-class hours.

In the secondary school curriculum, wikis have been used in courses to help students develop their writing skills. Students are asked to write essays targeting specific audiences (focused on their perspectives and preferences). Peer-review is used to maximise feedback, and so extend each student's writing and critical thinking skills. Wikis also help boost student confidence in their writing: the more the students write, the more the confidence they feel as writers (Mak & Coniam 2008).

Wikis used in higher education are more than a tool for collaboration. Students are required to work together, but also to complete assignments which test such skills as critical thinking, evidence-based argumentation, choosing and assessing the quality of resources, and following a logical structure (Elgort 2007). Meeting these demands in quality co-researched, and co-authored, papers requires highly developed skills of collaboration and peer-review. This collaborative approach involves students to making changes themselves and thus involves self-oriented choices (Lynch & Roecker 2007).

de Pedro *et al.* (2006a, 2006b) conducted both quantitative and qualitative assessment of the use of wikis with student assignments. They compared two groups of students: one using wiki as a tool to undertake their group assignments, and one using more traditional means. The marks from the wiki group were higher. Students who used wikis showed higher levels of satisfaction over shared content than the traditional group, which used established methods of file sharing. This indicates that wikis are useful tools, especially for courses that depend on group reports, as they enable synchronised collaboration, and the contributions of group members appear simultaneously to other members of the group. Moreover, other members of the group are welcome to edit and reshape reports to produce consistent reports. In general, it seems that wikis have some advantages not only for collaborative study, but in enhancing learning activities such as peer-review and critical thinking.

However, engaging Web 2.0 technologies in education has some challenges. These may include the need for internet connectivity, variations in browser representation, variation in infrastructure and software specifications for interacting effectively, and issues of instructor and student investment in Web 2.0 technologies in regard to time and materials (Grosseck 2009). Moreover, as de Pedro *et al.* (2006a) show, previous experience with wiki technology and the high levels of motivation which teachers apply to convince students to engage wiki technologies may affect student outcomes (such as grades and satisfaction levels).

Not only must students have adequate skills in order to efficiently use wikis, teachers are required to make significant investments of time and energy, moderating student activities and checking on-going collaboration, even outside class hours (Wheeler, Yeomans & Wheeler 2008). Wikis may be supporting individual learning styles as well as promoting information sharing among remote learners where there is no face-to-face collaboration (Mindel & Verma 2006).

To conclude, while many applications of Web 2.0 including blogs, 3D virtual worlds applications and wikis all enable remote collaboration and communication, their evolution within the field of social software means that they also remain challenging formats, as discussed above, in the field of education.

The teaching and learning benefit arises from the ways in which applications are *open* for users to post their entries, create their own virtual world activities, and write collaboratively. Open content is significantly more complex than open software, due to the variable demands exerted by contributors. Additional complexities occur when open content applications are used in education.

Open educational resources include open text (mainly the use of wikis), open discussions (using discussion boards and blogs), and simulation activities (such as

applications designed for use in *Second Life*). Open educational resources vary, and include, but are not limited to, educational media objects, open texts, open syllabus, open courses, and any other sorts of learning objects.

Technological infrastructure in regard to hardware, software, internet connection, and users' technical skills, adds layers of difficulty. Pedagogical infrastructure, including designing course objectives at different learners' levels, finding appropriate means of assessment and feedback; and managing issues related to learners' motivation, skills, the language of communication and socio-cultural modes of interaction, all contribute to the complexities of the task.

Existing literature is limited, however, in relation to user motivation in interacting with open educational resources outside formal education settings. Further research is needed to investigate learner motivation within a given cultural context. Comparisons between learner motivations may help reveal hidden aspects of motivation and participation, which impacts upon educational uptake and outcomes.

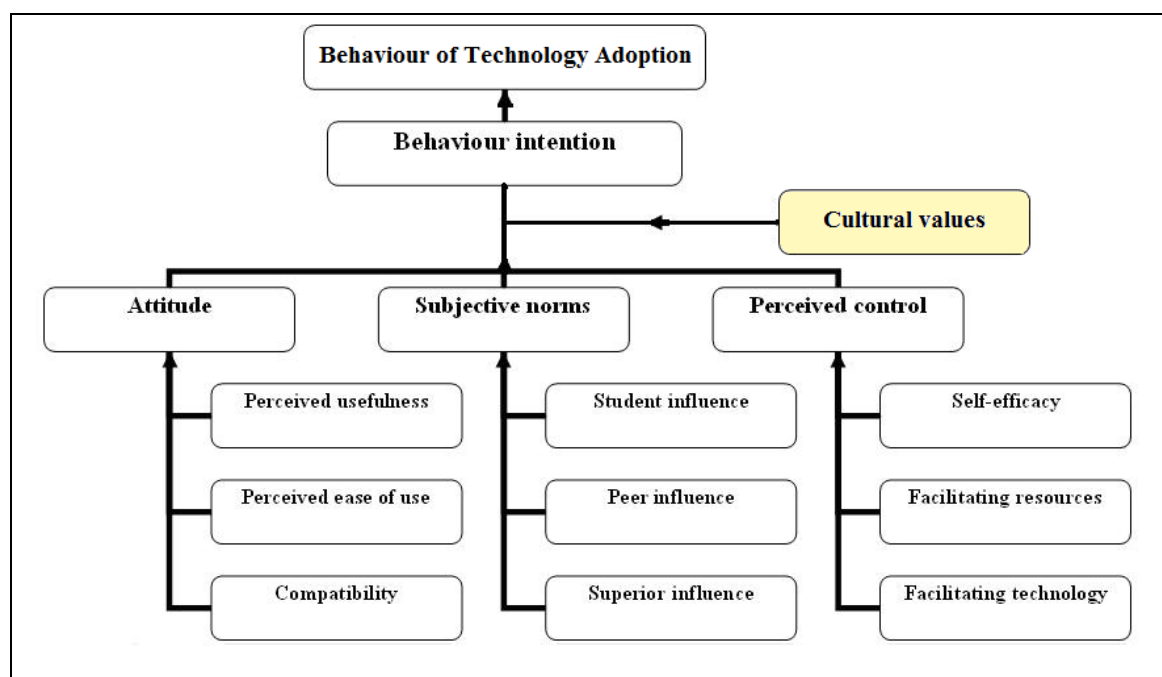
ICT in education in developing and developed countries

Although Whelan (2008) argues that both developing and developed countries have reached established positions on ICT policy, the setup and applications of ICT may differ, depending on the unique circumstances of each country. Social, economic, and cultural factors need to be considered when planning ICT policies (Tondeur, van Braak & Valcke 2007).

Although it might be argued that economic constraints are the primary issue in designing and operationalising ICT policies, developing countries are taking small steps towards establishing ICT infrastructure. National culture, including the culture of the work environment, has its impacts upon users, and may affect their willingness to use ICT in workplaces and in educational institutions. For example, Al-Gahtani, Hubona and Wang (2007) in their assessment of the impact of culture upon acceptance and use of ICT in Saudi Arabia, as a non-Western country, found a strong relationship between subjective norms and the intention to use ICT. Their research suggests that low levels of

individualism within Saudi culture impacted upon willingness to use ICT. Although there were problems from the methodological point of view, in that assessing voluntary use of ICT could not be conducted with employees, these researchers found that the expectation that workers would engage ICT at work has a positive effect upon their intention to use ICT more generally (Al-Gahtani, Hubona & Wang 2007).

Beyond subjective norms, attitudes and perceived controls that impact upon an individual intention to use ICT (Hartshorne, Ajjan & Ferdig 2010), culture may also impact individuals' intention to use ICT. Although both the *self* and *others*, as discussed earlier, impact upon human motivation, any behaviour is filtered by cultural norms. For example, individual attitudes and self-efficacy affect behaviour intention (*self*), and external influence, such as peer or superior influence, also affects behaviour intention (*others*). Such behaviour, at the end, is controlled or reshaped by cultural values and norms. Factors impact adoption of Web 2.0 technologies should consider cultural impact as illustrated in the adapted Figure 10.



Source: following Hartshorne, Ajjan and Ferdig (2010, p. 245) to include the impact of culture on behavioural intentions to use ICT.

Figure 10: Factors impacting on the behaviour of adoption of Web 2.0 technologies

While the use of ICT can be traced back 15 years or more in Australia, Canada, the United States and most European countries, developing countries such as Egypt or

Pakistan are still in the early stages of establishing the infrastructure to equip their schools with computers and internet connectivity (Akbar 2005; Hamdy 2007). It is mostly national governments that are responsible for planning ICT policy, developing the infrastructure, and making resources accessible to their citizens in order to bridge the digital divide (Al Darrab 2005). Bridging that divide has two elements: *affordability* and *availability* of technologies (Roberts 2010).

Governments alone, however, cannot make ICT policies successful. Investment in ICT must be part of a larger, but more local planning program that includes education and industry (Luger & Maynard 2007). Providing ICT equipment and infrastructure is not the only solution for developing countries when it comes to bridging the digital divide. Focusing on digital literacy is a good starting point. Production and distribution of low-specification, and thus low-cost, computers, although they might help to cross the digital gap, cannot resolve the issue on their own. Ethiopia provides a good example. Its government prioritised ICT, encouraged foreign investment, and most important of all: fostered education, especially at primary level (Pick & Azari 2008).

It was necessary to ensure the transition to electronic literacy. For example, the XO Laptop project, a project that aims to provide one laptop per child in developing countries, did not achieve its goal (Kraemer, Dedrick & Sharma 2009). One of the major challenges was that teachers and educational institutions resisted the transformation, because it required a significant change in pedagogy (Kraemer, Dedrick & Sharma 2009). Before such attempts, it would be better to negotiate such changes in curriculum, and prepare and train teachers to incorporate ICT into their teaching and learning activities. Similarly, although Uruguay's government funded hardware, developing and designing suitable content and educational software were unsuccessful, in that ICT pedagogies were seen as unsuited to the specifics of the Uruguayan social context (Kraemer, Dedrick & Sharma 2009).

As the revolution in open source software (OSS) provided solutions for the problem of the expense of purchasing and customising commercial software (Stallman 1999), open educational resources began to meet the demands for inexpensive implementation, design and development of educational materials. Just as end-users for OSS can download and use free software, learners can access and use open resources for their

educational objectives. Since most wiki software is freely available to download, install, and use, it provides an opportunity to reduce start-up expenses. The maintenance and running expenses remain challenges however, as in any other business.

Learning management systems (LMS), such as Blackboard and Moodle, are web-based technologies that support online learning or supplement face-to-face instruction (Passerini 2008). These systems include different collaboration tools such as discussion boards, chat rooms, and file sharing (Passerini 2008). Some of these LMSs have built-in wiki tools (West & West 2009). Wikis can be either private or public (West & West 2009). The private wiki is visible only to those who have the authentication to access its content, but at the same time it allows users to invite others, via their email addresses, to access and edit the private wiki. Microsoft Office Live Small Business (later called Microsoft Office 365) provides this service. The public wiki does not need a login to access and edit its content. Most wikis have built-in communication tools such as e-mail links to members and discussion pages (West & West 2009).

Although wikis involve collaboration, they do not always involve openness without restriction. There are some applications of wikis in education, and these applications are open only for lecturers and their students within educational institutions. Examples of restricted open access and editing include the University of South Australia's LearnOnline, a UniSA customised version of Moodle software, which moved into action in February 2010 (UniSA LearnOnline 2010). Educational institutions that adopt the use of wikis in learning activities are not only helping students to collaborate and share information, but also helping students to be co-authors, co-creators, and co-innovators (Butcher & Taylor 2008), with the opportunity to learn new ICT experiences and a wider range of information access (Yan 2008).

As wiki provides less expensive tools for collaboration, its accommodation of multilingual interfaces (MediaWiki 2006) provides additional advantages to those who plan to use or adopt multilingual wiki interfaces to suit different information consumers from different linguistic backgrounds. This feature is significant, since most educational systems around the world use their local/native languages in educational institutions as the language of instruction.

Open educational resources for developing and developed countries

Open access resources are different from open content resources. Open access describes a situation where materials are freely available for users for immediate access, with restrictions only on distribution and re-use; while open content involves the freedom to read, copy, modify, re-use, and re-distribute modified versions without, or with minimal, restrictions (OpenContent 2010). Open educational resources use open content, but for educational purposes. The term ‘open educational resources’ was first coined in UNESCO’s International Institute for Educational Planning IIEP (D’Antoni 2007). D’Antoni, the head of the IIEP Virtual Institute, refers to OER as web based materials that are offered openly and for free, to use and re-use for different educational purposes: in learning, teaching, and research. According to D’Antoni (2009b), OER have the potential to assist in the expansion of educational offerings worldwide.

Open educational resources, specifically wikis, carry their own applicability. They can be used in different countries, regardless of their local languages or their economic conditions. Some schools and universities, in different developed and developing countries have already experienced the advantages of engaging wikis in their learning activities. In developed countries, wikis are being used in primary schools as a tool for collaborative storytelling and to help pupils develop their writing skills (Désilets & Paquet 2005).

Open educational resources have been used in developing countries. In India, for example, the National Program on Technology Enhanced Learning, a joint project by seven Indian institutes of technology and institutes of science, has been funded by the Indian government. This program (National Knowledge Commission NKC) has produced 120 web-based courses, of 40-50 hours duration each, in different engineering fields. It aims to promote excellence within its educational system by promoting the creation and application of knowledge to meet the needs of India’s various social and industrial sectors (Kumar 2009). Similarly, in Kenya, an open content initiative, TESSA, was launched in cooperation between the Open University of the UK and the African Virtual University in Kenya, and aims to assist teachers in primary and

secondary schools across Sub-Saharan Africa by providing electronic texts to help them implement their courses (TESSA 2010).

Many reasons for using open educational resources

The motivations for teachers to use wikis may differ from those of their students, even within ‘formal’ learning settings. While teachers want to develop collaborative skills and critical thinking skills (Wheeler & Wheeler 2009), academic or professional writing skills (Lee & Bonk 2009; Wei *et al.* 2007), and the co-invention skills (Bruns & Humphreys 2005; Lin & Kelsey 2009; Wei *et al.* 2007; West & West 2009); students see wikis as good tools for easy collaboration and information sharing, overcoming the more cumbersome practices of file sharing or file rotating. Students also see wikis as a tool to share experience and information while learning (Sajjapanroj *et al.* 2008).

Learning processes overall happen not just in formal settings, but as lifelong learning skills developed during the earlier stages of students’ lives (Field 2006). Scott (2000) sees evidence that different forms of ‘borderless’ higher education, whether public or private, local or global, and by non-profit or for-profit institutions, will tend to converge, reducing university distinctiveness. Not only is lifelong learning a way to democratise education, achieve equality and focus on self-actualisation, it offers prospects for less developed nations as they confront the pressures of modernisation (Knapper & Cropley 2000).

It is difficult then to distinguish lifelong learning motivation as either interesting (intrinsic) or important (well-internalised extrinsic motivation). Lifelong learning is a voluntary activity (Knapper & Cropley 2000). Since the values (or goals) behind voluntary activities vary from one person to another (Clary *et al.* 1998b), an individual’s inspiration in taking up lifelong learning may also vary. The net generation, already digitally literate and living in a highly mobile world prefer learning by doing and are very achievement oriented (Oblinger & Oblinger 2005). They are social, dynamic, multitaskers, and widely open to and acquainted with multiculturalism (Zhang & Bonk 2010).

Learning by making is the core of the constructivist approach to learning (Papert & Herel 1991). Constructivists consider learning as most effective when learners make their own interpretations and reflections on the information they receive; while teachers encourage students to use critical thinking skills to analyse and solve problems and to synthesise and evaluate knowledge. Thus, learners and students are the heart of educational processes (Yu, Yu & Lin 2010). In computer-mediated learning (e-learning), contents and methods are mainly student-centred and they are flexible enough to address the needs of diverse populations (Yu, Yu & Lin 2010).

The net generation, always connected to the internet and socialising with others worldwide (Ras & Rech 2009), has been identified as socially-interactive cohort (Oblinger & Oblinger 2005). They push new requirements into education, specifically directed towards personalised learning (see for example Ras & Rech 2009; Tapscott & Williams 2008). The net generation, while working on wikis, develop and have different skills, such as writing and editing skills, group process skills, cognitive skills in information processing, and other web skills (Oblinger & Oblinger 2005). Learning by doing, indeed, has its own philosophical foundation. Irwin (1985) argues that a thought itself does not move anything; what moves people is a thought that aims to fulfil a specific goal and thus is concerned with a specific action. This produces an engaged or applied orientation to learning, yet another feature of web-based information searching.

Because the interactive features of Web 2.0 are used in education, learning by doing has taken its place in Web 2.0. Learning activities have moved from Web 2.0 to e-learning 2.0; and technologies such as blogs, wikis, media share services, social networking, social book marking, Real Simple Syndication (RSS), and collaborative editing tools are all used to provide personal learning environments, so that learning can be adapted to the style and needs of each student (Coutinho & Bottentuit Jr. 2010). This does mean, however, that different cultural orientations to collaboration or to self-direction come into play.

Open educational resources and cultural orientations

‘Open educational resources (OER)’ have become core pillar components for e-learning 2.0 (Ozken 2010). Open educational resources depend generally, at least in most cases,

on volunteers, characteristically decentralised, who provide services and materials. This tendency towards a 'looser' formal structure impacts not only upon the 'culture' of how projects are managed, but upon the 'culture' of what is produced. Yuan, MacNeill and Kraan (2008, pp. 15-16), for instance, have argued that OER projects give learners 'an insight into culture-specific methods and approaches to teaching and learning'. They stress that 'localizing OER material is not only a question of language but also one of culture'.

It is important to be aware of pedagogical differences between the original context of use and the intended new use of material' (Yuan, MacNeill & Kraan 2008, pp. 15-16). Within the social constructionist approach to learning, a language is not only a tool for learning and the construction of knowledge, but also a communicative and cultural tool, as well as a cognitive tool to organise thoughts for reasoning, planning and revising (Dyke *et al.* 2007).

The different language versions of OER projects indicate that '*producers*' (Bruns 2008) of content are often from different cultures and different linguistic backgrounds. Those '*producers*' may have many reasons, motives, and incentives for sharing their knowledge with others, since attitudes behind the desire to contribute and the willingness to share knowledge differ across cultures.

It has been argued that 'there are no fundamental differences across cultures to warrant a universal human dimension of I/C [individualism/collectivism] that the variations are apparent, not real, and have more to do with content than the psychological processes' (Triandis 1994, p. 64). Moreover, 'from a dialectical perspective, a convergence toward a pattern integration, both individualism and collectivism, appears entirely possible' (Triandis 1994, p. 64). The empirical research goes beyond the individualism-collectivism framing however. It searches for cross-cultural psychological forms of motivation as an explanation for active contribution to open educational resources. At the same time, it urges more and more careful, examination of the cultural variability driving participation. As argued in previous chapters, the current research uses such

categories as individualism/collectivism more as a data management tool, than as a full-fledged 'explanation' of how motivation may operate, in the case of OER participation.

Motivations for volunteering

Studies into open source software OSS and open content use have already revealed that volunteers in OSS, OCW, and OER can be very differently motivated. Some contribute programming to OSS because they believe that software should be free, and others because they believe that knowledge should be free. Programmers to OSS contribute programming because they seek to develop their own programming experience, while writers to OER may seek to develop their writing skills, and/or improve their career future and enhance their community reputation. As it is argued that this kind of user-created content is usually created outside professional practice by non-professionals, motivations for participating in these kinds of content creation activities include connecting with peers, developing prestige, achieving fame, and expressing oneself (Wunsch-Vincent & Vickery 2007). Indeed, volunteering in these kinds of virtual organisations, to a large extent, is close to reasons for volunteering in real world organisations (RWO), as discussed below.

Motivations for volunteering in real world organisations (RWO)

Many people, every year, spend their time and effort in helping others. Voluntarism is one of many forms of helping others. A volunteer is a person who 1) often seeks opportunities to help others; 2) spends his/her time doing activities that fit with his/her own personal needs; and 3) makes a commitment to help (Clary *et al.* 1998b). Usually understanding people's behaviour requires direct inquiry into people's needs and their social processes; this is a functional approach (Katz 1960).

Clary *et al.* (1998b) identified six functions of volunteers in undertaking volunteering activities. Within each function, a number of reasons motivate volunteers to help others (Clary *et al.* 1998b). The researchers' generation of these reasons depend on conceptual analysis of possible psychological and social functions of voluntarism; and they called this list of reasons 'Volunteer Functions Inventory' (VFI) (Clary *et al.* 1998b). A summary of conceptual definitions of these functions is presented in Table 13.

Table 13: The conceptual definitions of functions served by volunteering

Function	Conceptual definition
Value	The individual volunteers in order to express or act on important values like altruism and humanitarianism.
Understanding	The volunteer is seeking to learn more about the world or to exercise skills that are often unused
Enhancement	An individual can grow and develop their ego psychologically through volunteer activities
Career	The volunteer has the goal of gaining career-related experience through volunteering
Social	Volunteering allows an individual to strengthen his/her social relationships
Protective	The individual uses volunteering to reduce negative feelings (such as guilt) or address personal problems (such as loneliness).

Source: Adapted from Clary and Snyder (1999, p. 157)

Reasons for volunteering, within these six functions, as discussed in Clary *et al.* (1998b) can be classified into intrinsic and extrinsic motivations, using the model proposed in Chapter 1, as presented in Table 14.

Table 14: The author's classification of Clary's et al. (1998b) VFI items within the six factors

Motivation ¹	Intrinsic	Extrinsic
1. Protective: A. Avoid bad feeling B. Avoid loneliness C. Avoid being guilty D. Solving personal problem(s) E. Escaping from troubles		A, B, C, D and E are considered extrinsic motivations (introjected regulation) because they involve problem-solving situations.
2. Values: A. Help needy people B. A concern with people in need C. It is important to help others D. The importance of an activity for oneself	A, B, C and D are considered identified (endorsed) values	
3. Career: A. An aspiration to work in a field B. Make new contacts C. Explore options D. Success in chosen profession E. Good in résumé	C is intrinsic motivation because it involves a notion of value of learning (integrated values).	A, B, D and E are extrinsic motivations (involve a meaning of reward).
4. Social: A. Friends are volunteering B. Someone asked a person to volunteer C. Relative(s) and/or neighbour(s) volunteer D. Volunteering is important to people that the volunteer knows		A, C & D involve a notion of obligation (extrinsic motivation: ego-enhancement/guilt reduction) B is considered external regulation
5. Understanding A. Learning B. Gaining new perspective(s) C. Gaining experience D. Learning dealing with others E. Exploring strengths	A, B, C, D and E focus on learning as an integrated value	
6. Enhancement: A. Feeling important B. Increasing self-esteem C. Feel needed D. Feeling better E. Making new friends		A, B, C and D are considered ego-enhancement goals. E involves a notion of rewarding oneself (external regulation)

1: The reasons for volunteering under each functions are abstracted from Clary *et al.*'s (1998b, p. 1520) survey (Volunteer Function Inventory).

Ryan and Deci (2000a) have identified *enjoyment* as the only intrinsic motivation dimension that motivates people to behave without any external kind of reinforcement, yet enjoyment of helping others as itself a reason for volunteering is not included in Clary *et al.* (1998b).

Indeed, not all volunteers have the freedom to make a decision to volunteer, where participation is under their own control. In particular, some volunteers are under external pressure (in the form of a *request*) to volunteer, which may be considered a

form of mandatory voluntarism (Clary & Snyder 1999; Stukas, Snyder & Clary 1999), at least in some cultures. For example, students in some academic programs are required to volunteer for a number of hours in order to graduate (Stukas, Snyder & Clary 1999).

Helping behaviour is not always a planned action, or one subjected to a rational decision-making process; in other words, a potential helper can be faced with an unexpected need for help. This individual makes an instant and less conscious decision to help others, and thus s/he accidentally volunteers (*sudden need*). This *sudden need* is known in the literature as *spontaneous helping* (Piliavin & Charng 1990).

Within the tenets of many religions for instance, helping others is fundamental (*religion*) (Borne *et al.* 2004). For example, Hodgkinson (2003) reveals that volunteers are likely to attend religious services more frequently than others. Whether helping behaviour is planned (non-spontaneous) or non-planned (spontaneous), religiosity plays a significant role in motivating individuals towards helping behaviour. For example, Hansen, Vandenberg and Patterson (1995) found that individuals who adopt an intrinsic religious orientation (when religious beliefs provide the basis of their way of life) prefer non-spontaneous helping opportunities (volunteering work). It is argued that in some cases individuals experience some sort of moral *obligation* to volunteer (Stebbins 2009). Religiosity is found to be associated positively with collectivism and conservative values (Cukur, de Guzman & Carlo 2004).

One of the impulses that motivate people to volunteer is leisure (or *enjoyment*) in volunteering itself (White & Arnold 2003); while others see that such activity provides volunteers the opportunity to relax and be entertained, which provides them with some sort of intrinsic rewards (Stebbins 2009). Being *recognised* is also considered one of the reasons for volunteering. For example, Boudreau, Tamblyn and Reid (1999) found that the opportunity to gain credit as well as honour and prestige were identified as important reasons for physicians' participation in volunteering activities.

Furthermore, volunteers become involved in volunteering work because they want to gain pride and respect (Boezeman & Ellemers 2007). Research also found that *empathetic concern* was a significant reason for helping others, whether those volunteers found such activities important to them, or such volunteering activities provided them with the feeling of satisfaction (Marvin 2005). Such empathetic concerns can be said to be driven by moral and social obligation towards the community or individuals. While the main reason that makes volunteers leave their volunteering work is due to time constraints, many others volunteer because they have nothing else to do (White & Arnold 2003).

Indeed, reasons for volunteering vary (McAlpine 2000) as individuals vary; and thus they cannot easily be conceptually pre-identified. Clary *et al.* (1998b) have identified six factors; each factor contains a number of reasons. These ‘multi-factors’ have received wide acceptance (see for example Wilson 2009). Although, in this research, there is an attempt to identify reasons for volunteering, this attempt will acknowledge that it may not determine all the reasons for individual acts of volunteering. For example, reasons for volunteering include gaining interpersonal and communication skills (understanding), developing job-related skills, and having a better chance to get a good job (career) (McAlpine 2000) but others found that volunteers want to receive satisfaction by helping others, to satisfy others’ needs when there was no opportunity to refuse, from sense of duty, or for other rewards from volunteering (White & Arnold 2003).

Regardless of the variation in motivations for volunteering among individuals, motivations also differ across cultures (Hofstede 2001; Kitayama *et al.* 1997; Markus & Kitayama 1991; McClelland 1967, 1987; Triandis 2001). Volunteer functions differ among volunteers from the United States and Hong Kong. Table 15 illustrates that the ranking of motivations is different in Western individualist society such as in the United States and in an Eastern collectivist society such as in Hong Kong.

Table 15: Volunteer functions across individualist and collectivist nations

Motivations	Volunteers from Minneapolis, USA			Volunteers from Hong Kong		
	Rank	Mean	Alpha	Rank	Mean	Alpha
Career	4	4.54	.89	4	.60	.82
Enhancement	3	4.64	.84	5	.49	.73
Protective	5	3.25	.81	6	.45	.70
Social	6	2.95	.83	1	.78	.91
Value	1	5.37	.80	2	.68	.86
Understanding	2	5.13	.81	3	.64	.83
Source	Clary <i>et al.</i> (1998b)			Wu, Lo and Liu (2009)		

Results from research undertaken by Clary *et al.* (1998b) and Wu, Lo and Liu (2009) as summarised in Table 15 reveal that both values and understanding for volunteers in both cultures are of high importance. While social motivations rank the highest factor for volunteers in Hong Kong, social motivation is the least factor of importance for volunteers from the United States. Career motives are of the same importance for volunteers from the United States and Hong Kong. The protective motive is of least importance for volunteers from the United States, and for those from Hong Kong. It can be concluded that, to a large extent, the individualism-collectivism dimension of culture impacts upon volunteers' orientation towards their preferred reasons for volunteering – but there other differences.

Other motives are, to large extent, of similar importance because they are more related to oneself rather than the other. Another point of view reflects the similarity of the individual's psyche across cultures. Psyche and culture are mutually constituted (Fiske *et al.* 1998). Although it might be argued that the time factor may, for instance, plays a role in the differences between volunteers' motivational differences between the US and Hong Kong, it can still be argued that there is cultural difference between the two samples.

To conclude, there are a number of functions that volunteers achieve by volunteering. These functions may not be reduced to only the six functions identified by Clary *et al.* (1998b). More functions can be explored, if more reasons for volunteering, such as *recognition*, *religion*, *sudden need*, and *enjoyment*, are included in the reasons for volunteering. Motivation may be as variable as people themselves – but can usefully be classified into intrinsic and extrinsic categories, as a means of analysing differences in cultural predisposition. Do such predispositions change, however, as cultural experiences extend into online participation? The following section discusses similarities and differences between volunteering in real world organisations and in virtual organisations such as OSS, OCW, and OER.

Motivations for volunteering in the digital sphere (OSS, OCW & OER)

As discussed in Chapter 1, intrinsic motivations involve such reasons as entertainment (enjoyment) and any ideologically or endorsed beliefs (integrated values), while extrinsic motivations involve goals such as gaining rewards or avoiding punishment or pain (external regulation) and attaining ego-enhancement and/or guilt-reduction (introjected regulation). Although researchers such as Lakhani and Wolf (2005b) have classified motivations for doing coding work in open source software into intrinsic and extrinsic motivation, their conceptualisation of intrinsic and extrinsic motivation differs from what is discussed and proposed in Chapter 1 and summarised briefly above. This variation in how the intrinsic/extrinsic motivational framing is being used, especially in online community research, reminds us yet again of the need to carefully scrutinise how the concept is used.

Much research, as summarised in Table 16, relating to open source software (OSS), open content webpages (OCW) and open educational resources (OER) discusses reasons for contribution. These reasons for contribution to OSS, OCW and OER are sorted, according to the conceptualisation of the proposed model of motivation, into intrinsic and extrinsic motivations. Furthermore, Table 16 not only includes reasons relate to Clary *et al.*'s (1998b) six volunteer functions (career, enhancement, protective,

social, understanding, and values), but also includes reasons that might reflect other factors, including *enjoyment*, *killing time*, *obligation*, *recognition*, *request*, *religious values*, and *sudden need*.

Table 16: Studies introducing intrinsic and extrinsic reasons for contributing to OSS, OCW, and OER

Volunteer Functions ⁷	Motivations for contribution to OSS, OCW, and OER projects ⁸		Reference	Relating
	Intrinsic motivations	Extrinsic motivations		
Benefit		Pragmatic motive (non-work needs)	(Hars & Ou 2001; Hertel, Niedner & Herrmann 2003; Lakhani & Wolf 2005a)	OSS
		Pride	(Schroer & Hertel 2009)	OCW
		Make money (if such a policy is introduced)	(Antin 2010)	OCW
		Make money (payment for selling products)	(Ghosh <i>et al.</i> 2002; Hars & Ou 2001; Lakhani & Wolf 2005a)	OSS
Career		Improve job opportunities	(Ghosh <i>et al.</i> 2002)	OSS
		Making new contact helping in career future	(Nov 2007a)	OCW
		Self marketing	(Hars & Ou 2001)	OSS
Enhancement		Feeling needed	(Nov 2007a)	OCW
		Making a learning contribution	(Sajjapanroj <i>et al.</i> 2008)	OER
Enjoyment	Hedonistic motives		(Hertel, Niedner & Herrmann 2003)	OSS
	Enjoyment (Fun)		(Nov 2007a; Organisciak 2010; Schroer & Hertel 2009)	OCW
	Enjoying collaboration and story telling		(Désilets & Paquet 2005)	OER
	Innovation		(von Hippel 2005)	OSS
	Love, care, and passion		(Antin 2010)	OCW
	Coding is stimulating		(Lakhani & Wolf 2005a)	OSS
Killing time		Time loss	(Hertel, Niedner & Herrmann 2003)	OSS
		Loss of time (time distortion)	(Baytiyeh & Pfaffman 2010; Liang, Chen & Hsu 2008; Schroer &	OCW

⁷ Although Clary *et al.* (1998b) define six main volunteer functions, there are other functions of volunteering motivations including, for example, obligation, ideology, recognition and sudden need.

⁸ The classification of motivations, whether intrinsic or extrinsic, may differ from the classification which other researchers have adopted. This classification uses the proposed model of motivation discussed in Chapter 1.

			Hertel 2009)	
Obligation		Community	(Schroer & Hertel 2009)	OCW
		People feel they own the project	(Antin 2010)	OCW
		Friends write	(Antin 2010)	OCW
		Community identity	(Hars & Ou 2001)	OSS
		Obligation (feeling of obligation to contribute to OSS Community)	(Lakhani & Wolf 2005a)	OSS
Protective		Avoid loneliness	(Liang, Chen & Hsu 2008; Nov 2007a)	OCW
Recognition		Reputation	(Ghosh <i>et al.</i> 2002; Lakhani & Wolf 2005a; Oreg & Nov 2008)	OSS
		The sense of wanting to have a little fame, and wanting to see their name out there	(Antin 2010)	OCW
		Gaining prestige	(Schweik, Evans & Grove 2005)	OCW
		Publishing work	(Alexander 2006; Johnstone 2005a; Sajjapanroj <i>et al.</i> 2008)	OER
		Expressing opinions	(Bruns & Humphreys 2007)	OER
		Peer assessment	(Duffy & Bruns 2006)	OER
		Peer recognition (ego-gratification)	(Hars & Ou 2001; Lerner & Tirole 2005)	OSS
Religious values		Topics reflect political, ideological, religious or scientific disputes	(Laniadoz <i>et al.</i> 2010)	OCW
Request		People request contribution	(Nov 2007a)	OCW
		A tool for collaboration to create creative thing	(Kidd <i>et al.</i> 2009a; O'Shea 2008; O'Shea <i>et al.</i> 2007)	OER
		Contribution is requested for the purpose of learning	(Augar, Raitman & Zhou 2004; Parker & Chao 2007; Steele 2008)	OER
Social		Norm-motives Social motives	(Hertel, Niedner & Herrmann 2003)	OSS
		Community and meeting other people	(Organisciak 2010)	OCW
	Like working with other developers		(Lakhani & Wolf 2005a)	OSS
Sudden need	Correcting vocabulary		(Bryant, Forte & Bruckman 2005)	OCW
Understanding	Learning Feedback from others Experienced competence		(Organisciak 2010; Schroer & Hertel 2009)	OCW
	Curiosity and learning		(Alexander 2006)	OER
	Personal growth		(Sajjapanroj <i>et al.</i> 2008)	OER

	Self exploration		(Sajjapanroj <i>et al.</i> 2008)	OER
	Learning new ideas		(Sajjapanroj <i>et al.</i> 2008)	OER
	Learn and develop new skills (human capital/self-development)		(Ghosh <i>et al.</i> 2002; Hars & Ou 2001; Oreg & Nov 2008)	OSS
	Gaining new perspectives		(Nov 2007a)	OCW
	Improve programming skills		(Lakhani & Wolf 2005a)	OSS
Values	Freedom of information		(Nov 2007a; Schroer & Hertel 2009)	OCW
	Quality improvement		(Huvila 2010; Schroer & Hertel 2009)	OCW
	Sharing knowledge		(Sajjapanroj <i>et al.</i> 2008)	OER
	The desire to 'give back'		(Antin 2010)	OCW
	Altruistic endeavour: Make a difference in the life of others		(Antin 2010)	OCW
	Self-determination		(Hars & Ou 2001)	OSS
	Helping others is important		(Nov 2007a)	OCW
	Source code should be open		(Lakhani & Wolf 2005a)	OSS
	Software should be free		(Ghosh <i>et al.</i> 2002; Lakhani & Wolf 2005a)	OSS
	Altruism: solve a problem Altruism: develop products of others Share knowledge and skills		(Ghosh <i>et al.</i> 2002; Hars & Ou 2001; Oreg & Nov 2008)	OSS
	Producing up-to-date information		(Duffy & Bruns 2006)	OER

Table 16 illustrates that there are some similarities between motivations for contribution to real world organisations (as discussed in the previous section) and contribution to virtual organisations (OSS, OCW, and OER). However, previous studies from the literature, as outlined in Table 16 show that there are similarities between motivation to open source software and open content webpages. Furthermore, motivation to contribute to OER differs, to a large extent, from motivation to open source software and open content webpages.

Although many reasons for contribution to OSS and OCW seem to be more intrinsically-oriented, motivations for contribution to OER seem to be more extrinsically oriented – related more to demands from teachers to use OER in learning and teaching activities. Having concluded this, it still remains unclear whether there are similarities between motivations for contribution to OER and motivation for contribution to real world organisations. Similarly, it is unclear what the reasons for such differences might be, between OER and OSS and OCW contribution on one side, and motivations to join real world organisations (RWO) on the other side.

Reasons for non-volunteering

Among issues relating to digital illiteracy, digital access restriction policies and digital infrastructure barriers, individual beliefs (partly impacted by culture) including seeing volunteering as valueless, a belief in their own inability, lack of confidence, and time constraints may impact upon people not volunteering. White and Arnold (2003) discuss a number of reasons that lead volunteers to leave organisations. These reasons include:

- 1) increasing time demands from other activities;
- 2) volunteering requiring too much time;
- 3) lack of commitment of other volunteers;
- 4) lack of cooperation from family;
- 5) lack of support from leaders;
- 6) other community member(s) not valuing volunteering effort;
- 7) responsiveness to other needs;
- 8) the level of support;
- 9) the amount of paperwork;
- 10) the quality of available materials;
- 11) the program not addressing the community's needs; and
- 12) poor leadership.

Furthermore, full time employment may direct people not to volunteer or to drop volunteering (Safrit 1998). Time constraint is a common reason for not volunteering.

However, one study shows that volunteers perceive that they have more time (general time to do their businesses, leisure time, time for household work, and time to help others) compared with non-volunteers (Rowland 1990). Therefore, as Rowland (1990) concludes, volunteers are actually busy people. The result reveals that volunteers increase their physical activity levels and watch less television (Osborne 2005). This provides support for the view that volunteers are busy people; however, this result also indicates that non-volunteers get distracted by watching television more than volunteers. Volunteers also appear to be oriented towards activities that offer them a sense of enjoyment (Cleave & Doherty 2005), based on various forms of direct social engagement.

Although some research discusses why individuals leave real world volunteering-based organisations, there is no strong evidence to explain OER users' reasons for not contributing to open content educational materials. For example, Antin (2010), in his ethnographic study of Wikipedia contributors, found that none of his research participants reveals any potential consequences for non-contribution, or any negative attitude about those who choose to use Wikipedia, but not write or edit its content. He found, however on the contrary, that most of his research participants believed that readers themselves make contributions in a variety of ways. Those participants mentioned that 'without readers, there would be little incentive for editors to devote significant time and effort to their contributions' (Antin 2010, p. 136). The result of such a recent study indicates that reasons for non-contribution to open content remain unexplored.

The low rate of non-volunteer membership to volunteering-based organisations in China and Eastern European countries compared with the high rate of non-volunteer membership in volunteering-based organisations in South Africa and Western European countries (Hodgkinson 2003) indicates that the behaviour of not volunteering differs across cultures. Hodgkinson (2003) suggests that 'it would be possible to compare values of western nations with the Middle East and Africa' (Hodgkinson 2003, p. 52). There is a need for further research to study whether there are cultural differences among non-volunteers in relation to their reasons for non-contribution – and that need extends to online activities.

Individuals and information sharing in ICT

Previous research reveals that informal information exchange, in face-to-face meetings, differs across cultures. For example, individuals in a collectivist-oriented Taiwanese company, tended to share information as part of their collective responsibility, even if that negatively impacted upon other concerned persons. In a more individualist-oriented Australian company, sharing information depended in the main on individual differences such as communication skills, style and personality, and was understood as relating to personal choice and expression, as well as to individual assertiveness (Chow *et al.* 1999).

In the online context, culture also impacts upon an individual's information sharing activities. Information seeking is more manifest in the collectivist culture of Singapore, while among individuals from the United States, as a highly individualistic culture, respondents report accepting information from members outside their group 'more readily than their collectivistic Singaporean counterparts' in computer mediated communication CMC collaboration (Cho & Lee 2008, p. 564). Cho and Lee (2008) point out that the social nature of the interaction may have formed expectations of online social development. This online social development, as Cho and Lee (2008, p. 565) argue, subsequently impacts upon the processes of information-source choice, directing them in 'what to find from whom'.

In electronic networks, and especially in computer mediated discussion forums, individuals are voluntarily helping others and providing advice to those who seek information. Helping others is not, however, the main motive for contribution. Indeed, individuals may contribute their knowledge to enhance and develop their own reputation, and/or when they believe that the information and experience they have are highly valued and should be shared, regardless of their commitment to the group or the expectations of others (Wasko & Faraj 2005). Wasko and Faraj (2005) extend their previous research published in 2000, arguing that individuals in electronic networks are intrinsically motivated, because those individuals state that such intellectual and problem solving practices are enjoying and/or challenging activities.

Users and institutional motivations for OER

There is evidence, however, that both students and others within the general community are participating in information exchange through open educational resources not only because they enjoy and/or want to experience a challenge, but because they want to learn and/or are motivated by the sharing of information itself (Sajjapanroj *et al.* 2007). Those students who share information in open educational resources may also seek to enhance their knowledge or complete their course requirements. Not only students share information on open educational resources. Self-learners also contribute knowledge to open educational resources. Those self-learners are aiming to explore areas outside their field, or keep themselves up to date in the knowledge in specific field(s) of their interest (MIT OpenCourseWare 2011a). Table 17 is adapted from an MIT OpenCourseWare website that reports their site-user statistics.

Table 17: MIT OpenCourseWare site statistics

MIT OCW Users	Use Scenario	% of Use	% of Total ¹
Educators	Improve personal knowledge	31%	9%
	Learn new teaching methods	23%	
	Incorporate OCW materials into a course	20%	
	Find reference material for my students	15%	
	Develop curriculum for my department or school	8%	
Students	Enhance personal knowledge	46%	42%
	Complement a current course	34%	
	Plan a course of study	16%	
Self-Learners	Explore areas outside my professional field	40%	43%
	Review basic concepts in my professional field	18%	
	Prepare for future course of study	18%	
	Keep current with developments in my field	17%	
	Complete a work-related project or task	4%	
Others			6%

1: N is not provided

Source: (MIT OpenCourseWare 2011a)

It can be concluded from Table 17 that the majority of users (85%) define themselves as *students* or *self-learners*. The motivations for those two groups, however, vary: while the attention of students relates to their current status as student, including enhancing personal knowledge and working on their courses, the attention of self-learners is their career future, including developing professional knowledge relating to their work. Teachers, on the other hand, have two types of reasons for using open educational

resources: developing their personal knowledge and developing their curriculum (including teaching methods and course content).

Indeed, different people have different reasons to use OER. These motivations may not only reflect individual differences, but also cultural differences. For example, many users of the MIT OCW have adapted courses to incorporate local examples, while others translate courses for more cultural appropriateness (Carson 2006).

The motivations of OER '*producers*' may show even more variation from the categories and purposes listed so far. Mora (2008) summarises institutional reasons for developing OER. These reasons include:

- 1) developing public reputation;
- 2) enhancing public relations;
- 3) attracting new students to the institutions;
- 4) cost reduction;
- 5) creating alternatives to commercial texts;
- 6) gaining experience of OER as a new business model;
- 7) achieving diversity; and
- 8) enhancing the quality of educational or recruitment materials.

Indeed, the institutional social reasons behind introducing OER, such as promoting collaboration among individuals; interacting with communities at global levels; helping improve open content standards; enriching the pool of open content materials and supporting the overall OER revolution are currently more significant to institutions than economic reasons (Mora 2008). However, the majority of content '*producers*', as in the case of MIT OCW (MIT OpenCourseWare 2011a), are students and self learners. This indicates that the content itself is not created by top-bottom activities, but rather bottom-up activities: both de-centralised and 'horizontal' actions. Understanding the many different motivations (or reasons) reported by these voluntary contributors from around the world is crucial to understanding what OER is about, and how it might be developed. Maslow (1970), although he failed to support his claim, pointed out that the same goal can be achieved by various cultural paths. Furthermore, 'similar behavior in different cultures may mask individual differences in the reasons for that behavior' (Barrett *et al.* 2004, p. 19).

Overall, as the research to date stands, reasons behind individual contribution to open content vary, but include such issues as enjoyment, enhancing career futures, learning, and helping others by sharing useful information with them. These motivations can be seen as either *self-oriented* or *others-oriented*. Based on Behavioural Reasoning Theory (BRT), Briggs, Peterson and Gregory (2010) found that values and reasons for volunteering in RWO that are others-oriented (altruism, benevolence, value-expression, and improving well-being of others) appear to be more influential than reasons and values that are self-oriented (individualistic achievement such as career benefits) on pro-social attitudes towards volunteering.

But motivation is not always ‘pure’ and can be difficult to assess. This difficulty relates to the nature of OER, which are not only objects of education, but also objects of culture (D’Antoni 2009a, 2009b). User-created content is a result of social phenomena that seem to be far-reaching, and involved with culture at different levels. There is a constantly increasing range of cultural content, producing niche users and audiences (Wunsch-Vincent & Vickery 2007), and building cultural focus into many specialist zones, while giving access to those zones and their context which might otherwise not achieve significant mass. At the same time these OER include not only learning content, tools, and implementation resources (Hylén 2006, 2009), but also aspects of human interactivity and personal pleasure.

The human elements of OER involvement may be bound up in such matters, but also include the *producers’* language, educational level, gender, and any significant aspects of cultural contexts. Bourdieu (1977) argues the importance of ritualistic patterns of social interaction and how things are done in given cultural contexts. Cultural background, reflected in the individual’s language, is the carrier of meaning, and can include such interpretive framings as religious values, socio-economic factors, and gender roles, among other elements. Cultural context plays a significant role in the behaviour of learners when they interact with learning technologies (Cook *et al.* 2007), but as in Bourdieu’s (1977) theorisation of real-world or material culture, is subject to transformation as part of its enactment, as well as in relation to its onward transmission of values.

A main component of any education system is the educational text. Open texts are written and reshaped not only by pedagogical designers. Users of open texts also contribute to the reshaping and adaptation of the content. Thus, the uses of ICT within a society generally impacts upon how OER texts will be used and reshaped. The value chain of education itself is changing: the decentralised *producers* are reshaping education. One way forward in examining what motivates OER participation, and especially authoring, is to consider the patterns of motivation across a number of OER. Put simply: who is contributing to what, and why? The following chapter undertakes a comparative study of OER, seeking understanding of the reasons of OER users for interacting and contributing to open content. Although literature shows motivations to volunteer to real world organisation differ in collective societies from individualist societies, there is as yet, no study that has shown that motivations (whether intrinsic or extrinsic) for writing, or not writing to open educational resources differ among cultures.

Chapter 5

A comparative study of open educational resources

Open Educational Resources are cultural objects as much as educational ones, in that they give users ‘an insight into culture-specific methods and approaches to teaching and learning’ – a practical exposure to the way that courses are ‘done’ in another country or by another instructor. Language is clearly intertwined with culture in this dynamic.

(Albright 2009, p. 75).

Before beginning an assessment of why individuals choose to contribute labour and materials to OER websites, it is important to explore what goes on in such sites, what interests, activities, and interactions are possible and popular? Most importantly, among these OER websites, what is/are the website(s) that can be used as case study (studies) for the current research? To meet the needs of this study, OER exemplars will be considered from the following angles:

- **Languages supported in the website:** With the research focus on the motivations of contributors from Anglo or Arabic societies, each understood to be impacted by their cultures, the selected OER websites must support English as well as Arabic.
- **Open content:** There are two types of open educational resources: *open access* and *open content*. Since the main focus of the current study is to examine motivational differences for contribution to OER website, the OER websites examined should be *open content*, allowing participation in content development from users.
- **Nature of the content:** Since the main educational resource is the textbook, the OER websites examined should involve open educational texts, where users are able to contribute to texts.
- **OER website objectives:** The website needs to make its objectives visible to users to allow users to contribute to open content. Study of these objectives will help assess user motivations for contribution.
- **Wiki technology:** Wiki technology provides an economical tool for collaboration that makes it suitable for both developed and developing countries.
- **No restrictions:** The OER website should allow access to anyone who wants to contribute, without any kind of restriction, such as registration or being a member of a specific institution.
- **Languages available:** In the preceding chapters, it was discussed that Arabic and English would be selected to represent developing Arabic Middle East and developed Western Anglo nations and regions. The content of websites used for the study needs Arabic and English contributions.
- **Email list:** To examine user motivation in more detail, the OER website needs to have an email list to allow follow up contact with users.

This chapter compares a number of OER websites, according to the selectivity criteria of OER discussed below (how an OER website was selected), in this chapter, in relation to qualities and tendencies of each OER listed above (what qualities of an OER website are presented). In summary, the research sets out to examine how Open Educational Resources websites operate in Arabic and in English examples; how they ‘fit’ the two cultural forms, and how far Anglo or Arabic participants feel motivated to participate at the level of active contribution or ‘authoring’ on these sites.

Open access websites versus open content educational resources

The literature examined to date has shown that in the building of open source sites there are two concepts of openness: *open for access*, and *open to edit*. It is important to discuss in detail the differences between these two concepts before going through a comparative analysis of actual OER projects.

Open access publishing

Open access, sometimes called open access publishing, is where an electronic version of scholarly material is available free to anyone who is interested in reading its material (Oppenheim 2005). Open access publishing can be in the form of HTML, MSWord, or PDF files (Jepsen *et al.* 2004). According to Oppenheim (2005), open access can be classified into *open access journals* and *open access repositories*. Open access journals have content which can be read at no cost (i.e. no subscription fees or pay-for-access). Open access repositories are subject-based databases, commonly referred to as institutional repositories, where articles are indexed and archived by their branch of science. Articles are published in traditional both ‘toll-access’ journals or open-access journals (Oppenheim 2005). Open access repositories are also referred to as ‘self-archiving’ resources (Swan & Brown 2005). Authors send their articles to open access journals because they want to allow all readers to freely access their articles, and thus the readership is larger than for subscription-based journals (Swan & Brown 2005).

Jepsen *et al.* (2004) have found that PDF file-format resources contain a higher proportion of scientific materials than other web publication formats. More specifically, 59% of articles published in open access library and journals are non-html, and 82% of these published articles are in English (Kousha & Thelwall 2006).

Academics face difficulties in publishing their articles in top ranked journals (measured for instance as Tier A* journals⁹). Early career academics may achieve publications only in lower ranked journals (i.e. Tier B and Tier C). Although it is generally believed that open access journals are lower ranked, in fact only 3.9 % of Tier C journals are open access. In other words, publishing early career academic articles in lower ranked journals does not necessarily mean publishing in open access journals (Mercieca & Macauley 2008).

Although educational institutions put pressure on academics to publish in high ranked journals (A and A+) (Birrell & Melleuish 2011; Maslen 2011), academics are also tempted to publish in open access journals in order to reach a broader audience more quickly (Driscoll 2010). Growing numbers of universities support open access publishing, which leads to an increase in digital publishing. Open access journals are becoming a good opportunity for scholars to publish their work, especially since new academic journals have implemented a peer-review process (Driscoll 2010).

While this helps broader academic publication and may reach more readers, in open access scholarly publishing, readers cannot edit the content. Tuomi (2006) considers that open to edit content affords a higher level of openness, defined as the ability and right to edit and to add value to content. Open content means that the general public can access all material, texts and multimedia free of charge, and modify and distribute them, without the traditional restrictions of copyright (Liang 2007). The distinction between open access and open content thus reveals processes operating in two opposed directions, inside the scholarly world of expert publishing, which provides material for

⁹ BRA Ranking System: Journals are ranked into Tier A, B, or C, to indicate the authority ceded to their articles by peers within their discipline – such system is currently under review.

education. One part of that culture asserts that academic research must establish and protect its intellectual property and extend individual reputations through publishing; the other holds that education seeks to extend access to such content, and ‘free use’ helps students learn. How can the two be reconciled?

Open educational resources (OER)

Open educational resources may be seen as part of a larger trend to *openness*. It is a tendency which emphasises the removal of barriers, whether technical, economic or legal (Hylén 2006) promoted by the ‘free trade’ anti-protection of neo-liberal ideologies (Rose 1996, 1999) and the free information campaigns of early internet advocates. Open educational resources involve digitised material offered for free and open for educators, teachers, students and self-learners to use and re-use in their researching, teaching and learning (Mora 2008). More specifically, while open content educational resources OER allow self-learners, students, teachers, and curriculum designers and professionals to participate in educational material publishing processes (authoring, mixing, editing, proofing, publishing, and using and re-editing the content), open access educational resources do not empower users (students, self-learners, and teachers) in developing educational materials (Hanna & Wood 2011).

Competitiveness in neo-liberal economies, especially relating to the academic sphere, where universities have become a knowledge businesses with students as their consumers, has resulted in an ‘inappropriate model’ for education (Berg & Roche 1997). Social justice will require education reform to improve educational standards and economic rationalist policies are problematic tending to exert pressures to standardise learning delivery, rather than helping develop innovative approaches to support students in their localised contexts (Mosen-Lowe, Vidovich & Chapman 2009).

OER materials help fill this gap, since not only educational institutions, but also community and non-for-profit organisations can produce OER materials, broadening the range of content and formats, and so introducing the exposure of users to issues and

ideas which can extend their own cultural repertoires, as added elements to the learning. These elements of OER use, however, suggest a need to assess and understand the cultural dimensions of OER. What do they involve, and how can they best be analysed and described?

Cultural aspects of OER

Albright (2009) argues that open educational resources (OER) are cultural as much as educational, and that OER give their users practical exposure to culture-specific methods of teaching and learning. Most OER material is in English and is based on Western pedagogies and educational philosophies. Does this pose risks for some OER consumers? Given the strong imputes towards interaction and *produser* activities in OER, are all users able to be proactive in knowledge expansion or are some culturally positioned differently, and less likely to take up the offers of ‘open’ participation?.

Any examination of OER materials shows that OER developers use a culture-specific language, and so are likely to be designing culture-specific teaching methodologies. As Albright (2009) explains, to optimise benefits from OER, it is important to have real understanding from within the local context, rather than engaging in literal translation. Literal translation between languages, for instance, is not enough. How OER are ‘used’, especially by those outside the original language and culture of a site, depends on how the users relate to the core cultural positioning of that site. Thus, while multilingual platforms provide the opportunity for authors to develop culture-specific educational material, or to adapt materials to their needs and prospective, ‘accessing’ those materials, or feeling culturally ‘licensed’ to interact with them or to transform them, is a more complex matter. Wiley (2006a) argues that the purpose of using OER in education is to enhance learning by developing of individual and social capabilities of acquiring knowledge. But this is a Western perspective: a constructivist view of the need for self-directed information seeking and learning. OER may provide educational institutions, communities, or non-for-profit sponsors the means to produce culture-specific content – but this provision comes at the expense of accepting the affordances of the OER technologies and applications – already designed to constructivist principles. This research aims to assess what that means, for both producers and users.

Objectives of OER initiatives

OER has potential benefits for the improvement of teaching and learning support (Carson 2006). McAndrew *et al.* (2009) comment on their own involvement with OpenLearn; a provider of free high-quality learning material developed by The Open University in the UK. They argue that around two years after launching OpenLearn, they had achieved their goals, and more. OpenLearn has proven not only beneficial as source material for users and students, but had indirect benefits for the Open University's reputation, community and pedagogy: they were short-listed for national and international awards and received The Award for Excellence in Distance Education in 2008, in addition to publicity gains for their work (McAndrew *et al.* 2009).

The Open University knows that their OpenLearn materials are accessed by users world wide, with 69% accessed outside the UK. This indicates an outreach operating horizontally (materials are accessed outside the UK) as well as vertically, with uptake of materials from inside the UK (McAndrew *et al.* 2009). OER allowed the Open University to test and examine their courses and materials with less critical investment (McAndrew *et al.* 2009). Developing a course takes a long time and consists of many steps, techniques, and considerations, and requires financial resources and skills. Additional complexity is added by dynamic nature of higher education, adjusting to new social or professional demands.

Course evaluation is a significant process in course development; and interactions with learners use in open courses allow all these perspectives faster feedback, with less time investment and richer outcomes. For the Open University then, OER broaden the user-feedback in ways that enhance educational quality and institutional reputation. But is there also a cultural dimension to these practices? It can be argued that one advantage of the multilingual platform that wiki technology supports is providing potential authors the opportunity to create culture-specific educational material. When Wiley (2006a), for instance, argues that the purpose of using OER in education is to enhance learning by enabling the development of individual and social capabilities of acquiring and practising knowledge, yet questions arise as to how non-Anglo sites and non-Western pedagogies will respond to such *openness*.

There are some variable factors in OER production. The provider, for instance, can be either an educational institution or a community organisation; and the production process can be based on a co-production model, or a producer-consumer model (Wiley 2006a). The nature of content production is however, a key issue in the current research, to select the appropriate case study/studies. Open content educational resources that allow contributions, allow for analysis of *produsers* from different participating cultures, and at least to some degree, re-evaluation of how far that product may vary, in both number and kind. Content analysis of OER websites from the two sample cultures is therefore a necessary preliminary stage of the study.

Content analysis of OER initiatives

Content analysis has a long history of use in communication studies, sociology and business (Baack & Singh 2007; Marcus 2001, 2005; Marcus & Alexander 2007; Marcus & Gould 2000; Nov 2007a; Singh & Baack 2004b; Singh, Furrer & Ostinelli 2004; Singh & Matsuo 2004; Singh, Zhao & Hu 2003; Wilson 2002). It has already been used in website evaluation. For example, Wilkinson, Bennett & Oliver (1997) have developed an evaluation criteria list that includes 125 questions to ask about a website in order to evaluate its quality, focused on accuracy of information, quality of published material, and ease of use.

Content analysis can be quantitative or qualitative, or can be a mix of both techniques (Weber 1990). However, this distinction between qualitative and quantitative content analysis can be misinterpreted (Krippendorff 2004). Qualitative approaches have been called unsystematic, since qualitative researchers argue that each text is unique (Krippendorff 2004). Quantitative content analysis, used to obtain statistical data, may suffer from double coding and uniform unitisation: forms of over processing into ‘data’, which may be unresponsive to the complex nature of texts (Krippendorff 2004). The goal of quantitative content analysis is to produce numerical data listings of key categories, while the goal of qualitative content analysis is to map and summarise the material (Newendorf 2002). To this extent, quantitative and qualitative investigation may be empirical (Newendorf 2002). In either case, content analysis involves six-steps (Krippendorff 2004):

- 1) unitising schemes;
- 2) sampling plans;
- 3) coding;
- 4) sampling data to manageable representation;
- 5) deciding the representational attributes of the data; and
- 6) selecting the narrative or discursive conventions for reporting the data.

In website content analysis, the focus is not only on technical features of a website, but also on the message form and the content, with a ‘diagnostic-eye’ on such matters as links, spelling, browser compatibility, image optimisation and accessibility (Newendorf 2002); assessment of company’s policies (Polariski 2007), security, visual appearance, convenience of order process, information quality, responsiveness (accessibility of service and contact information) and interactivity (Chiou, Lin & Perng 2010). In other words, website content analysis has to date largely been a matter of evaluation. Gibson *et al.* (2003), for instance, applied comparative content analysis to assess party political election websites. Schweitzer (2008) found that websites of minor parties were underutilising the standard functions of websites, while major parties ran e-campaigns through sophisticated and interactive functions.

But while such studies may be useful in their own right, this project demands a different orientation. If website content analysis is to collect evidence of certain kinds of information presentation designed for certain kinds of users, this means collecting data of a range of OER websites, from the two targeted populations. To this end, content analysis will be used to evaluate the multilingual features of OER, the objectives of selected OER initiatives, and whether these objectives are met, the availability of help and contact information, and the interactivity with content offered to users.

A comparison between OER initiatives

An internet search for open educational resources returned a number of both relevant and irrelevant results. A random selection of OER websites were then closely assessed, using the selectivity criteria identified below to identify an appropriate OER website to for recruitment of Arabic collectivist and Anglo individualist users and producers. The sample of OER initiatives is thus semi-random (Bourgeron, Humphries & Jensen 2001; Sim & Wright 2000).

The comparison of OER initiatives begins by establishing research criteria, to help conduct a comparative study exploring similarities and differences between cases. The comparison applies both quantitative and/or qualitative methodologies (Walliman 2006a). 'Evaluation is making judgements about the quality of objects or events. Quality can be measured either in an absolute sense or on a comparative basis.' (Walliman 2006a, p. 73). Comparison criteria focus in detail on the ways OER websites appeal to serve their users – but in initiating the description and categorisation of the content, 'establishment' makers are first introduced (criteria 1 and 2):

- 1) **Launch year:** This criterion is not only to show overall trends in the OER movement, but also whether the selected case study is well established.
- 2) **The sponsor(s):** Understanding the '*real*' objectives of OER initiative may be clearer when sponsor(s) for the OER projects are known.

Categories then move to a more descriptive set of dimensions to enable analysis of each site's positioning (criteria 3 – 12):

- 3) **The nature of resources:** The educational resources available from OER websites might include textbooks, audio/video materials, simulations, course guides, educational games and educational software. These resources might be *open access* or *open content*. Understanding the nature of resources helps evaluate the OER initiative's objectives. Open access OER websites will be eliminated from further

analysis, since they do not offer the kinds of participatory activity which allows testing for motivation for contributors.

- 4) **Languages supported:** If OER support culture-specific pedagogies, selecting by language should help provide case study/studies for comparative analysis.
- 5) **The OER site's objectives:** Each OER site has goals. Assessing the objectives and targeted users and then the nature of OER materials provides detail of what is considered relevant, to whom, and whether these objectives are realistic or not.
- 6) **Targeted users:** Each OER website, either implicitly or explicitly, has identified target users. Understanding which users the site targets helps in assessment of the rationale of OER initiative and how OER websites within different cultures position their services.
- 7) **Look and feel of the interface:** The design of the interface should be use/user oriented. What makes an OER website interface accessible to a given user?
- 8) **The FAQs:** Since there is no way to survey users and understand their needs directly, the content of their frequent asked questions helps in understanding these needs. Common themes in relation to the expressed needs of learners will be collected.
- 9) **Browsing features:** The most significant and distinguishing feature of any set of digital resources which distinguishes it from print-based materials, is the searching and browsing feature. This feature requires a high level of complexity in OER, because OER users do not know exactly where the materials can be found. Users need to find the resources easily. What amounts to 'easy' search and locate may or may not be culturally variable.
- 10) **Total number of modules:** The size of an OER project provides an indicator to the popularity of resources, and so possibly to its cultural appropriateness.
- 11) **Technology:** Analysis of the technology behind an OER website helps determine whether the objectives of initiating the OER are achievable. For example, if an OER website's aims are to enhance collaboration among learners, but the technology employed does not facilitate collaboration, there is very little likelihood that the stated objectives can be met.

- 12) **The nature of support available to users:** Evaluating the different sort of support features is important to stand on the usability and functionality of the open resources, and who are the expected users, and which sorts of use are anticipated.

The above criteria, will be used in the analysis of OER website pages including ‘Home’ pages, ‘About us’, and ‘FAQs’ pages, to help portray an OER website from the designer, sponsor and user perspective, and so help reveal much of cultural origins and predispositions as well as cultural accessibility and usability of OER websites. The comparison of selected OER websites is presented in Table 18.

Table 18: A comparison of OER websites

Connexions

Connexions (http://cnx.org)	
Launch year	Launched 1999. Web-based authoring interface launched 2001 (Connexions 2010e).
Sponsor(s)	Rice University. The founders and the major sponsor organisations include the William and Flora Hewlett Foundation and the Maxfield Foundation as well as a development partner Siyavula Evolving Education. There are other individual sponsors (Connexions 2010f).
Resources	Textbooks (scholarly content) on which users can collaborate, from children to college students to professionals (Connexions 2010a).
Languages	Various languages (Connexions 2010c). Most content is in English (14,540 modules), followed by Vietnamese (660), Spanish (340), Macedonian (60), Portuguese (25), French (15), and Arabic (6), in addition to several other languages (Connexions 2010c) (Figures are approximate).
Objectives	Connexions wants to encourage collaboration and information sharing among learners, scientists, and people who do not read and write English, to solve the problem of increasing cost of textbooks, to make educational texts available to learners, and to reduce the time between production of textbook and user accessibility (Connexions 2010k).
Targeted Users	Authors who collaborate and create content, instructors who build and mix collections, and learners who would like to explore content (Connexions 2010d).
Look and Feel of Interface	Good look and feel, involves search tab, login, clear ‘how-to’ section, and help tab (Connexions 2010d).

FAQs	Once they have accounts, authors can create educational material modules (chunks of knowledge). Teachers and lecturers can customise learning materials by mixing modules together to create new books, courses, syllabuses, and lessons. Students and self-learners can read and use these created modules. Connexions provide open educational resources that are free to use and reuse around the world. It supports different languages and different educational levels across more than 190 countries. Most authors (module creators) are professors and teachers. OER brings people back to education, and helps potential authors publish their work (especially k-12 teachers, scientists, engineers and people who do not read and write English). Authors are clearly identified and thus the credit goes to authors. OER also helps solve the high cost of textbooks (average cost \$120). It helps bringing current knowledge to learners, instead of out-of-date of printed materials. To help users to find quality materials, Connexions is developing a system to help authors setup their own review process, and direct users to 'high quality' content by tagging modules. Only authors and authorised 'maintainers' can edit modules content. Users can copy of existing modules, and edit and republish them. This helps teachers tailor courses to different learning styles. Connexions allows a dynamic, interconnected and engaging environment to communicate cross-institutionally and worldwide. Authors' recognition for published work 24/7/365 is a great incentive. Teachers cannot test students using quizzes or exams, but, there are options for self-assessment (Connexions 2010k).
Browsing Features	Browsing by subject, language, popularity, title/author, and keywords (Connexions 2011).
Total Number of Modules (20 April 2010)	16200 modules (Connexions 2010b).
Technology	CNXML and MathML in addition to MS Word Importer (Connexions 2010g).
Support	Support is provided through email, FAQs, phone, post address, physical address, and classified help for visitors and authors (Connexions 2010h, 2010i, 2010l).
Additional Notes	Content is open to learners as open access, but to create content, an account must be opened. Creation of content is open to anybody. It is preferred that content is created in small modules to allow users an easy remix (Connexions 2010j). Tendency to small modules is historically attributed to open source software, as it allows more efficient and quicker code debugging (Sproull & Conley 2007).

MIT OpenCourseWare

Massachusetts Institute of Technology OpenCourseWare (http://ocw.mit.edu)	
Launch year	2001, but in 2002, 50 courses were published (MIT OpenCourseWare 2010f).
Sponsor(s)	Founder: Massachusetts Institute of Technology (MIT OpenCourseWare 2010c).
Resources	High quality open access courses for users, include: course description, syllabus, lecture notes, readings, and assignments (MIT OpenCourseWare 2010a).
Languages	The interface language is English, and most content is in English. Some courses are translated into Chinese, Spanish, Portuguese, Thai and Persian (MIT OpenCourseWare 2010l).
Objectives	To unlock knowledge, empower minds and help poor people. MIT, by launching OpenCourseWare, enhances its reputation. Users can reuse the content if they acknowledge OpenCourseWare (OCW) authors (MIT OpenCourseWare 2010n).
Targeted Users	Courses are available for any self-learner, but do not allow learners to be credited by MIT (MIT OpenCourseWare 2010i). Learners' location: North America 40%, Europe and Russia 20%, East Asia 20%, India 8%, North Africa 5%, and Sub-Sahara 1% (approximate figures from MIT OpenCourseWare 2010j).
Look and Feel of the Interface	Good look and feel, but poor 'easy-find' information, search tab and help tab. No login is required to access the material. Course pack materials not open for re-use, as they are copyright (MIT OpenCourseWare 2010i, 2010m).
FAQs	Use of MIT OpenCourseWare is free, and no registration required. MIT OpenCourseWare does not provide quizzes and exams since MIT faculty publishes content <i>only</i> . Few video lectures available because too costly. Non-MIT-Students have no access to course-pack materials because they are copyrighted. Only 'copyleft' materials are openly available to MIT OpenCourseWare users. MIT OpenCourseWare is not distance learning, so no degree, credit, or certificate can be obtained. To be MIT students, they need to contact MIT Admissions Office. MIT does not approve or certify organisations or teachers who use MIT OpenCourseWare materials. In case of use MIT OpenCourseWare materials, acknowledgment should be made. Translation to other languages to be accompanied with a specific MIT OCW disclaimer. No contact with MIT OpenCourseWare authors, and hence no interactive experience. Materials are openly available to users for non-commercial educational purposes, and to be attributed to MIT. Materials published by their MIT staff <i>only</i> , since MIT take the final responsibility of their materials. No download, copy, modify, reuse, remix, and redistribution, without permission from the copyright owner. MIT also offers OCW Scholar courses, designed specifically for independent learners – more complete than traditional OCW courses. They include new custom-created content, for learners to provide their feedback and suggest ways to reshape content. These OCW Scholar courses are elementary, expect great impact on independent learners. MIT OpenCourseWare pages contain messages and announcements from other MIT programs (MIT OpenCourseWare 2010e).

Browsing Features	By department (MIT OpenCourseWare 2010h) and advanced search by keywords (MIT OpenCourseWare 2010g).
Total Number of Modules (20 April 2010)	1900 courses (see the left menu MIT OpenCourseWare 2010h).
Technology	Static webpages, files available for download in Microsoft Word, PDF and in compressed zip files by clicking on 'download course material' link on the left menu (visit this course for example MIT OpenCourseWare 2010k).
Support	FAQs and contact form (MIT OpenCourseWare 2010b, 2010d).
Additional Notes	This website consists of different courses at college (university) level. Courses are available for open access self-learners. Abelson (2008) believes that MIT OCW can achieve sustainability by balancing its internal and external charters. This includes expanding MIT activities and providing additional services such as automatic generation of transcripts for audio and video lectures. This allows easy indexing and thus searchability. MIT allows students to review materials from previous courses.

Open Yale Courses

Open Yale (http://oyc.yale.edu/)	
Launch year	2001 (Open Yale Courses OYC 2010a).
Sponsor(s)	The project was launched by the Yale Centre for Media and Instructional Innovation (CMI2) (Open Yale Courses OYC 2010f) and sponsored by the William and Flora Hewlett Foundation (Open Yale Courses OYC 2010d).
Resources	Open access courses (lecture notes and handouts), high quality videos, syllabi, and suggested readings, and problem sets. The available courses are in humanities, social sciences, and physical and biological sciences (Open Yale Courses OYC 2010g).
Languages	All courses are in English (Open Yale Courses OYC 2010i).
Objectives	Enabling to use information technology to encourage users to access knowledge and educational opportunities across the world; to develop independent thinking, critical thinking and researching and creative imagination (Open Yale Courses OYC 2010k). Users can use downloads, remix, but must credit Yale (Open Yale Courses OYC 2010b).
Targeted Users	Self-directed lifelong learners, educators, high school and college students around the world (Open Yale Courses OYC 2010e).
Look and Feel of the Interface	Good look and feel. No registration or login is required. The website contains search tab and help tab (Open Yale Courses OYC 2010c).

FAQs	Open Yale Courses provide lectures and other materials covering humanities, social sciences, physical and biological sciences in the first and second year undergraduate level. Aim is to increase the presence of Yale University and strengthen its relationships internationally by expanding access to educational resources. No registration or enrolment required to access these open resources. Courses help self-learners and lifelong learners, students and educators. Users of Open Yale Courses can audit these courses if they wish, but cannot question professors or submit written work. No interaction with Yale faculty; and no credit unless users apply for full admission. Mission is to enhance learning at Yale and beyond. Users can download courses, remix, and redistribute for non-commercial purposes; but must credit Yale university. Some materials in audio/video lectures, can be accessed only by on-campus students through 'Class*V2'. Other course packet/reading materials are also available only for on-campus students, due to copyright restrictions. The quality of viewing audio/video lectures depends on connection speed, which varies across the day (Open Yale Courses OYC 2010h, 2010j).
Browsing Features	By department, organised alphabetically (Open Yale Courses OYC 2010i).
Total Number of Modules (20 April 2010)	Not mentioned, but the number of departments shows 17 on the day of assessment (Open Yale Courses OYC 2010i).
Technology	HTML pages with audio/video features, and pdf for downloaded materials (see for example Open Yale Courses OYC 2010l).
Support	FAQs only.
Additional Notes	Quality audio and video open access resources make this website attractive for learners. Transcription for lectures is useful for non-native English speakers. Some video lectures are available on YouTube with English subtitles (Open Yale Courses OYC 2010m), and provides non-native English users better understanding of lectures. Open Yale is considering non-English speakers to expand their outreach.

OpenLearn

Open University OpenLearn (http://open.ac.uk/openlearn/)	
Launch year	2005 (Open University OpenLearn 2010a).
Sponsor(s)	Open University OpenLearn is sponsored by the William and Flora Hewlett Foundation (Open University OpenLearn 2010a).
Resources	Open access to Open University courses, study units (including notes and exercises), discussion forums, blogs, and other tools of video conferencing. Registered users can access discussion forums, write journal entries, answer quizzes, contact other users, participate in web-based video conference, and upload their own material to LabSpace (Open University OpenLearn 2010g).
Languages	Mainly in English. Translation is welcome on formal agreement. Some units are translated into Chinese, Spanish and Portuguese (Open University OpenLearn 2010d).
Objectives	To enhance knowledge, understanding, and learning experience; empower a support network, develop scalable models of delivery, and develop e-learning. Teachers are additionally encouraged to use OpenLearn material in their classes (Open University OpenLearn 2010f).
Targeted Users	Learners, educators (professors and instructors), educational institutions, and researchers (Open University OpenLearn 2010h)

Look and Feel of the Interface	The interface looks simple, but ‘busy’. There is not enough information on the home page. The home page consists of login, search tab, and RSS. The Browsealoud feature is designed to help those who have a hearing disability (Open University OpenLearn 2010i).
FAQs	Users can browse subjects of interests. No formal qualifications needed to access OpenLearn courses. Study units cover four levels: introductory, intermediate, advanced and masters. Users cannot gain formal qualifications, except by enrolling in Open University courses, to get support from a tutor. This can be done through Open University Worldwide. Users can connect with other learners through discussion forums if logged in, to the help and support forum to post questions or answers. Learners can set up a learning club and use free online video conference facilities to communicate with other learners. Registered users can keep their own personal notes and reflections on study in a ‘Learning Journal’. Registered users can tag any study unit using keywords as hyperlinks to classify resources; personal tags are combined into a ‘community tag cloud’, allowing users to see popular tags associated with units. OpenLearn courses are offered to widen access to free, high quality educational opportunities; but donation is welcome to support dedicated staff to continue academic, pedagogical, technological and research activities. Users can upload their own material to LabSpace; users can share, amend, translate and reuse all LabSpace materials for non-commercial use including the use in classrooms, but must credit Open University. OpenLearn collects data from visitors (through cookies), including time spend on the site, use of other websites, patterns of use of learning space study units; and sometimes they invite users to participate in surveys. Data collected used in statistical analysis to assess the usefulness of the site, effectiveness of navigation path, and trends in educational demands and needs. Cookies do not have to be accepted by users to navigate the website. Users can see other registered user profiles (name, location, study interest, and email), or hide their email addresses by changing profile settings. OpenLearn is not able to answer learner enquires. Technical issues related to the website can be reported to a Help and Support Forum. Registered users receive e-newsletters from Open University, but they can unsubscribe. Users of OpenLearn can buy study guides, study packs, and textbooks from Open University. Open University works with different partners such as governments, corporations, and other universities to offer quality and cost-effective distance learning programmes according to sponsors’ needs. Long terms goals of OpenLearn are to enhance learning experiences of users of OER, have greater involvement in higher education, enhance educational resources and develop e-learning (Open University OpenLearn 2010e).
Browsing Features	Topics are arranged alphabetically (Open University OpenLearn 2010b).
Total Number of Modules (20 April 2010)	More than 680 units totalling over 5,500 hours (Open University OpenLearn 2010j).
Technology	HTML, audio/video features, different social software (Open University OpenLearn 2010i).
Support	Help, support forum, FAQs, contact us, email, telephone, and demonstrations (Open University OpenLearn 2010c).

Additional Notes	This website features open access, high quality content. Users can collaborate as part of their learning experience, interacting through different forms of social software: discussion forums, blogs and journal entries. Gourleya and Lanea (2009) note that the Open University has gained from OER in different ways: 1) by implementing web 2.0 philosophy in their education 2) by enhancing and testing new ways of e-production 3) supporting institutional research and development activities 4) bringing additional students into the university.

Open.Michigan

Open.Michigan (https://open.umich.edu/)	
Launch year	2007 (Open Michigan 2010a).
Sponsor(s)	Michigan University.
Resources	Keywords to ease locating a course, course description, syllabus, course schedule by week, reading list, lectures (in PDF and PowerPoint formats), assignments by weeks (Microsoft Word and .PDF formats), and projects (see for example Open Michigan 2010g). To share or to create their own open content, users apply for an Open Copyrights licence, then publish and share resources (Open Michigan 2010i).
Languages	Only in English.
Objectives	Aim is to share educational resources and research, collaborate with a global learning community, maximise the impact of individual research, and extend the reach of an instructor's teaching (Open Michigan 2010h).
Targeted Users	Faculty staff, faculty students, researchers, learners and instructors, educators, and self-learners worldwide (Open Michigan 2010h)
Look and feel of the Interface	Good look and feel to interface, simple to use search tab and advanced search, RRS, Twitter, FaceBook, YouTube, and Flickr (see for example Open Michigan 2010j).
FAQs	Open.Michigan is not an accredit body, so does not grant any certificates or degrees. Users of Open.Michigan materials who wish to study for-credit courses and degrees, need to contact the undergraduate or graduate admission office. No FAQs for users. Users need to contact specialised person for answers (Open Michigan 2010c, 2010e).
Browsing Features	Materials are organised according to schools (Open Michigan 2010d)
Total Number of Modules (20 April 2010)	Over sixty courses across ten schools and colleges (Open Michigan 2010d).
Technology	HTML webpages, PDF, PowerPoint presentations, Microsoft Word (see for example Open Michigan 2010b) and Wikis for collaboration and sharing (Open Michigan 2010f).
Support	Seeking help from community, asking experts (personal email addresses of experts), and 'Get-started' PDF file (Open Michigan 2010e).
Additional Notes	The interface is simple, but quite difficult for users to find a course because: 1) No search engine in the home page, and the only way to find a course is to identify the school where the course might be located 2) The search should be with the key words or the subject rather than the school 3) Courses can be taught in different schools: i.e. 'Patient Communication Skills' is listed under the dental school, but also taught in the medical school or nursing school. Search engine should be implemented, to facilitate the use of key words and subject.

MERLOT

Multimedia Educational Resource for Learning and Online Teaching MERLOT (http://merlot.org/merlot/)	
Launch year	1997 but moved to peer-review in 1999 (MERLOT 2010f).
Sponsor(s)	Multimedia Educational Resources for Learning and Online Teaching founded by California State University – Centre for Distributed Learning (CSU-CDL) (MERLOT 2010f).
Resources	The resources available include simulations, animations (visual presentation), tutorial (electronic workbook), practice sessions (questions), quizzes (tests), case studies, collections of learning material (such as webpages), reference material, learning objects repository (searchable database), online courses, workshop materials, 3D learning objects, open textbooks, open journal articles, social networking tools and presentations (MERLOT 2010a, 2010h).
Languages	English.
Objectives	To be a premiere online community for faculty staff and students from around the world to share pedagogy and learning material. Improve the effectiveness of teaching and learning by peer-review. Enhance the quantity and quality of learning material. Encourage produced material to be incorporated into faculty resources. Receive peer-recognition. Build and sustain academic online communities. Contributors will be recognised. Members can create personal collections and develop profiles (MERLOT 2010a, 2010m)
Targeted Users	Students, self-learners, teachers/instructors, researchers, book-authors, peer-reviewers (MERLOT 2010b, 2010g, 2010h).
Look and Feel of the Interface	Busy interface with very small fonts (MERLOT 2010i, 2010m), not a good look and feel. Users need to login to be able to contribute. It has search tab (advanced search by keywords and titles(MERLOT 2010i, 2010m).
FAQs	Registered users of MERLOT can have updatable profiles and can upload photos. Registered and logged in users can see other user email addresses. MERLOT provides high quality educational resources (teaching and learning). Partnership with MERLOT is welcome. Partners can develop and promote services and resources to benefit constituents and help achieve shared goals. MERLOT emails educational newsletters to registered users three times a year. Users can unsubscribe. Newsletters include information about conferences and/or website updates. MERLOT administers LMS vendors and provide services to hundreds of thousands of instructors and students in higher education, who increase MERLOT connections. MERLOT covers 15 disciplines. Users can save personal collections to use in courses. MERLOT does not store materials; collections in MERLOT are only metadata stored in the site database. MERLOT runs a monthly checker to ensure the quality of materials. Only authors of collections can edit submitted metadata. MERLOT recognises and promotes outstanding online resources, to improve teaching and learning experiences (MERLOT 2010e).
Browsing Features	By material fields (also called collection MERLOT 2010l), by discipline (MERLOT 2010m), and by type (MERLOT 2010c) (animation, simulation, and textbook...etc).
Total Number of Modules (20 April 2010)	22500 modules across 8 fields of study (MERLOT 2010n).

Technology	MERLOT Content Builder (webpage development tool) enables users to write, import documents, and upload photos and videos (MERLOT 2010j).
Support	Email (in a very small font), FAQs (very well developed and organised) (MERLOT 2010d, 2010e).
Additional Notes	Although the interface of the home page provides visitors with the feeling of a busy interface, visitors will find it easy to search in different disciplines, and collections. Advanced search by categories and sub categories is provided, and by title and keywords. Well-developed quick-start guide (MERLOT 2010k) helps potential contributor(s) to take steps toward contributions.

OLI

OLI Open Learning Initiative (http://oli.web.cmu.edu/openlearning/)	
Launch year	2002 (OpenLearning Initiative OLI 2010i).
Sponsor(s)	Carnegie Mellon University, supported by the William and Flora Hewlett Foundation (OpenLearning Initiative OLI 2010i).
Resources	Courses available are classified into two types: 1) <i>Academic courses</i>: designed by instructors to create customised courses for their students. Low per-student maintenance fee (student may pay these fees on enrolment in their institution). Students can access instructors. There are graded exams. Instructors can trace student learning (OpenLearning Initiative OLI 2010a, 2010e); 2) <i>Open and free courses</i>: designed for self-learners who are not supervised by instructors. Users are free either to register or anonymously use the content. No fees. No tests or quizzes (OpenLearning Initiative OLI 2010c, 2010f). All courses include: material, computer simulation, course schedule, computer-based tutors, virtual laboratories, and self-assessment.
Languages	English.
Objectives	To allow independent learners to access open and free resources (material and activities). To allow instructors to build and customise their courses (OpenLearning Initiative OLI 2010e, 2010f).
Targeted Users	Students, instructors, and institutions who wish to actively engage their students in material in various ways (OpenLearning Initiative OLI 2010g).
Look and Feel of the Interface	Search tab, very simple interface (good look and feel) (OpenLearning Initiative OLI 2010g).

FAQs	OLI offers two kinds of courses: 1) <i>open and free courses</i> which allow a) access to resources b) simulation and self-assessment c) formative feedback to students 2) <i>academic courses</i> which in addition to above affordance, they allow d) access to instructors e) graded exams f) credit for course completion. OLI courses are offered based on research in the learning services; and these courses are continually updated based on feedback from instructors and students in evaluation studies. In other words, OLI studies how students learn in online educational environment to improve course material. Users can opt-out from such studies. OLI is interested to work with teachers who would like to be part of ongoing evaluation and would like to adapt OLI courses for better teaching experience. Although accessing open and free courses does not require having an account, it is recommended that users create accounts to allow users to track their progress. Academic courses require registration. OLI does not credit of any course, but Arabic courses can receive credit from the institutions of their instructors. OLI users however using free courses can have grade book as proof of completed courses, but this does not grant credit (OpenLearning Initiative OLI 2010d).
Browsing Features	Only open and free courses are available for browsing (OpenLearning Initiative OLI 2010c).
Total Number of Modules (20 April 2010)	The number of modules is not available but there are twelve collections (OpenLearning Initiative OLI 2010c)
Technology	HTML, Java applets for simulations (see for example OpenLearning Initiative OLI 2010b; 2010h which involves a simulation).
Support	Help (contact form), FAQs classified into general questions, student, instructor, and instruction questions (OpenLearning Initiative OLI 2010d).
Additional Notes	This website has two groups of courses. The academic courses are not visible to self-learners. Students who have invitations can enrol when they enter the course keys. The free courses are open for any learners. The feature of simulation in the courses is very helpful, and helps attract more users. The number of courses could be increased as well.

OpenCourseWare Consortium

OpenCourseWare Consortium (http://Ocwconsortium.org/)	
Launch year	Unknown date.
Sponsor(s)	There are different institutional and associate institutional members in the OpenCourseWare Consortium (see the list in OCWConsortium 2010b), including more than 200 higher education institutions (OCWConsortium 2010a).
Resources	Each education institution has to publish at least ten courses under the institution name. Institutions can also translate courses. No resources are available on this website; it is a database that refers users to other institutions for open course ware (see the requirement in OCWConsortium 2010a).

Languages	This site is in English; other languages of OCW depend on the partner institutions (OCWConsortium 2010g).
Objectives	To advance education, empower people worldwide and extend the reach and impact of OCW around the world. To ensure long term sustainability by improved effectiveness and reduction of cost. To provide open access to high-quality educational content to educators and learners, unlock information, and encourage the value of openness. To provide resources to students and help them to find the right programs at their destination institution (OCWConsortium 2010a, 2010f).
Targeted Users	Depends on targeted users of subscribed institutions (see profiles of partner institutions at OCWConsortium 2010b).
Look and Feel of the Interface	Good look and feel of interface. Search tab to find courses (OCWConsortium 2010g).
FAQs	None
Browsing Features	By country, by language, and by institution name; searching within course subject is by Google (OCWConsortium 2010g)
Total Number of Modules (20 April 2010)	None.
Technology	Depends on the institution, some institutions provide RSS (OCWConsortium 2010g).
Support	Email and Help (OCWConsortium 2010c, 2010d). Some support information is from blogs (OCWConsortium 2010e).
Additional Notes	OCW Consortium has no content, and acts as a library or database of participating partners. This database is very helpful especially since OER providers are going to increase. It would be very useful if a search engine (by keywords or subject) is implemented.

USQ OpenCourseWare

University of Southern Queensland's OpenCourseWare (http://ocw.usq.edu.au/)	
Launch year	No information.
Sponsor(s)	University of Southern Queensland (USQ OCW 2010d).
Resources	Free access to courses. Each course has objectives, course modules (course content) objectives and reading materials, study schedule, and assessment (USQ OCW 2010d).
Languages	English only.
Objectives	To be part of OER movement, to increase access to knowledge by using, sharing and reusing, to enrich society through learning and social equity, and to be the first Australian university in the OCWConsortium. (USQ OCW 2010a, 2010c).
Targeted Users	Any self-learners around the world can access resources. Tutors and instructors cannot use the material in teaching. Translation is permitted with acknowledgement (USQ OCW 2010a).
Look and Feel of the Interface	Very simple interface. Neither registration nor login is required (USQ OCW 2010d).

FAQs	Materials are available for faculty members, students, and self-learners around the world. Resources are taught to full and part time students in USQ, but not offered for credits/degrees. Learners cannot access faculty members. These resources are offered to be the first Australian university to become a member of OpenCourseWare Consortium, to enrich the global and local communities through learning/research, and to support a better quality of life. No registration to access USQ OCW materials, and no prerequisites for users. USQ does not approve or certify any organisations or tutors who use educational material available on USQ OCW. Users must give credit to USQ OCW who owns the intellectual property of published materials. Solutions to quizzes, assignments and exams available only to USQ students. Individuals or organisations cannot contribute their own educational materials. Participation of USQ members in USQ OCW is voluntary. Any translation of USQ OCW materials is welcome but must credit to USQ according to their specific disclaimer. USQ collects data from users of USQ OCW, to help evaluation of usage, access, and impact on educational communities. Data include emails, feedback, answers to surveys, names, academic status, regions, how USQ OCW have been used, IP addresses, browser types, operating systems, and length of visits to different pages. Data remain unidentified, and not made available for third party or commercial purposes. USQ OCW is not for-a-degree. Learners need to apply as full time/ part time student through admission office (USQ OCW 2010c).
Browsing Features	No need for browsing as the resource is in its early stages. Available courses are listed (USQ OCW 2010d).
Total Number of Modules (20 April 2010)	Ten courses are available (USQ OCW 2010d).
Technology	HTML.
Support	'Contact us' form, and unclassified FAQs (USQ OCW 2010b, 2010c)
Additional Notes	The initiator of this website, the University of Southern Queensland, is in the early stages of providing OER. With not many courses available online, the site functions more as an advertisement for courses rather than a promotion of the OER movement.

OER Commons

OER Commons (http://oercommons.org/)	
Launch year	2007 (OERCommons 2010b).
Sponsor(s)	Institute for the Study of Knowledge Management in Education (ISKME) supported by the William and Flora Hewlett Foundation (OERCommons 2010c).
Resources	Collections of resources available for primary school, secondary school, and post secondary school learners. Materials available include activities, assessment, audio lectures/video lectures, discussion forums, games, lecture notes, lesson plans, readings, simulations, syllabi, textbooks, and blogs (OERCommons 2010c, 2010f).
Languages	Mainly in English, but depends on the destination (OERCommons 2010g). For example, users can find a course in Chinese language (OERCommons 2010h).

Objectives	To encourage a sustainable culture of sharing resources among educators at all levels. To link individual authors and institutional collections. Contributors add their content URLs and keywords, and descriptions of content. Others can easily find sources to use and reuse (OERCommons 2010d, 2010f).
Targeted Users	Targeted users are not explicitly mentioned, but may be assumed from the registration form. Users are self-learners, instructors who wish to reuse material for their classes, students, researchers, and content providers (OERCommons 2010i, 2010o). The largest percentage of users define themselves as self-learners (23.7%), followed by college/university instructors (14.1%) and high school teachers (10.4%) (OERCommons 2010j).
Look and Feel of the Interface	Very good interface. They have search tabs by subject, level, and conditions of use (OERCommons 2010n).
FAQs	If an individual has quality resources on a topic, they need to provide OERCommons with a link to their current location. If these resources are not yet online, individuals can upload content to OERCommons wiki. Accounts are needed to upload resources to be accompanied with metadata. Users can discuss and evaluate high quality educational resources. Resources will be reviewed by OERCommons staff for approval. Resources are organised by subject areas, resource creators and media types (texts, videos, simulations, and interactive media lessons etc). Resources can be found using 'Browse', 'Search', 'Advanced search'. OER Community section includes current news, research reports, events and blog posts. Registered users can make notes to resources which can only be seen by them. Users can remix resources but must give credit to authors. They can redistribute the work. Learners, educators, and educational institutions can take advantage of OER in response to the rising cost of textbooks and education. Teachers are welcome to use and remix materials that suit them in their own classroom. Learners can use and note resources of interest. OERCommons aims to grow a sustainable culture of sharing among educators at all levels. ISKME (Institute for the Study of Knowledge Management in Education) develops training and professional models to support teachers and schools in effective uses of OER to meet net generation learning needs. ISKME is also conducting social science research and developing innovation in sharing and human-centred learning by using student achievement data (OERCommons 2010c, 2010m).
Browsing Features	By subject, by level, and by material type (OERCommons 2010n).
Total Number of Modules (20 April 2010)	More than 30,000 modules across different levels, subject area, and material type (OERCommons 2010f).
Technology	Users can add tags and rate the content (see for example OERCommons 2010a).
Support	Help and FAQs (OERCommons 2010e).
Additional Notes	OER Commons has no content. OER Commons is like a library or database of partners share educational materials with others. Materials can be either open access or open for edit. It depends on contributors of OER and their repositories. The database service is very helpful, since resources are organised by subject, level of material, and type (readings, lectures, textbooks, etc), providing information on whether courses are full, and allowing users to rate the courses. In a survey, most users of OER Commons were shown to be self-learners who want to expand their knowledge and stay current, teachers who want to find ideas for their lessons or improve their teaching methods, and students who want to complete their class assignments (OERCommons 2010l).

The Le@rning Federation

The Le@rning Federation (http://thelearningfederation.edu.au)	
Launch year	2001. Transition to widen sources of digital curriculum resources between July 2009 and June 2010 (Le@rning Federation 2010a).
Sponsor(s)	The Le@rning Federation is a project of Education Services Australia. It manages the infrastructure and collections of digital curriculum resources. The project is funded by the Australian Government and State Governments (Le@rning Federation 2010a).
Resources	Resources are open access images, audio/video materials, interactive multimedia learning objects, and interactive task assessments (Le@rning Federation 2010g, 2010m, 2010n).
Languages	English (Le@rning Federation 2010i)
Objectives	High quality digital curriculum resources for learning and teaching. Enabling teachers to find and implement interactive learning objects, audio files, and videos into their teaching activities. Allowing users to relate teaching ideas to the Australian Curriculum. Supporting Indigenous students with learning resources. Facilitating the exchange of resources between jurisdictions (Le@rning Federation 2010a).
Targeted Users	Member schools and universities in Australia and New Zealand through their The Le@rning Federation Content Repository. Teachers are encouraged to have access to the multimedia resources (Le@rning Federation 2010b, 2010h).
Look and Feel of the Interface	Colours and design are good, however the website has a busy interface. Links to resources are not easy to find for 1 st time users.
FAQs	The National Digital Learning Resources Network NDLRN aims to enable the management and distribution of more than 12000 digital resources (of various formats) to education authorities. Delivery depends on territory education departments. Resources include learning objects, assessment objects, and teacher support resources that include units of work and ideas. Schools cannot get resources directly from NDLRN; educational authorities make resources available to schools in their sectors. All registered institutions (and their staff and students) can use resources at no cost; and can legally copy and communicate them. Resources not available for public access. Users must credit Education Services Australia (Le@rning Federation 2010f).
Browsing Features	Resources are classified by their type (interactive learning objects, images, audio, video, assessment resources and teacher resources). Users can browse by topic. There is an advanced search by title, keywords, description, and learning objectives across topics, across content types, and across levels. Access to resources requires login (Le@rning Federation 2010j, 2010k, 2010l, 2010o).
Total Number of Modules (20 April 2010)	Unknown
Technology	HTML, audio/video clips, java-applets (requires java plug-in), flash (requires Adobe Flash Player), and PDF (requires Adobe Reader) (Le@rning Federation 2010m, 2010n).
Support	Telephone, email and FAQs (Le@rning Federation 2010c, 2010d, 2010e, 2010f).
Additional Notes	Although resources are available for teachers and students within institutions, access is difficult unless an educational institution is a member of the Federation. Independent users should contact the local liaison officer for access (Le@rning Federation 2010b). No guarantee, for independent users, will be given login details.

UNOW

UNOW (http://unow.nottingham.ac.uk)	
Launch year	No date
Sponsor(s)	University of Nottingham (UNOW 2010d).
Resources	All are open access courses (UNOW 2010a).
Languages	English (UNOW 2010b).
Objectives	Sharing knowledge and expertise to increase learning opportunities. Making the content of teaching available to anyone with an interest in learning. Making resources available to those unable to undertake formal qualification. Advancing pedagogy across the academic community. Making OER sustainable by making learning resources available online for free (UNOW 2010c).
Targeted Users	Learners who wish to learn (no assessments undertaken and no credits awarded) (UNOW 2010a).
Look and Feel of the Interface	Very simple interface; however, resources are not easy-to-find because resources are arranged by schools and resource type. No search box is available (UNOW 2010b).
FAQs	None
Browsing Features	By schools and through subject titles only (UNOW 2010b).
Total Number of Modules (20 April 2010)	Unknown.
Technology	HTML, MS Word, Video prodcast, PDF (UNOW 2010b).
Support	No FAQs is available. Only email support is available for users. (UNOW 2010d).
Additional Notes	This website is primitive. No search available by keywords. This lack of searchability is not technically sustainable. Browsing available by course titles only and under the school name, which means that learners have to go through titles until they find courses they look after (UNOW 2010b).

Wikibooks

Wikibooks (http://wikibooks.org/)	
Launch year	2003 (Wikibooks 2010f).
Sponsor(s)	Wikimedia Foundation (Wikibooks 2010f)
Resources	Open content textbooks that anyone can edit. Resources include: textbooks, annotated text, instructional guide, and manuals which all are instructional material (Wikibooks 2010f).
Languages	120 languages (Zachte 2011).
Objectives	To provide open books for an open world. To create free content in terms of freedom and money. To give back to humanity and help others. Teachers can use customised textbooks for their students. Learners can challenge themselves by making contributions. Authors can publish their books (Wikibooks 2010e).
Targeted Users	Self-learners, instructors, institutions, and authors (Wikibooks 2010b, 2010e).

Look and Feel of the Interface	The interface is ‘busy’ with faded colours which is not good (see Wikibooks 2010f). Users can generate PDF files. Users can also print a printable version of the webpages (see for example Wikibooks 2010a). Wikibooks has a search tab and welcome page that provides some help for new users.
FAQs	Wikis are a collaborative collection of interlinked open content webpages. Wikibooks aims to create free educational resources. Wikibooks is managed by Wikimedia Foundation (non-profit organisation). Anyone can contribute to Wikibooks. Users of Wikibooks can download any content they like, and print any book by clicking on ‘Printable version’. No email support is available. Users can communicate with other users through email lists. They can leave messages on talk pages of other users. Registered users can communicate with other registered users who have registered email addresses by clicking on ‘Email this user’. Users can contribute without having accounts; however, having accounts give registered users benefits such as positive reputation of quality work, and their IP addresses remain anonymous. Users can search in Wikibooks through using search box. Users can cite any page in Wikibooks using the same citation style of webpages. There is no mechanism to ensure that information in Wikibooks is correct and current, since any one can edit; but incorrect information is usually edited quickly. Users can create their own textbooks, guides, and manuals in Wikibooks. User contribution makes information resources free to access. Contributions are updated on an ongoing basis with built-in feedback. Users who seek recognitions can use their real names; but registered users do not have to use their real names. Users can change pseudonym to real names by ‘Request for renaming’ if they want. Debates and discussions are welcome in discussion pages, help improve contents. Wikibooks considers users who have dial-up connection, so there is a limit of 30 KB of page size. There are some techniques preventing or limit vandalism or recover texts. Logged-in users can track pages if they add those pages to a personal ‘Watchlist’ by clicking on ‘Watch this page’ link (Wikibooks 2010c).
Browsing Features	By subject, reading-level, and completion status (Wikibooks 2010g).
Total Number of Modules (20 April 2010)	English 37600, German 15000, French 9000, Japanese 6000, Spanish 5000, Hebrew 3500, Arabic 450, Hindi 35, Bengali 25. Total modules in the 120 languages provide 130,000 articles (Zachte 2011).
Technology	Wiki.
Support	IRC, Help, Community portal, and Welcome page (Wikibooks 2010d, 2010h).
Additional Notes	The interface is busy and its colours are faded. Allowing users to write without login has a positive impact on contributions. Wikibooks belongs to the Wikimedia Foundation, and started earlier than other open educational resources projects, which increased its publicity. Browsing subject, completion status, level, or alphabetically makes finding a textbook easier. Multilingual features support the development of textbooks.

How OER providers manage and adapt their services

The initial feature of OER use evident here is the increasing number of educational institutions becoming part of the OER movement, in response to the rapid evolution of information technologies, globalisation and its impact upon economy and social life; and the growing competition between educational institutions that results (Wiley 2006b). All of these factors have encouraged educational institutions to be part of the ‘open’ movement. Although some educational institutions, such as USQ and MIT (USQ OCW & MIT OCW), have made educational resources available online for self-learners and students around the world, these resources have largely remained *open access*, rather than *open content*.

A summary of content analysis findings

Reading Table 18, it can be concluded that reasons for providing educational resources online for students and self-learners vary, but centre around the following:

- 1) To encourage collaboration and knowledge sharing
- 2) To make positive use of technology and allow wide access to information
- 3) To maximise the impact of individual research by allowing individuals to publish their research
- 4) To extend research
- 5) To improve teaching and learning effectiveness
- 6) To foster critical thinking.

Although some of those institutions have shown altruistic reasons, as stated above, for providing educational resources for the public good, they are also seeking social and economic benefits (McAndrew *et al.* 2009). Examples of those institutions that seek financial and social reward are MIT and OLI. Such social and economic reasons for developing OER include:

- 1) Developing the institution’s reputation and enhancing recognition
- 2) Advertising their other courses and their methods of teaching and learning inside the university

- 3) Implicitly, to earn revenue by selling their open course materials to instructors if they wish to re-use the content
- 4) To develop course material for the public to edit, and speeding up the development of courses, whether for internal purposes or for external re-use.

The new roles of open access / open content OER websites

Organisations such as Connexions and Wikibooks, which make resources freely open to edit and re-mix, seek to make revenue by selling printable versions of textbooks or from accepting donations. How far these develop as viable business enterprise awaits resolution? Revenue is, however, very significant for their sustainability. It could be argued that some OER initiatives that host quality educational resources will publish, at some stage, their OER materials commercially, with minimum editorial assistance, to cover their running costs. Some OER initiatives already require small fees for printable PDF versions of OER resources to cover their running expenses. Full-fledged commercialism may, however, sit too uncomfortably with the ethos of online information exchange, to evolve rapidly. The evidence within the websites for how, and why, users access the information and resources provided by universities and information organisations, suggests that *openness* and interaction remain central.

What motivates users of these OER websites

It can be argued, based on previous studies (de Pedro *et al.* 2006a, 2006b; Lin, Sajjapanroj & Bonk 2009; Sajjapanroj *et al.* 2006; Sajjapanroj *et al.* 2008) as well as surveying OER websites, that users access and edit these open content educational resources because:

- 1) they desire to acquire knowledge for free;
- 2) they are inspired to share their knowledge with others;
- 3) they seek to publish their work to receive recognition;
- 4) editing OER increases their understanding through peer review;
- 5) OER help users to develop their networks through emailing authors, and communication via discussion boards or discussion pages; and

- 6) they want to help others, especially those who are economically disadvantaged, or giving back to their community.

Teachers use OER in order to (Alden 2009; Augar, Raitman & Zhou 2004; Bold 2006; Borja 2006; Bruns & Humphreys 2007; Chen & Cannon 2006; Duffy & Bruns 2006; Elgort 2007; Flierl & Fowler 2007; Lamb & Johnson 2009; Lee & Bonk 2009; Lundin 2008; Meishar-Tal & Gorsky 2010; Molen 2009; Ras & Rech 2009; Richardson 2009; Sandars 2007; Wei *et al.* 2007; Wheeler & Wheeler 2009):

- 1) develop customised courses;
- 2) re-use the available content with minimal restructure and editorial effort, thus saving them time;
- 3) engage students in the production of knowledge as a constructive teaching method, and to gain feedback on student progress;
- 4) enable students' collaboration;
- 5) encourage students to translate texts and materials, which may lead to localising knowledge; and
- 6) enhance the students' reflective learning.

OER sites operating as databases

Some OER sites are not repositories for educational resources, open to users to access, but rather databases for OER providers. Registers to those repositories, such as OERCommons and OERConsortium, provide titles of a work, field, key words, and the URL where the work is published. These OER libraries will be very significant in the future for different reasons:

- 1) Since the number of OER providers is increasing dramatically, as 'Launch Year' shows, there is an urgent need for organisation.
- 2) Users (or self-learners) will gain most benefit if they have options to compare between available OER, to choose the most appropriate components (text, audio/video, simulations, and so on).
- 3) Teachers are gaining the advantage of reduced search time for appropriate resources for their courses.

This first phase of service-provision in the field of OER has positioned their use according to certain pre-established models: in the case of this sample of OER service sites, university courses or OER resources; information services on a semi-commercial basis; and in a secondary phase development, database and informative archive systems. To this extent, sites ‘remediating’ existing models, as Bolter and Grusin (2000, 2010) suggest, carrying known service structures into new (digital) domains. The next step is to assess instances of use – but the site-design parameters examined above cannot provide that data. To check how users are approaching the activities and resources available on these sites, it is useful to examine the data available as user statistics on the OERCommons website.

Quantitative measures published on OERCommons website

Results of a 3-parts survey published on OERCommons website, provide information about: 1) OER user demographics (OERCommons 2010j); 2) how OER user rates OER uses in teaching and learning activities (OERCommons 2010k); and 3) what users reported to be the importance to them and the challenges they encounter using OER (OERCommons 2010l).

User demographics

The first study (OERCommons 2010j) shows that self-learners constitute the highest percentage (~24%) of OER users, with college/university instructors (~14%), and then teachers at different levels: high school (~10%), middle school (~8%) and elementary school (~8%), while those who define themselves as informal educators only account for ~4%.

Students constitute around 10.5%: college students (~9%) and K-12 students (1.5%). Other categories include facilitators, experts, parents, and others, constitute around 20% of OER users. The highest percentages of OER users are thus using this site for learning purposes (self-learners 24% + students 10.5%= 34.5%), while teaching purposes constitute 30% (10%+8%+8%+4%).

This conclusion can be supported by the third part of the survey (OERCommons 2010l). Students (~20%) and self-learners (~26%) constitute around 46% of total OER users, while teachers, whether K-12 teachers (~26%) or university or college instructors (~17%), are around 43%.

To visualise and simplify the quantitative results of the first study (OERCommons 2010j), the following graph describes the percentages of OER users, categorised by examined user roles.

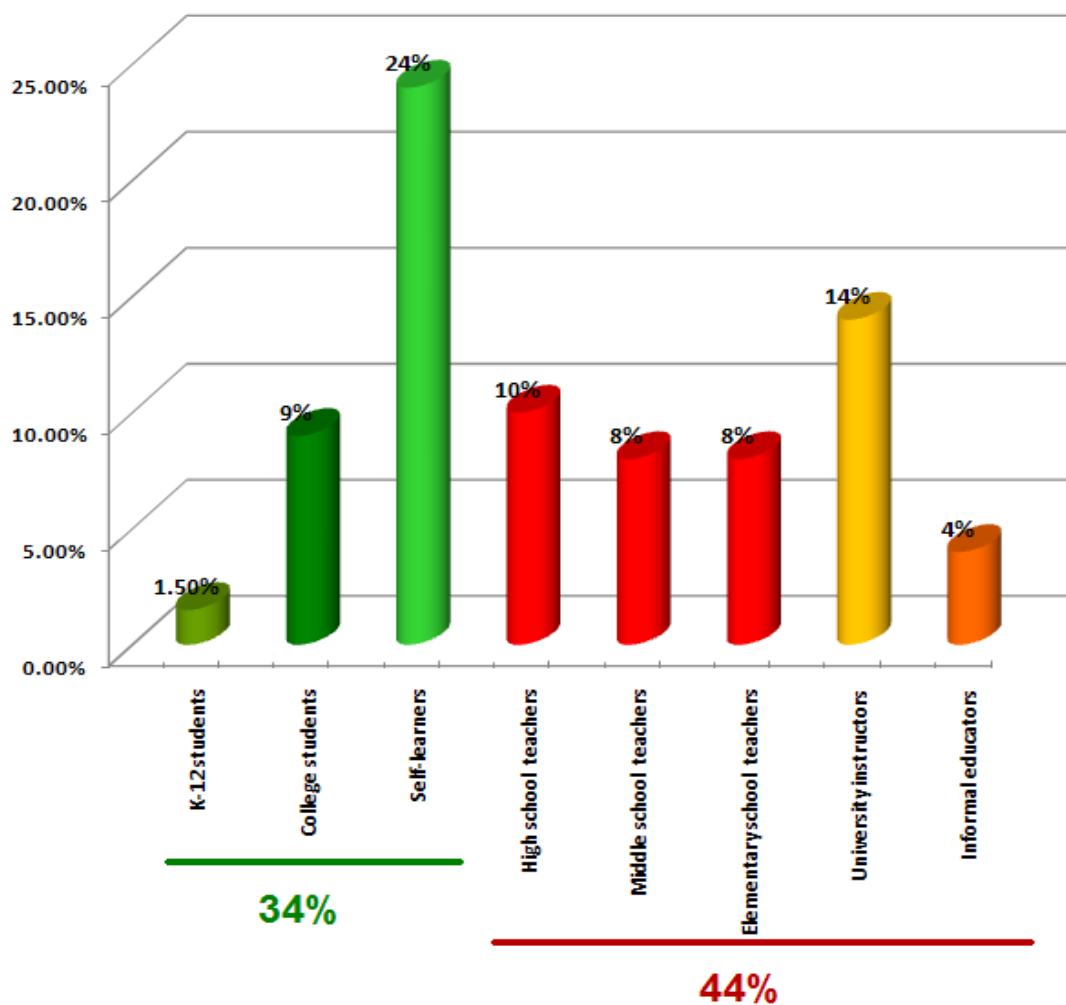


Figure 11: Who are OER users?

Above percentages show that OER are favoured in high levels of education (in universities and secondary schools), but all students do not constitute the majority of

OER users; self-learners are using OER more than students, which may suggest other reasons of uses beyond learning purposes.

Goals of OER users

The third section of the survey helps provide more detail on user goals in accessing the site. One question, for instance, in the third study (OERCommons 2010l) reveals that students are using OER to complete assignments (9%), while self-learners either want to learn a new topic, to expand their knowledge (~59%), or to stay current (~36%).

A question such as ‘Have you used open educational resources in a classroom environment? Select all that apply’ (OERCommons 2010j), shows that around 48% are using OER in remixing content into other resources (~19%), preparing presentations to students (~16), and adapting contents to meet teaching needs (~13). The previous percentages show that teachers are using OER more than students in class settings, and for different purposes. Other reasons indicated in the third part of the survey (OERCommons 2010l) show teachers getting ideas for their lessons (~35%), supplementing their lessons (~30%), or working on ways to improve their teaching methods (~28%).

Nearly 50% of those who have been surveyed have from one to more than five years experience of OER use, which indicates that teachers have been using OER from the early days of the evolution of open content. Just as interesting, the percentages of users of OER across age levels show that more than 80% of users are 30 years of age or more, which indicates that students are using OER less in their learning than their teachers or self-learners. Perhaps this might be explained by the nature of voluntarism values: while the younger place more value on *self-oriented* reasons (such as achievement and learning), the older place more value on *altruism* and *others’ well-being* (Briggs, Peterson & Gregory 2010). Figure 12 shows areas where both teachers and learners share the same motivation for OER use, and other areas where there are differing motivations. It appears then that teachers and learners are using OER in different numbers and for different uses.

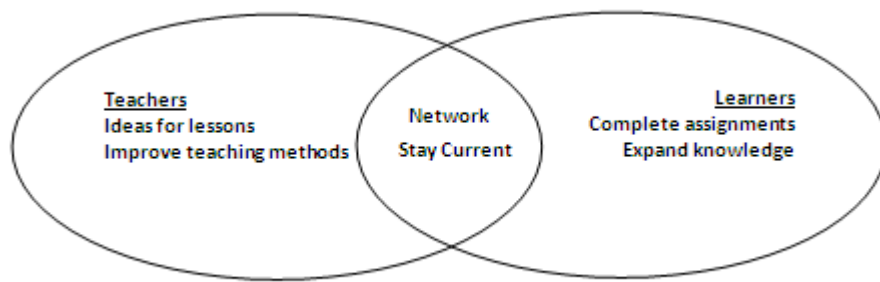


Figure 12: Why do teachers and learners use OER

Source: Metzger and Hanna (2011, p. 1633)

Linking contribution to OER and contribution to users' own wikis (OERCommons 2010j) shows that more than 50% of users still feel that contributing to wikis is an uncomfortable practice, which indicates that the technical backgrounds needed for using and writing to wikis is an issue to them. Such lack of technical skills suggests not only a need for training, but also a development need where programmers can make wiki use easier. Other challenges (OERCommons 2010l) include assessing the quality of content, finding and downloading appropriate material, how to best utilise OER, issues regarding copyright, and questions related to the right to modify content. All of these pressures relate to access and subsequent use – practical and utilitarian issues.

Despite the challenges in using wikis, users of OER find in these teaching and learning materials different reasons to use them (OERCommons 2010k). These reasons can be grouped into four sub-categories: 1) free use (no fees and no commercial restrictions); 2) quality (high quality materials reviewed by others); 3) adaptation (the ability to modify content to meet teaching and learning needs); and 4) the utility and reliability of content is recommended by others (colleagues or institutions who endorse OER).

It can be argued that the education field is a factor in determining OER use and participation. More specifically, while OER users of science and technology are 35%, users of humanities, business, and social science background are 16%, 12%, and 11% respectively (OERCommons 2010k), suggesting that those from social science background experience technical issues that make them less active in participation.

Although OER vary and include textbooks, lesson plans, lecture notes, games and simulations, assignments, audio/video lectures, references, syllabi, and discussion forums, it appears that text materials are of highest interest among OER users. Detailed percentages of OER uses can be found in the second study (OERCommons 2010k).

This user-profiling by OERCommons reveals some interesting results relating to the OER motivation. Objectives for launching non-for-profit (community) OER initiatives are different from Education Institution OER initiatives. However, OER users seems to have quite similar needs driven from the nature of the net generation in general, and the empowerment features of the Web 2.0, which sometimes require bridging the gap between what currently available and what progressing demands of net generation users (Hanna & Wood 2011).

Objectives or reasons for *producing* OER materials are different from those involved in other OSS and OCW activities. For example, while programmers report that they contribute to OSS to develop their career, earn direct and indirect rewards, enjoy programming, develop the OSS community's reputation, foster OSS (and openness), and make use of free time; those objectives are not clearly established among OER *producers*, at least in terms of the *producers*' own opinions about their motivations for writing to open educational materials.

There are some indicators which need further analysis. Since in the OERCommons survey (OERCommons 2010j, 2010k, 2010l), it appears that teachers are using OER in their teaching and learning activities, like programmers, they may be doing so to develop their career prospect and to ensure their career future in the ‘open’ resources movement. This involves some indirect rewards, as well as direct rewards. Remixing and editing require time and effort, so *producers* (Bruns 2008) may do this work to make their time more productive. Self-learners too may possess the goal of using free-time. Some OER websites, such as MIT OpenCourseWare and the Global Text Project, publish pictures of people who live in economically depressed areas or unequipped schools in developing countries to motivate those who might help. There are many signs of motivational factors in play around OER. One sign is the degree to which OER institutional goals seem to differ from those of their *producers*.

The analysis of objectives for those who initiate OER shows that they differ from those of their subsequent OER *producers*. Although these objectives are clearly stated, the two sets of content analysis above show something else. Table 19 shows that OER educational institutional initiatives are not maximising the affordances of the sites to meet the target users’ needs. By assessing in some detail how the stated OER institutional aims are being taken up, as well as from what revealed from OERCommons users statistics, it becomes possible to detect a gap between OER user and provider expectations. The question then becomes: how far does this matter? Given the constant modification of OER content by users, is the instigator goal as relevant as it once may have been?

Table 19: Objectives of OAER educational institutions and a critical assessment of achievement for OER users

OAER Education Institution Initiatives	Learners as users
Enhance the community	Learners are part of the community, and their new skills indirectly help develop the community. However, the community still requires a certificate/degree to give them a chance. Questions, are published in FAQs pages on institutional OER, from learners on whether they will be able to receive certificates for courses they studied or not (MIT OpenCourseWare 2010e; USQ OCW 2010c).
Unlock knowledge	Although learners are able to access information and learning materials, they are not able to share information and discuss issues and problems because most institutional OER are only <i>open access</i> rather than <i>open content</i> .
Increase the University reputation	Evidence shows that OER increase university publicity, however, do users really care about university reputation?. The universities do not allow OER learners to receive recognition (MIT OpenCourseWare 2010e; USQ OCW 2010c); they are outside the university community.
Advertise their courses	Users who seek OER look for free courses (or free sources of information). Newcomers to for-fee courses, who visited the free courses, are willing to pay. Free courses are offered to test-drive the services (MIT OpenCourseWare 2010e; Open Michigan 2010a; Open Yale Courses OYC 2010h, 2010j; USQ OCW 2010c).
Enhance research skills	OER initiatives do not yet allow and produce collaborative research. Institutional OER are open access only, and do not allow contribution and collaboration between members of potential research groups.
Develop critical thinking	This depends on tasks provided in those OAER courses. Development of skills would be enhanced if OER websites provided opportunities for discussion and feedback.
Allow collaboration and networking	In most cases, courses are ' <i>open</i> ' only in terms of open access. Opportunities for collaboration are reduced in sites that do not provide communication tools such as wikis and discussion boards
Develop learning and teaching methods	Some institutions allow teachers to reuse material (with special acknowledgment). OER do not directly promote <i>how</i> materials are used.

Source: adapted from Hanna and Wood (2011)

University-based OER appear not to have reached their full potential in relation to their stated objectives. Educational institutions may need to incorporate features of not-for-profit (NFP) OER initiatives – in particular moving from open access to open content provision. Table 20 examines the objectives of NFP OER initiatives and the corresponding achievement of users' needs.

Table 20: Objectives of NFP OCER initiatives and a critical assessment of achievements considering the OER *producers*

Non-for-profit OCER initiatives	Learners as <i>producers</i>
Unlock knowledge	Users can be proactive in creating and sharing content and can reflect on understandings and share their experience of the content
Foster openness	The sites surveyed maximise the affordances of the open content movement by enabling users to edit, share, use, reuse, remix, download content without (or with minimum) restrictions.
Increase research skills	The openness, and the opportunities for collaborative writing, sharing information, and discussions, allow users to develop research skills
Enhance collaboration	The sites reviewed employ features that maximise the affordances of collaborative learning environments, providing opportunities for collaboration, through discussion pages, discussion boards, built-in messengers, visible email contact of users, and wikis (or any similar technologies).
Develop learning and teaching methods	Teachers can use the content, reuse, and remix. Learners can edit content and share experiences supported by the collaborative nature of the sites.

Source: adapted from Hanna and Wood (2011)

In both institutional OER (illustrated in Table 19) and NFP OER (illustrated in Table 20) OER hold benefits for OER users. OCER hold more benefits for users than OAER. Since OER users are demanding more benefits, the future of OER appears to be with open content. Universities, schools, and research institutions need to prepare for this transformation. The net generation, born in the 1980s or after has grown up with digital technologies and social media. Their preference for unrestricted access to information and information sharing is already exerting pressure on the existing systems, suggesting that the lower rates of uptake among learners, than among (older) teachers reflects a lack of match between services and user-preferences. To respond to changing demands, OER providers need to reconsider the demands of Web 2.0 literate users.

Further research is needed in relation to the motivation of these OER users, examining predispositions to interacting with and contributing to open educational material. Are they, for instance, parallel to those OSS contributors? How far do data extracted so far from OER sites and OERCommons user statistics reveal a pressure for enhanced self-directive use?

Table 21: Motivations of OER producers

Users	Do OAER sites allow these actions?
Learning	Yes.
Communication and networking	Yes.
Develop critical thinking	Yes.
Reading and Understanding	Yes.
Writing Skills	Yes.
OSS styles of use	
Make learning resources free	Not yet discovered
Solve personal problem	Not yet discovered
Make use of free-time	Not yet discovered
Want to have fun/ enjoyment	Not yet discovered
Financial rewards	Not yet directly discovered; but teachers who use materials to develop courses or lessons may receive financial rewards.
Career	Not yet directly discovered; teachers who reuse or remix materials enhance their career; learners who use and produce to OER to update knowledge, may want to develop their career future.
RWO style	
Helping others	Not yet discovered: Publishing pictures of people who live in depressed areas, in OER websites may indicate they motivate those who want to help the economically disadvantaged
Religious and/or humanitarian perspective	Not yet discovered

While OER websites of both types: institutional and NFP, appear to satisfy some of their own goals, user goals are less satisfactorily provided for – especially the *producer* goals (see Table 21) directed more to open content than to open access. Goals, functions, or reasons for OCER *producers*, following the proposed motivational model, can be seen as intrinsic or extrinsic and self-oriented or others/community oriented. How do intrinsic/extrinsic OCER motivation distinctions intersect with goal orientations? Table 22 presents an attempt to answer such theorised question.

Table 22: OER *producer* goals and intrinsic and extrinsic motivation

	Intrinsic motivation	Extrinsic motivation
Self-oriented goals	Enjoyment Learning and understanding Developing critical thinking	Career (and rewards) Making use of time Learning requirements
Others-/ community- goals	Helping others Making resources available for others Religious/ humanitarian goals	Learning requirement Community obligation Socialising and networking

Two providers of OCER sites reviewed do allow full control over the content: Wikibooks and Connexions. Both aim to provide learners with free open text. Self-

learners have equal and empowered access. Both sites allow learners to contribute content in their own language. Both allow users to search and browse by subject, language, and title. Both allow downloading of PDF files. Both allow users to import or upload files. Although Connexions has a better interface, in terms of it has a very clear design with an easy how-to guide to creating a book or contributing to a module and a variety of support methods, the availability of contribution without registration (and thus login) makes the number of created modules significantly different.

There is, however, another methodological question relating to the user population: can the number of created modules provide a good indicator of the population size? The number of English language modules is slightly over 14,000 (out of more than 16,000 total modules) in Connexions, while in Wikibooks, the number of English modules is 37,600 (out of 130,000 total modules). Thus it can be seen that the ratios of non-Anglo modules are significantly different (see Table 23). The number of modules, as updated on 20 April 2010, across some language versions reveals a strong orientation in Wikibooks to multi-language provision. Does this then suggest a stronger participatory emphasis attracting *produser* activity?

Table 23: Numbers of modules (in selected languages) in Connexions and Wikibooks

Language	Connexions	Wikibooks
English	14500	37500
French	15	9000
German	10	15300
Spanish	340	5000
Portuguese	25	6500
Japanese	25	6000
Arabic	5	540
Hindi + Bengali	---	35+25=60

Deeper analysis of the Wikibooks website and the relevant literature examines the degree to which the *produser* values of collaboration and Web 2.0 orientation may be evident in the wiki culture.

Chapter 6

Case study: The use of Wikibooks in provision of open textbooks

... in terms of sociocultural phenomena, Wikibooks were perceived as a technology for fostering social interaction, collaboration, informal learning, and dialogue among the diverse people of this planet. As a sociocultural tool, Wikibooks are not that useful for rote learning or lecturing to learners. Instead, Wikibooks are environments rich in collaboration, the social negotiation of text, and apprenticeship opportunities.

(Sajjapanroj *et al.* 2008, p. 54).

Wikiwiki is a Hawaiian word said to mean ‘quick’. Wiki is a (network) tool (used online or offline) that enables quick and easy collaboration between individuals through its web browsers (Leuf & Cunningham 2001). Wikibooks is a major project of the Wikimedia Foundation (WMF), with the Wiki technology used to run its open content, supporting the multilingualism. Despite this, there is a big gap between contributions in Arabic and in English. The disparity brings into question the nature of openness, including issues of copyright, the review process, the language of textbooks, and the credibility of open content. Is Wikibooks suited to be used as learning and teaching media in higher education, or for professionally constituted educational programs at any level?

The Wikibooks website

Wikibooks (2003a) is a project of the Wikimedia Foundation (2004b), which operates a number of online collaborative wiki projects (see Figure 13), including Wikipedia, Wiktionary, Wikiquote, Wikibooks, Wikijunior, Wikisource, Wikimedia Commons, Wikispecies, Wikinews, Wikiversity, Wikimedia Incubator and Meta-Wiki. With its unusual stress on interactivity rather than accessing or downloading materials, it is possible for users to upload new information and adapt what is already there.



Figure 13: Wikimedia Foundation projects

Source: (Wikimedia Foundation 2004a)

The Wikibooks website (see Figure 14) offers students and self-learners a free library of educational textbooks. These textbooks are not, however, in their final stages because of the continuity of writing in open textbooks by the many online ‘anonymous’ contributors and ‘registered’ authors.



Figure 14: Wikibooks logo

Source: (Wikibooks 2003a)

The number of Wikibooks articles in all textbooks in all languages reached more than 136,000 in September of 2010. These articles are written by more than 15,000 registered users (Zachte 2011) – but the Wikimedia Foundation exerts little control over who these registered users are – or what they contribute.

Wikibooks uses MediaWiki software to manage its content system. MediaWiki is a form of ‘free-server-based’ software (MediaWiki 2006), is licensed under GNU General Public Licence GPL (MediaWiki 2005, 2006). This MediaWiki software is developed in 2002 by Lee Daniel Crocker for Wikipedia, used a small wiki engine called ‘UseMod’, and then renamed ‘*MediaWiki*’ (Mayer 2005), to be used in Wikipedia. Erik Möller, a software developer and journalist and now is the deputy director for Wikimedia Foundation, announced the rename in August 2003 (MediaWiki 2004).

A unique feature of Wikibooks is its capacity to support multilingualism (MediaWiki 2006). This feature allows users not only to write in the language they prefer, but to use a related feature called inter-language links, which allows pages to be linked to pages in other languages shown in a language sidebar (MediaWiki 2006). Wikibooks supports

120 languages (Zachte 2011), so that contributors can write, or read, in their native language. Such multilingualism supports not only localisation but also internationalisation. Table 24 illustrates the ranking of the most widely spoken languages, and thus illustrates the pressures acting upon Wikibooks to support content in multiple languages.

Table 24: Estimated number of language speakers, internet users, and Wikibooks articles

Language	Native speakers¹	Internet users²	Wikibooks articles⁴
Chinese	1,213,000,000	445,000,000	1,150
Hindi & Bengali	366,000,000 & 207,000,000	61,000,000 ³	50 & 60
Arabic	423,000,000	65,000,000	720
English	341,000,000	537,000,000	35,410
Spanish	322,200,000	153,000,000	5,440
Portuguese	176,000,000	83,000,000	6,680
Russian	167,000,000	60,000,000	1,650
Japanese	125,000,000	99,000,000	8,520
German	100,000,000	75,000,000	17,000
French	78,000,000	60,000,000	10,380
Korean	78,000,000	39,000,000	860

Source:

1 (adapted from Comrie 1998; Summer Institute for Linguistics (SIL) 2008).

2 (de Argaez 2011).

3 (CIA 2011a).

4 (Zachte 2011).

As illustrated, the Wikibooks language rankings are significantly different from the number of native-speakers for each language category. English is the most used language on the internet; so that English articles in Wikibooks are significantly higher in number than articles in other languages. While the numbers of internet users of Arabic, French, German and Russian are relatively similar, there are significant differences between articles in Russian or Arabic and those in French or German. Factors relating to the digital divide, such as digital infrastructure, education and accessibility barriers, may play a role in such differences. However, it can also be argued that cultural differences play a role in motivating internet users to contribute to Wikibooks.

Arabic and English versions of Wikibooks

The statistics of Arabic and English Wikibooks show a big gap between these two groups. Table 25 presents these differences:

Table 25: Comparison between Arabic and English versions of Wikibooks

Criteria	English	Arabic
Number of articles	37,000	720
Uploaded files	7500	90
Page edits (since 10 July 2003)	1,167,000	26,370
Registered users	456,700	8,600
Active users (last 30 days)	450	20
Source of statistics	(approx. from Wikibooks 2011b)	(approx. from Wikibooks 2011a)
Edits per month	1,167,000 edits 8 yrs. x 12 mon. = ~ 12156	26,370 edits 8 yrs. x 12 mon. = ~ 275
Edits per registered user	~ 2.6	~ 3.0
Articles per registered user	~0.081	~0.084

‘Edits’ are produced by anonymous and registered users. While the statistics suggest that registered Arabic users seem to be more motivated than registered English users, it can be argued that in general, Arabic internet users are less motivated than English users. While the number of edits alone cannot show either the quality or the quantity of the contributions, it may indicate that motivation differs among contributors. This research seeks to discover the motivation of Wikibooks’ contributors, and such differences exist across language groups.

However, Wikibooks volunteers include not only content contributors (whether anonymous or registered users), but also user categories such as editors¹⁰, administrators¹¹, and bureaucrats¹² (Wikibooks 2011a, 2011b).

¹⁰ Editors are registered users who review Wikibooks pages and who have performed a certain number of edits during the last month. Confirmed email address is required to be an editor.

¹¹ Administrators are trusted and well-known Wikibookians. Administrator tasks include deleting pages and blocking users

¹² Bureaucrats protect pages, change usernames, and create new administrators, in addition to administrator tasks.

Multilingualism and language preference

Harris *et al.* (2004) claim that although English is the global language, it is actually the second or third language for many people. As language is the carrier of meaning, teachers prefer their culture's first language to convey meaning. The strong point of wiki is that it supports different languages, including minor languages (MediaWiki 2006). Hover (2006) studied preferences for using specific languages in relation to information searching patterns, observing 84 librarians in Egypt and the United States. He manually recorded observation notes of the patterns of clicks that the participants performed when they undertook searches, and also their eye focus on the search results. He concluded that English speakers do not mind searching for information in other languages, while Arabic speakers were either unable or unwilling to master the English language. Arabic language webpages become significant, if this apparent reluctance to learn English is taken into account.

Wikibooks Mail lists

Registering in the Wikibooks mail list allows Wikibooks users to know about events and discussions related to Wikibooks, and to send and receive emails to/from other subscribers (Wikibooks 2003b).

The number of Wikibooks mail list subscribers, as of the first of April 2007¹³, was 251. These subscribers are categorised within two groups¹⁴: digest and non-digest members (Wikibooks 2003b). Such a list indicates difficulties in contacting potential research participants, for two reasons:

- 1) The list is for all subscribers regardless of their native language
- 2) The number of subscribers is too small, with the possibility of low response rates since the population is also small.

¹³ The first year of the PhD.

¹⁴ Non digest members receive each message sent to the mail list immediately, while digest members receive one single message periodically in a digest format (Mailman list administration tasks, NetCo Support, viewed 1 April 2009, <<http://www.netcosupport.com/Mailman.shtml>>). The default setting of the Wikibooks mail list is non-digest; however, subscribers can change their setting to digest (Wikibooks' mail list, viewed 1 April 2009, <<https://lists.Wikimedia.org/mailman/listinfo/textbook-l>>) or hide their subscription details by changing their setting in the membership configuration Wikibooks mail list configuration, viewed 1 April 2009, <<https://lists.Wikimedia.org/mailman/options/textbook-l>>.

An action plan would need to deal with such risk. This action plan will be discussed in the next chapter.

However, there are two other mail lists: one for discussions of quality-related issues of the design and implementation of WMF projects, while the other mail list, the Foundation (*Wikimedia Foundation mail list*), is for discussion of all projects of the WMF. The Wikimedia Foundation mail list has 668 non-digest members and 244 digest members. Those subscribers may be contacted for the projected study in case of not receiving enough responses. It is assumed here that there are some Wikibooks users who are also Wikipedia users, since Wikipedia is the first and most popular project of WMF projects. Beyond these matters of access and use however, there are questions relating to the ownership of information, in a multi-author, multi-user environment.

Critical issues in open content

Who is the author?

According to Wikibooks, an author (or contributor) is anyone who can edit, giving them the privilege of adding, updating, or deleting any page, as well as adding new pages. There is constant discussion of whether contributors have sufficient knowledge to update content correctly (Bacak 2008; Black 2008; Burnsed 2011; Ebner, Holzinger & Maurer 2007; Eijkman 2010; Kieslinger, Wild & Arsun 2006), or whether contributors might mislead readers, for commercial reasons, political reasons, or religious reasons (*CIA and Vatican edit Wikipedia entries* 2007; Edwards 2007; Goren & Noble 2007; Mikkelsen 2007). How does the reader know whether information presented is accurate?

Butler (2001) and Sagers (2007) argue that increased numbers of contributors to open source software improve the quality of the software. Similarly, Giles (2005) compares *Encyclopaedia Britannica* and *Wikipedia*, and finds that Wikipedia is more often

updated and has a low rate of errors compared to other encyclopaedias, while the correction of errors is done faster. Lanier (2006), however, argues that although wikis empower collectivism, the outcomes of collectivism are too chaotic and a collective approach to quality control mechanisms becomes unreliable. Manipulation can occur due to a lack of ongoing responsibility. Although Buchanan (Tumlin *et al.* 2007) agrees with Lanier about the chaotic status of Wikipedia and the lack of responsibility, a feature like 'track changes' reflects how much effort users put into improving the content, compared to unknown levels of change in *Britannica Online*. The 'stable' version of *Wikipedia* ensures that an article can reach a certain standard of quality (Tumlin *et al.* 2007).

Other questions arise, such as what will happen if a page and its content do not receive enough user traffic to review the content, or if the reader does not understand the context of the content. What happens if the information is so technical that it requires high level of expertise? Recent studies have discovered that some organisations manipulate the content of Wikipedia. For example, the Central Intelligence Agency (CIA) and the Mercedes corporation have shown that they tend to reshape information in Wikipedia to control the image of their organisations (*CIA and Vatican edit Wikipedia entries* 2007; Edwards 2007; Goren & Noble 2007; Mikkelsen 2007). Radicals and fundamentalists may alter content, or reshape published content, to promote their own ideologies, and/or enhance their own interests.

Although identifying the author is important in ensuring the credibility of content, the review process for content is part of its credibility (Cragun 2007). However, the credibility of content may change over time: what was acceptable as a scientific truth at a certain moment may not be acceptable at another time, because in science there is always shifting between what appears to what is hidden (Foucault 2002). Any open content goes through a process of constructing and reconstructing the knowledge base of science. Students interacting with texts, construct and reconstruct the content; teachers, scholars, scientists, researchers, and educators may also be involved in this process (Lepionka 2008).

Barthes (cited in Burke 1992) believed that although words are instruments of expression for authors, they cannot always transfer the intended meaning to the reader. Readers are not the consumers of texts, but rather co-producers. They interpret the meaning of the writer's text, considering the author's identity, religion and political views, each in the context of contemporary events. Further, linear reading habits have changed with the introduction of hypertext (Landow 1997). With open texts, non-linear structures of thought evolve; and authors are unidentified, there is more power to avoid author's *mind maps*. This allows readers to understand texts in more neutral ways.

Although it can be argued that the *internet protocol* (IP) of contributors to, and sometimes languages they use, in open content reflect their geographical location, and thus may reflect their cultures and ideologies, practically it is difficult to go backwards and forwards from content pages to history pages, in order to know the background of writers. Ordinary readers are unlikely to be aware of such technical issues. Researchers too concede that there are problems in assessing cultural influence upon online contributions. Pfeil, Zaphiris and Ang (2006) identified contributors' IP addresses, and assessed differences in contribution patterns across four nations, but noted that IP addresses cannot ensure a contributor's actual nationality. Deeper levels of investigation are needed in researching cultural influence in online participation.

Similar issues arise in relation to quality control of online open content. Some open textbook projects establish rules to ensure that an author has an adequate level of knowledge in the required field. For example, the founders of the Global Text Project ask potential contributors, those who are interested in producing a collaborative textbook, to send their CVs to an appointed individual to check their level of knowledge (*Global Text Project* 2007). Different editorial boards in different fields verify content before publishing. Although this helps to ensure the credibility of the content, this application cannot be considered as open content. Rather, this process produces edited books, where authors contribute for free in electronic forms, giving users free access – but it does not permit interactive open content editing.

Another example of an open content textbook is the Connexion Project. This project has a different way to ensure credibility. It allows an instructor to create a textbook with ready-made modules, which saves time and effort, and at the same time, allows the instructor to create a preferred structure for their textbook. The instructor can ask their students to contribute to the textbook via the pre-designed structure, while the instructor's role is to verify and authorise the content (Connexions 2010a, 2010j).

While in the Global Text Project content editing is restricted, in the Connexion Project, the instructors have control, and can provide access to all or to specific users. At the same time, they retain the right to publish the edited content after verifying it. This process may increase the reliability of the content, and at the same time ensure that the content of the book does not conflict with the instructors' teaching objectives. Moreover, in some applications, the teachers, as administrators of textbooks, know the contributors – mainly they are their students. The system is, thus, semi-closed, and achieves its own levels of quality and content control.

Wikibooks is the most popular open content textbook project. The number of articles and the number of languages provided support its popularity. The contents of Wikibooks are available for anyone to edit without restriction. Although the open content puts the credibility of the content under question, this unrestricted openness makes the project popular. By increasing the number of contributors, more reliability of the content can be achieved. The situation is similar in open source software. Research shows that the more contributors, the more sustainability, and the higher fix rate for bugs (MacCormack, Rusnak & Baldwin 2004; Sagers 2007). Overall however, the credibility of open content is important (Hylén 2006), and research is still needed to provide ways to increase the credibility of the content and enhance reliability.

One way of approaching the issue of who the author of online content is, involves looking into the process of contribution and examining why people contribute to open content. Sajjapanroj *et al.* (2007) found that the inspiration to write to Wikibooks differs between *Wikibook Novices*, where Wikibooks is used in classrooms, and *Wikibook*

Experts, where the general community writes Wikibooks content, increasing the variety of contributors from the general community, rather than involving only students at different levels. Although Sajjapanroj *et al.* (2007) studied inspiration in these two groups, the study does not explore whether these aspirations differ in different cultures.

Hars and Ou (2001) found that contributors to open source software are mostly studying or researching. This indicates that active contributors to open content (including open textbooks) and open source software are middle-aged¹⁵ students (20-40 years) – a demographic likely to have developed expertise and deep knowledge in IT skills. However, teenagers may also play significant role in this *openness* movement (Pfeil, Arjan & Zaphiris 2009).

Following the work of Levy (1997), Evans and Del-Pizzo (1998), and Marcus and Gould (2000), it can be concluded that whatever the nature of the author (individual or organisation, adult or child, neutral or non-neutral, qualified or unqualified), authors write in a specific language, so that the audience is defined by those who can read this language. To that extent, the cultural frames of that language connect with those of the audience. Language itself, however, is a variable feature, given the global spread of the dominant online communities. The language that an author uses can be either their native language and/or a language they subsequently master. The sender of any message, including the authors of online textbooks in this research, should send their message in a form that the receiver, or reader, can understand (Eco 1981). Readers, however, grasp more meaning if they read in their native language (Malcolm 2007). This research sets out then to examine what motivates online authoring of open textbooks in the two language groups: English and Arabic. However, since the text is an educational resource, expression is complicated by the processes of collaboration and review. How does textbook editing work online, and how far do its processes its processes interact with other cultural predispositions, to influence the motivation of contributors?

¹⁵ This concept is culturally bound, since age categories are different across different countries, depending on living standards and life expectancies.

The review process of wiki textbooks

One of the main steps in book publishing is the reviewing process (Silverman 1998). After identifying an author who is expert in a subject and is respected by their readers (Silverman 1998), that author is invited to start writing, or collaborating, according to the agreed structure, drafting and redrafting, until the reviewing can begin. This review process includes checks on content accuracy and currency, reviewing grammatical errors, ensuring there is no repetition, linking related ideas, checking that photos, graphs, and tables are consistent, and protecting copyright. After accepting the content and its layout, then the table of contents is organised, the cover designed, and the book is printed and marketed. Processes of academic authoring may differ (Luey 1995) from commercial books. Textbooks for instance involve three processes: implementation or author-contracting for a given text, textbook adoption, and textbook adaptation (Compaine 1978; Freeman 1996; Williamson & Milner 1991).

With textbook implementation, the situation is similar to a commercial book, but the authors of a textbook are academics, professors, or instructors who have an educational objective that needs to be achieved, compatible with curriculum and the educational levels of the students (MacKenzie, Eraut & Jones 1970; Street 2005). The review process is undertaken in an educational institution or by a specialised authority within the ministry of education. The stages of the review process are called *revision and proofreading* (Luey 1995). Sometimes, the review process occurs after publishing. The aim of this process is to ensure that the content is current and valid, and to solve any problems discovered in readers feedback (Silverman 1998).

The content of a textbook is developed according to educational objectives, outlined within curriculum. The curriculum provides educational material based on educational objectives, which aim to develop individual skills, of productive use in the community (MacKenzie, Eraut & Jones 1970).

Within such educational objectives, cultural differences should be considered. Figueroa (1993) stresses the need for an understanding of cultural diversity in education, especially in the information era. Different cultures have not only different language experiences, but also different attitudes, ways of thinking and social experience; even the meanings of competence and independence are different across cultures (Derderian-Aghajanian 2010). Communication technologies and mass media have made it possible to learn about other cultures, and migration resulting in multicultural societies has brought cultural challenges to curriculum and classroom practice (Salili & Hoosain 2001).

Teachers today should use adequate incentives, in terms of adequacy to age group, gender, and culture, to motivate students with a range of cultural predispositions, especially in online learning of collaborative learning processes, where there is an increasing number of learners from different cultural backgrounds. This poses a challenge to collaborative learning especially when collectivist learners from Eastern cultures have limited experiences of collaborative learning (Liu 2007, p. 48). Other hurdles in online collaboration include communication barriers and difficulties. It can be argued that in open content educational resources these communication hurdles can be avoided, since there is an opportunity for people from the same culture, and the same language, to collaborate to create content.

Textbook adoption in universities is usually determined by two factors: professional connection and trust relationship between the instructor and the author, and the relevance to the curriculum that the instructor aims to teach (Luey 1995). Textbook implementation, however, can raise problems. Its processes of writing and reviewing both need people with the knowledge to write, assess, evaluate, edit, and choose suitable textbooks. However, in open content, the review process is more problematic. The authoring process itself, the nature of the open content, and the nature of the academic source material are all in question.

In the authoring process for textbooks, whether electronic form or print form, the authors are known, and the readers can be sure of the credibility of the content. If readers have any concerns regarding content, they are able to contact the author directly, or contact the publishers. Both are keen to preserve their reputation, and this is why publishers and authors share responsibility for content. However, in open content, authors are mostly unknown, so that credibility can be in question (Burell 2008; Petrides 2008).

Contributors to open textbooks are mainly students, in consultation with their teachers (Sajjapanroj *et al.* 2008). However, teachers cannot control all entries by individuals from the wider community. Whether contributors are students or from the general community, there is no guarantee that their contributions are based on real expertise. Moreover, writing for academic purposes requires academic writing skills, and there is no guarantee that contributors will have those skills. Yet since the objectives for using wikis in education include the enhancement of academic writing skills among students, as well as improving their collaborative skills, the role of the instructor (or teacher) is to verify the content, avoid plagiarism, and check that the content is consistent, and according to program objectives (Andersen 2006; Bold 2006; Parker & Chao 2007).

There are other critical issues related to the review process for wiki textbooks. Anonymous contributors edit the content, and their level of knowledge remains unknown. The problem of continuous updating creates instability in curriculum. The review process not only focuses on the content, but also involves review of the expression, syntax, and spelling – and these too, in their way, involve cultural judgements. Having many contributors to open content textbooks can increase the quality of texts. Knowing why contributors do such work however and why others free-ride is significant in relation.

Regardless of critique of open educational resources, dependency on open content resources is growing – as illustrated in the comparative study conducted and reported in

the previous chapter. Although such comparison reveals some motivations for participating in OER, there are other motivations can be argued need further examination. Understanding motivation for contribution to OER is becoming more important since individuals from different cultural backgrounds are the key players in this OER movement.

Can open textbooks be used as academic resources?

Academic sources involve material that is produced (and reviewed) by academics and/or for academic purposes. Those academic authors have skills to represent information according to agreed academic standards. Academic writing includes academic books, book chapters, book reviews, conference papers, journal articles, research reports, research proposals, theses and dissertations, and also course textbooks (Hartley 2008). Academic writing in general shares common features: it has a title, author(s), abstract, key words, introduction, methods, results, discussions, academic references and any footnotes and acknowledgements (Hartley 2008). Any academic writing is however ‘a specific form of reflection within a social context’ (Evensen 1996, p. 100).

Within this social context, writers are using multiple approaches to thinking, including writing and reading. However, writing technologies ‘have hidden curriculum that affects academic writing’ (Evensen 1996, p. 104). This is because these technologies share global aspects that sometimes discourage individual and local practices, which poses a danger towards creative process and text structuring (Evensen 1996). But, do online collaborative technologies such as wikis share this disadvantage? Research found, as will be discussed in this chapter, that collaboration technologies such as wikis are supporting creativity, flexible structuring, and localised practices.

In the case of open textbooks, although authors may be students, teachers, professors, librarians, and educational organisations, or anyone who has access to open texts, the texts remain anonymous. The review process too is not performed by an academic

institution, and may be not by experts in the field. Contribution to open content may involve minor activities, such as checking and correcting the grammar and spelling, but can also require major contributions, such as arranging the structure of topics, creating new pages, adding paragraphs, and editing critical content errors (Johnstone 2005b; Schweik, Evans & Grove 2005).

Academic writing itself as a process involves many sub-processes. These processes start from putting ideas down to prepare the first draft, then working on this draft in terms of focusing on main ideas and reshaping them, then it comes to the process of revising the draft and polishing it (Leki 1998). These processes occur on a continuous basis in online open content destinations. However, unlike the traditional writing where these processes are handled by one or defined group of writers, in the open content authoring, each contributor might take one or more of these processes.

In the review process in traditional publishing, there is a time lag between the current version of the material, whether under development (drafting) or after publishing (Luey 1995; Silverman 1998), while in open content, updates or corrections are done and published simultaneously (Burell 2008; Goodnoe & InternetWeek 2005; Petrides 2008). This creates another problem of instability. Continuous change in textbook structure is problematic for educators, especially if those educators depend on clear structures and well-developed materials. What is at stake is a controlled curriculum – suggesting that cultural values lie at the core of pedagogic use of teaching and learning materials.

Growing dependency on open content for different reasons including learning, developing writing skills, developing collaboration skills, developing communication skills, and enhancing critical thinking skills, suggests that change is underway – another reason for investigating the motives behind online textbook development.

The language of wiki textbooks

Publishing in a specific language targets those who can read and understand the language of the book, whether in the level of communication or the language itself (Ferdman, Weber & Ramirez 1994; Luke 1989; Ramirez & Hall 1990; Stierer & Maybin 1993) – but may be also signalling a set of expectations about how, and why, it is to be ‘read’. English is the dominant language, sometimes the sole language, of contributions in open content websites. Native speakers of English are not however the majority of the world population (Jandt 2007, p. 141). According to Gerrand (2007), English is the most popular global second language, and an official language in many countries.

The issue relating to publication language has been investigated by many scholars, especially in relation to the electronic publishing movement (Butterworth 1998; Evans & Del-Pizzo 1998; Vitas & Krstev 1999). Vitas and Krstev (1999) argue, for instance, that readers from Serbia are disadvantaged because of the dominance of English. Evans and Del-Pizzo (1998) address the same problem, pointing out that publishers use major languages in their publications to secure revenue – another reason why online publication offers much to minority language groups.

This problem of language, in general, has been researched mainly in terms of both the acceptance by targeted audiences and from different nations. Writers usually face a conflict between two opposing poles: simple language and complex language. The determinant of any writing style is the readers and their expectations (Ventola 1996). Moreover, universities which target international students produce webpages in their native languages, and companies that target customers worldwide produce webpages in different languages (Callahan 2005, 2007; Marcus & Gould 2000). This is despite the fact that English is the dominant online language, the second language of most world countries, and sometimes the first official language for locals who have their own native language.

GlobalText.org emphasises translation as a solution for the lack of resources in minority languages – yet although translation provides readers with local expressions that represent ideas more clearly and enrich texts by using local references (Gollnick & Chinn 1990, p. 277), translation involves massive effort. It is more efficient to find original contributors from these local language groups, rather than asking them to translate existing content. However, this requires an understanding of the culture behind contributors' motivation for writing to open textbooks. Understanding those motivations, across cultures, can assist with finding appropriate ways to increase online contributions in specific languages.

How wiki textbooks are used in education

Wikis and other forms of open content, such as blogs and collaborative textbooks, are used in education in specific ways: primarily as part of the learning process, to promote collaborative learning and enhance knowledge sharing skills (Petrides 2008; Reinhold 2006). Each study in this area focuses on a particular aspect of the uses of wiki-based education. Parker and Chao (2007) focus on the efficiency of the wiki as a learning tool. Their study concludes that applications of wikis in schools are in the early stages. They recommend that teachers and educational institutions should support using wikis as efficient tools to facilitate group activities. Wikis are excellent ice-breaking tools which help enhance social interaction amongst students online (Augar, Raitman & Zhou 2004).

Duffy and Bruns (2006) identify a number of possible uses of wikis in education, such as student research projects, to produce syllabi and handouts, and collaborative annotated bibliographies, but suggest that further research may be needed to test the challenges and successes of wikis applications.

Another study used wiki textbooks to engage collaborative technologies to produce textbooks within traditional class setting. Xiao *et al.* (2007b) aimed to explore student

perceptions of wiki processes and whether their experience of wikis differed from their views on the use of traditional textbooks. They also examined the level of student engagement in formatting content. Analysis of survey responses shows that the majority of students (70%) agree or strongly agree that wiki texts actively engage them in course learning. Moreover, the majority of students (74%) either agree or strongly agree that they were worried about the Wikitext process when first introduced to the concept. Nearly 70% expressed satisfaction with the total learning experience, and a similar percentage stated that they enjoyed the Wikibooks process.

Since many researchers agree that engaging multimedia in electronic books is important (Crestani, Landoni & Melucci 2006), the capacity in wiki authoring and use to integrate multimedia formats becomes yet another advantage. Wikis allow interactivity with multimedia content, producing ongoing feedback – editing and augmentation of resources, to improve and simplify the processes of communication, knowledge sharing and collaboration in a networked environment (Jain & Prabhakar 2006a). The integration of wiki tools in education thus not only supports student engagement in learning activities, but also promotes *Reflective Learning* through constant feedback (Chen & Cannon 2006).

Overall, what is produced within wiki's interactive use-culture is a trend towards depending on textbook adoption and textbook adaptation. This is in contrast to traditional ways of textbook implementation (Luke 1989). For example, Lee, Sze and Chun (1998) suggest that English teachers can adapt the table of contents (ToC) in English textbooks, to meet the needs of their local students. Teachers become unbound from textbook structures – and culturally, more able to respond to local needs and participants.

To take this step, however, may in itself require cultural re-framing – this time of the concept of teaching and learning themselves. Critical thinking is significant (Eco 1981; Foucault & Hoy 1986). As multimedia move in, to enrich and simplify the learning process (Hill 2006), they also support for visualisation in critical thinking – an aspect of

the learning process, which can both individualise, and culturally-localise the concepts behind the learning. With rote-learning or ‘teacher-led’ activities de-emphasised, cultural views of what education is, and ‘is for’, also shift.

Some researchers are already identifying negative responses to the power – shift and cultural change introduced in interactive educational resources. Petrides (2008) finds cultural resistance to open educational resources, suggesting that educators and students could be much more actively engaged as creators, adapters, and users of content. Strengthening teaching through collaboration may speed acceptance of open content is not however a culturally neutral process.

Acceptance of open content rests on understanding the motivations that affect the *internalisation* (Deci & Ryan 2000) of that goal – a set of understandings and responses which vary in different cultural contexts. Such a study requires a model, or a methodological tool, for assessing such motivations, across widely varying cultural perspectives and practices. Data collection and analysis for this project will require a conceptual motivational model, a survey and interview plan - able to operate in different cultural context. The following chapter outlines the way forward.

Chapter 7

The multilevel model: A way to research OER motivation across cultures

..., in cross-cultural research, it is not uncommon to collect data from numerous individuals in numerous countries... Within a multilevel framework, questions of interests could be couched in terms of cultural differences in means of individual-level measures..., and between-cultural differences in such within-culture relationships.

(Nezlek 2011).

...the increasing opportunities to investigate a random sample of cultural groups across the world and the developments in statistical and methodological multilevel theorizing make it feasible to test these key assumptions empirically.

(Fontaine & Fischer 2011, p. 295).

Apart from the fact that online research must be sensitive to the offline context in which it is taking place, online research must also be sensitive to different online contexts... For online virtual worlds, one question is: under what circumstances can - and should - the researcher contact the subject outside the virtual setting?... One reason is to validate the information that has been obtained online; the second is to embed the subject's online behavior in the context of their real-world social setting; and the third is to obtain more in-depth knowledge of the subject, such as their motivations...

(Eynon, Fry & Schroeder 2008, p. 26 & p. 30).

Online collaboration allows many people around the world to co-work through the internet to create and/or reshape ‘digital entities’. These collaborators create their own ‘digital identities’ when they decide to communicate with another ‘digital identity’ or participate in a ‘digital entity’. Those online collaborators are part of their offline context, but enthusiastic enough to share their experiences with others they may or may not know.

Among different forms of online collaboration such as OSS, OCW, and OER, current research, especially as reported in Chapter 5, gives attention to the recent rise of ‘open educational resources’ for its use in educational institutions and beyond. As discussed in Chapter 4, there are a number of pedagogical benefits of OCER, as well as barriers and challenges in developing and using OER. However, the main research problem is to examine the motivations of users who become active contributors to OCER (i.e. *producers*) and the lack of motivation (amotivation) that may help to explain why some users do not participate in OCER.

Designing, developing and hosting educational resources requires an awareness and consideration of user needs – which differ according to their individual characteristics and cultural backgrounds. The question of *how does motivation differ across individuals and cultures?* is broad and cannot be answered without answering other subsidiary questions. These include: What is culture? What are cultural differences? How can cultural differences be examined? What is motivation? What are individual differences affecting motivation and how? What are contextual and cultural factors affecting motivation and how? How can motivation be measured and assessed online? What are the differences between motivation to contribute, and not to contribute to OCER? Which OCER should be studied? Although the preceding chapters have attempted to answer these above research questions, there is a need for empirical evidence to fully address questions relating to the focus of exploring cross-cultural OER motivation for contribution and non-contribution.

OER is a recent development in education. Although there are a number of motivation theories that attempt to understand human motivation, it is argued that self-determination theory is considered to best describe OER motivations for a number of reasons including its solid foundation and long standing use, as well as the many examples of its application in and current studies. Most importantly, as discussed in Chapter 1, it is argued that SDT is the most comprehensive theory addressing motivation, as it incorporates 5 mini-theories that deal with motivation as a process, or as content in terms of reason or goal achievement. This feature of SDT is of particular importance when examining OER motivation because reasons (and goals) of OER participation, which will be articulated by participants in the study, help in developing an understanding of the motivations underlying their contribution or non-contribution to OER.

As discussed in Chapter 1, motivation is also cultural; and despite the acknowledged limitations, the most widely accepted cultural orientation is that of individualism versus collectivism (self-oriented versus others-oriented or independence versus interdependence). However, as McCrae and Terracciano (2006) assert, simplistic generalisations and popular assumptions about cultural behaviour are mostly inaccurate.

While people can report their goals (or reasons) to approach certain behaviour, or reasons for not approaching certain behaviour, they also face situations where they strive to achieve a balance between the two. According to SDT framework, motivation is either intrinsic (*one* dimension) or extrinsic (*four* dimensions). Amotivation (*one* dimension) represents *all* cases when people not able or unwilling to do a certain behaviour. Previous research, as discussed in Chapter 1, supports the need to consider multi-dimensionality of intrinsic motivation and amotivation, but also highlights the over dimensionality of extrinsic motivation where for some practical reasons, these extrinsic motivations cannot be easily distinguished.

Hence, for the purposes of examining OER motivation across cultures, there was a need to adapt SDT to consider simple sub-dimensionality within its main three dimensions,

but at the same time, each of these three dimensions needs to consider the cultural dichotomy (self-oriented versus others-oriented) if an assessment of cultural differences in motivation is going to be conducted. So, the proposed OER motivational model considers the self-orientation and others-orientation within intrinsic and extrinsic motivation and amotivation, but at the same time, considers the conflict between approach and avoidance. By proposing this model, it is argued that the examination of approach-avoidance motivation across cultures will be more ‘systematic’ when using this ‘methodological tool’. With widespread research into approach and avoidance, it has been raised the need for more research, using additional methodological approaches, and involving recruitment of participants from different cultures (Elliot & Thrash 2010).

Motivation, according to SDT, is universal. Thus, the test of the adapted proposed model should be conducted at the universal level. In other words, there will not be segregation in the research sample based on individual or cultural differences. It can be argued that one of the most efficient ways to undertake research at the universal level is through questionnaire. The review of literature has drawn on a number of motivations – of course not all reasons as they might vary as individuals.

Identified motivations have some logical similarities for investigating reasons for volunteering to contribute to OSS (Bitzer, Schrettl & Schröder 2007; Bitzer & Schroder 2007; Geishecker & Bitzer 2010; Hars & Ou 2001; Hertel, Niedner & Herrmann 2003; Krishnamurthy 2006; Lakhani & Wolf 2005a; Xu, Jones & Shao 2009), OCW (Baytiyeh & Pfaffman 2010; Forte & Bruckman 2006b; Nov 2007a; Nov & Kuk 2008; Rafaeli & Ariel 2008; Schroer & Hertel 2009; Yang & Lai 2010) and RWO (Clary & Snyder 1999; Clary *et al.* 1998b; Hustinx *et al.* 2010a, 2010b; Stebbins & Graham 2004; Stukas, Daly & Cowling 2005; Stukas, Snyder & Clary 1999).

The content analysis of OER Websites, reported in Chapter 5, demonstrates that some OER users ‘might’ contribute for religious or humanitarian reasons. These reasons for contribution extend beyond simply motivation to which go beyond educational (learning and teaching) purposes. More specifically, these educational uses of Web 2.0

technology are reported in Chapter 5 (see for example Augar, Raitman & Zhou 2004; Bold 2006; Bruns & Humphreys 2005; Désilets & Paquet 2005; Duffy & Bruns 2006; Sajjapanroj *et al.* 2007; Sajjapanroj *et al.* 2008).

Clary *et al.* (1998b), in their study of reasons for volunteering to RWO, generated a set of self-report items reflecting psychological and social functions of voluntarism. The factors (motivations) that emerged from their analysis reflected six volunteering functions as measured by Clary's *et al.* (1998b) Volunteer Function Inventory (VFI). These include: 1) values relating to altruistic and humanitarian concerns for others [*values*]; 2) opportunities permitting new learning experiences and knowledge and the chance to exercise them [*understanding*]; 3) opportunities permitting relationships with others and sharing their interests [*social*]; 4) career-related benefits that may be obtained from participation in volunteer work [*career*]; 5) eliminating negative aspects that surround the ego through guilt reduction and addressing personal problems [*protective*]; and 6) growth, development and positive strivings of the ego [*enhancement*].

Nov (2007a) found that these six motives, in addition to *ideology* and *enjoyment*, motivate users of Wikipedia to contribute to its articles. Pleasure, [*enjoyment*] not only motivates Wikipedia users to voluntarily write articles (Nov 2007a), but also motivates software developers to contribute programming to open source software (Hertel, Niedner & Herrmann 2003). Although Nov (2007a) has attempted to distinguish between *ideology* and *value*, these motivations are difficult (both theoretically and practically) to distinguish (see also Leroux 2004).

Other issues in relation to volunteering emerge. Not all volunteers have the freedom to make the decision to volunteer; participation may not be under their own control. It is suggested that there are people who have been *requested* to help, and thus they volunteer due to such external pressure. This may be considered mandatory voluntarism (Clary & Snyder 1999; Stukas, Snyder & Clary 1999). Similarly, students in some programs are required to volunteer for a number of hours in order to graduate (Stukas, Snyder & Clary 1999).

It must also be noted that ‘helping behaviour’ is not always a planned action, or subjected to a rational decision-making process, since instant and less conscious decision-making can produce accidental volunteer behaviour [*sudden need*]. This helps to explain why newcomers to Wikipedia become contributors, participating in simple tasks such as correcting vocabulary (Bryant, Forte & Bruckman 2005). According to the tenets of many religions, helping others is an act of piety; this introduces the possibility that religious values also act as motivational factors [*religion*] (Borne *et al.* 2004). All of these motivations are thus produced within the ‘home’ community of the contributor – a feature which explains the diversity of response, yet increases the complexity in researching the OER motivations across cultures.

A review of motivational factors behind programmers who work on OSS software helps make the point. Programmers to OSS act consistently within the norms of their OSS community; and this goal is strongest when private gain-seeking is minimised by programmers feeling obliged to contribute to OSS so that others can use this free OSS [*obligation toward community*] (Lakhani & Wolf 2005a). Programmers who contribute to OSS may also develop ego-gratification from a desire for peer recognition [*recognition*] and through signalling their talents to different audiences (Lerner & Tirole 2005).

Development of reputation is rewarding and individuals make an effort to share in order to achieve widespread name recognition (Lakhani & Wolf 2005a). And there are still more factors. Why do many volunteers spend time and effort without pay? Volunteers do not donate their effort without having time to do so. Killing time may itself be a reason for volunteering [*killing time*]. For example, administrators in Wikipedia who have more personal time and weaker social connections tend to have higher motives for being administrators (Liang, Chen & Hsu 2008). An interesting comment made by a Wikipedia administrator reveals this factor in play: ‘It’s the best way I’ve found so far to kill time while I’m at work’ (Baytiyeh & Pfaffman 2010, p. 136). Is this about intrinsic, self-actualising motivation, and orientation towards helping values, for instance; or extrinsic, and prevention of boredom? Such motivations can be classified

not only as either *intrinsic* or *extrinsic*, but as *self-oriented* and *others-oriented*, as illustrated in Table 22 in Chapter 5.

Although there is much published research which discusses reasons for volunteering to OSS, OCW and ROW, as reported in Table 16, there is much less research reported in the literature that discusses reasons for not volunteering. Such reasons come from two areas of literature: the available research relating to volunteering to RWO when volunteers have decided not to continue volunteering; and research investigating the different barriers that hinder adopting and using ICT in education in general and OER in particular. ICT availability, accessibility, usability, and what can be called ‘graspability’¹⁶, are important factors that impact on the use of ICT in educational institutions and beyond. Governments have allocated resources to make ICT accessible for students and staff in educational institutions, provide training to teachers in order to engage ICT tools in curriculum to support learning and teaching processes (Loveless & Dore 2002). Teachers are required to moderate student activities and to support their students toward collaboration outside the classroom hours (Wheeler, Yeomans & Wheeler 2008).

Among reasons that White and Arnold (2003) discuss, there are a number of reasons that are considered relevant to the OER amotivation, including: increasing time demands from other activities [*other interests*]; lack of commitment of other volunteers and other community member(s) not valuing volunteering effort [*valueless voluntarism*]; lack of cooperation and support [*unsupportive system*]; the amount of paperwork [*un-integrated duty*]; the quality of available materials [*quality of textbook*]; the program not addressing the community's needs [*unhelpful website*]; and poor leadership that can be argued as ‘directing’ volunteers instead of ‘engaging’ volunteers [*poor engaging*].

¹⁶ *Graspability* is an invented term to represent the ability to grasp knowledge.

Other reasons for not continuing contribution including work responsibilities and issues of time share with household and leisure time (Rowland 1990; Safrit 1998) [*social responsibilities*]. Volunteers appear to be oriented towards activities that offer them a sense of enjoyment (Cleave & Doherty 2005), which means that when volunteers do not feel any sense of reward they might stop contributing [*no reward*].

Another factor for consideration is that wikis as a technology might not be easily grasped. This could potentially hinder people from contribution [*inability to use wikis*] (Augar, Raitman & Zhou 2004; Woo *et al.* 2011). However, not only lack of skill hinders people from using technology; a lack of confidence also may hinder people from engaging in technology (Lane 2009) [*lack of confidence*]; and while there are some socio-political systems encouraging the use of Web.0 technologies in education, others seem to be behind (Sabry 2009; Valenza 2006; Yan 2008) [*unsupportive education system*]; and sometimes the structure of wikis may hinder people from proper engagement (Valenza 2006) [*unclear wiki structures*].

Reasons might hinder individuals from contribution can be related to their inability. These factors include lack of knowledge which hinders people from interacting with OER (Larson & Murray 2008) [*lack of knowledge*]; there are also many situations where people exploit the system to benefit themselves, without contributing to the common good (Butler 2001; Nov & Kuk 2008) [*free-riding*]; and it is also suggested that since wikis are used to improve writing skills (Lee & Bonk 2009; Mak & Coniam 2008), their writings may take longer to post their contributions [*lack of writing skills*], or even their inability to write in a foreign language [*lack of language command*].

The possible reasons for contribution or non-contribution identified in the preceding section have been identified for the purpose of developing a relevant questionnaire. However, there is also a need to validate these reasons. More specifically, open-ended questions need to be included in the questionnaire design to allow potential research participants to state their own reasons beyond these identified reasons. This approach

also provides a means for conducting content validity (Babbie 2010) to ensure that the reasons reported by participants are in agreement with the reasons identified through the review of the literature.

As discussed in previous chapters, individual differences also affect motivation. Previous research shows that the main contributors to OSS, OCW and OER are male in their middle ages (Hars & Ou 2001; Hertel, Niedner & Herrmann 2003; Lakhani & Wolf 2005a; Nov 2007a; Sajjapanroj *et al.* 2007; Sajjapanroj *et al.* 2008; Schroer & Hertel 2009). Considering that those contributors volunteer to entities (OSS, OCW and OER) in the digital sphere, there is a default assumption that they are digitally literate.

Level of education appears to be a factor since previous research has also shown that the majority of contributors are university students, including those undertaking compulsory voluntarism as a requirement of their courses (Clary & Snyder 1999; Hars & Ou 2001; Hertel, Niedner & Herrmann 2003; Krishnamurthy 2006; Lakhani & Wolf 2005a; Sajjapanroj *et al.* 2007). But context itself, including culture (Pfeil, Zaphiris & Ang 2006), education system including teacher skills and the level of ICT equipment at schools and/or homes (Akbar 2005; al-Mubarak *et al.* 2005; Atkins, Brown & Hammond 2007; Communication Statistics Unit 2006; Hamdy 2007; Reddi & Dighe 2000; Rhema & Miliszewska 2010; Sabry 2009; Valenza 2006) might also impact on motivation for contribution to OER. In general, acceptance of online learning technologies differs among learners of different cultural backgrounds (Hannon & D'Netto 2007) – so does this suggest that OER motivations are impacted by cultural orientations?

What is culture if motivation is cultural? Culture is the collective thoughts and behaviours of group of people who share land, language, religion, history, symbols, heroes, and so on. Examining motivation as a way of exploring culture involves 'subjectivity', and these subjective elements include roles, norms, and values. The 'subjective culture', as defined by Triandis (1995), is a product of biological and cultural influences – the matter of subjectivity attracts criticism (Boesch 2008); while

the ‘objectivity’ in studying culture includes studying objective elements include artefacts that individuals within a society consume, such as local news/media channels, roads, schools, and tools.

Bourdieu (1998) himself considered habitus a means of ‘subjectivity’; the subject-object dualism, providing a space upon which objective social forces can be personally negotiated. To this extent, however, habitus contradicts Bourdieu’s own intention to work objectively (King 2000, p. 417). Conflicting subjective and objective elements of culture complicates examining OER motivations across cultures as it adds additional concerns about the validity of results. More specifically, Kirkman, Lowe, and Gibson (2006) have shown that in many of cross-cultural studies the use of same measurement across different cultures or even the use of different measurements for different cultures causes differential validity. Hence, they advise that self-report or survey-based methods are not very good tools in cross-cultural studies, while interviews can capture cultural values at the individual level.

Despite the differences between cultural sources of behaviour, the individual is the final common pathway of those sources. It is significant to consider their values as the basis for exploring culture in relation to action, and to give more attention to similarities that bind people together, rather than focusing only on differences between people and their cultures (Earley 2009). It must be highlighted here that studying cross cultural differences at different levels usually causes methodological concerns, considering difficulties in interpreting results in a way that helps construct integrated understandings (Fischer 2006, 2009).

With this issue in mind, objective culture or subjective culture, it is impossible to make such separation in cultural studies, and so too the current research. The challenges identified in the preceding discussion arise because culture and mind culture and mind influence each other (Shweder 1991); and mental mechanisms adjust behaviours to accord with the cultures of the individuals concerned (Beck 2000; Fiske 2008).

Boesch (2008, p. 498) further argues that the locus of subjectivity exists in all cultural studies, in which ‘there can be no culture outside subjective experience’. This is because

- Our language, as an element of objective culture since it is a mankind invention, which has its collective system of signs, contain words that have meanings which develop inside each person, and such meanings / understandings are subjective; and
- Elements of culture around us – such as shops, schools, hospitals, churches, and traffic codes, and so on, have their own function, value and history according to people, place and time of which people adapt themselves to these elements. These elements, hence, reshape people themselves; but at the same time, meanings of these elements are not identical within people’s factual environments – and each individual has their own ‘individual reasons’ of their selection.

The objective and subjective culture is like hardware and software, respectively. For instance, according to Boesch (2008, p. 502-503), people receive similar religious instructions [here religion is the objective hardware], but each individual has their own individual path depending on their beliefs and doubts [individual meanings people made are subjective software]. Hence to understand the motivations of OER users, it is also necessary to gain an understanding of the meanings they develop about Wikibooks as well as the context including values, education system and schools; and this requires meeting with these users.

Qualitative method, involving interviews, is thus needed to examine individual motivations for participation to OER. Hence, both quantitative research and qualitative research will be used, triangulating results to test for consistency. Although researchers using mixed methods face difficulties in integrating findings from qualitative and quantitative research, such integration provides better understandings of the studied phenomena (Bryman 2008c). As the study progresses from stage to stage, it becomes possible to draw a clearer picture out of the complex parameters discussed in the theoretical study.

Seeing culture as *West versus East* helps explore concrete overall views of differences between these two in relation to context, education, system, politics, religion, and history – elements of objective culture. These elements will be examined to explore how they affect people's beliefs and thoughts, and thus behaviours. However, such an overall view, despite its usefulness for drawing a picture of OER *producer's* contexts, it does not provide an applicable methodology to the OER motivation across cultures. Reasons include: 1) not providing bipolar model for cultural values; 2) not providing quantitative measures that is needed to be used as secondary data, to be analysed along with primary data that will be collected throughout this research for cross-cultural OER motivations); and 3) the level of comparison between West and East is mainly politically oriented and media reshaped.

At a lower level, the national culture as 'measured' by Hofstede provides a methodological approach to examining differences in motivation across cultures. There are a number of reasons for adopting Hofstede's theorisation as a foundation for the current research. These reasons, as discussed in Chapter 2 and Chapter 3, include: 1) it provides a clear set of broad cultural values; 2) each nation has measures that represent the intensity and direction of the value – which help compare with quantitative primary data will be collected through the (quantitative) questionnaire; and 3) its bipolar value system, despite criticism to its validity and currency, has been previously used in examining cultural differences online.

By approaching potential research participants individually to understand their values and motivations, and how they see their culture and the world around them, a link between subjectivity of culture and objectivity of culture can be established; this helps us understand how culture (cultural values) and context affect OER motivation. It is impossible to understand an individual's motivation without understanding the context in which they live (Eccles & Wigfield 2002). Examining potential research participants individually will help explore changes that occur in context including culture and its values in this global village.

It must be stressed here again that the research model positions itself in the field of cross-cultural psychology. Understanding motivations for contribution to open educational resources is vital to incentive OER users, from different cultures, to contribute to open educational resources. Since neither the resources nor the time allow for study of all the different national cultures (see the comparative study of national cultures by Hofstede 2001), this thesis focuses on understanding differences (and similarities) between Arabic and English speakers. Since culture is multilevel (see especially Erez & Gati 2004), the empirical studies in the current research focus on examining the ‘subjective’ culture in terms of the meanings OER users make about their reasons for contribution/ non-contribution, and how they see objective elements of culture around them.

The reasons OER users express may go beyond educational and learning purposes, and their understandings of objective elements may also differ across contexts and cultures. For example, debate about the history of colonisation (as it involves factual events) has many interpretations (see for instance Lewis 2002b; Said 1994) – a matter that affects people and how they act and react – including the use of Web 2.0 (see Haass & Indyk 2009; Schiff 2006). But if ranking of motivations to volunteer to ROW differs between collectivist culture (Wu, Lo & Liu 2009) and individualist culture (Clary *et al.* 1998b) – see also Table 15 that illustrates volunteer functions across individualist and collectivist nations – would it be because people have different interpretations to reasons for voluntarism? However, although it is clear that each individual has their own path depending on their understanding, these paths on the collective level follow distinguished patterns in the use of open content (see for example Pfeil, Zaphiris & Ang 2006), so again, how can such patterns be related to their understandings of objective elements of their context?

To move forward, while the questionnaire will help in examining differences in motivation, the interview will help explain why such differences occur and whether they can be explained by how users see their environment or not. More specifically, the online questionnaire examining motivation at the universal level helps explain differences in motivation across cultures; and the interviews examining motivation at

the individual level help explain differences in motivation across cultures. However, it is also argued that the vast majority of research in social research has been at a broader level, with most research dependent on questionnaires, and very few researchers focusing on the ‘individual level’.

Steel and Taras (2010, p. 47) suggest that research should ‘never mix national and individual levels of analysis’, noting that ‘multilevel models have become taboo in cross-cultural studies’. In understanding cultural differences, individual values should be considered first (Steel & Taras 2010). Therefore, to examine the OER motivations across cultures, a multilevel model is adopted – as illustrated in Figure 15.

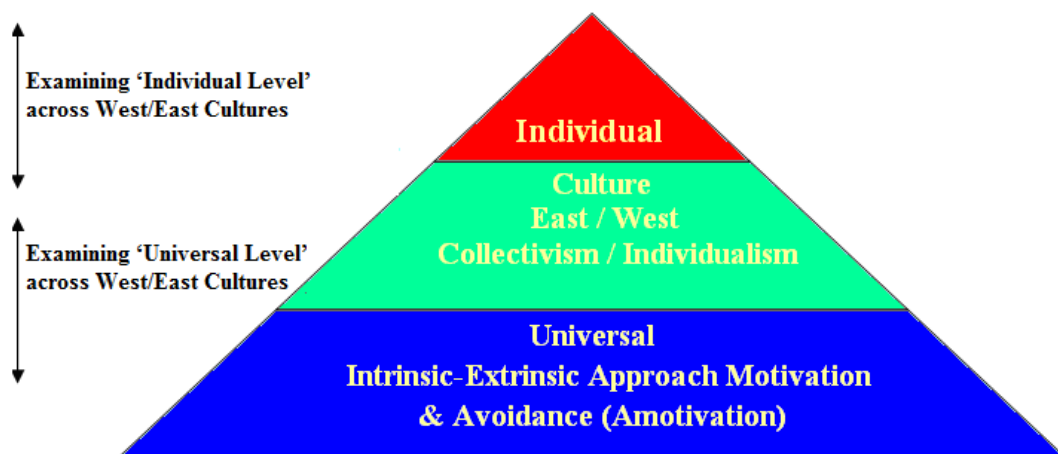


Figure 15: Multilevel model to address the OER motivations across individualist and collectivist cultures

To be able to explore cultural differences at the universal level, the universal model of motivation – the adapted proposed model – needs to be supported first before examining differences can be conducted. Hence, the questionnaire should provide answers to the following questions:

- Can both *intrinsic* and *extrinsic* volunteering motivations, and *amotivation* to contribute to OER, co-exist?
- Can *intrinsic* motivation be determined by both *enjoyment* and *integrated values*?
- Can *extrinsic* motivation be determined by both *ego-enhancement/guilt-reduction* and *external regulation* (by rewards/punishment)?
- Can *amotivation* be multi-dimensional? If it can, will it contain only two factors, *inability* and *unwillingness*, or more? What are the factors that contribute to *amotivation*?
- Do the sub-dimensions reflect the self-oriented and others/eco-oriented motivations?
- Do these dimensions differ across cultures?
- Do collectivist Arabic individuals more social/eco-oriented while individualist Anglo individuals more self-oriented?
- Are there any hidden motivations beyond those explicitly known?
- Is culture the only factor that impacts upon OER users' motivation, or are there other factors?
- What are other individual and contextual factors affecting OER user motivation apart from cultural values?
- If there are any differences in motivations between Anglo and Arabic individuals, are there any explanations for such differences?

Although the questionnaire aims to answer above questions, there are limitations in using such a tool. As discussed earlier, language, religion, and factual historical events reshape culture and people. However, people have different meanings and understandings of these objects that make each one have their own individual path. People have different realities – their understandings of contextual elements differ, and hence their behaviours might differ. As discussed in the theoretical study, both individual characteristics and context, including cultural values and education system may impact upon OER user motivation. How research participants see themselves and their surrounding environment including people around them, culture, education system, schools and their teacher skills and ICT equipment, and user views toward OER will help explore motivation beyond the identified motivations – outlined in Chapter 4, especially in Table 16. Figure 16 illustrates the research outline, and factors used to collect data suitable for these levels of inquiry.

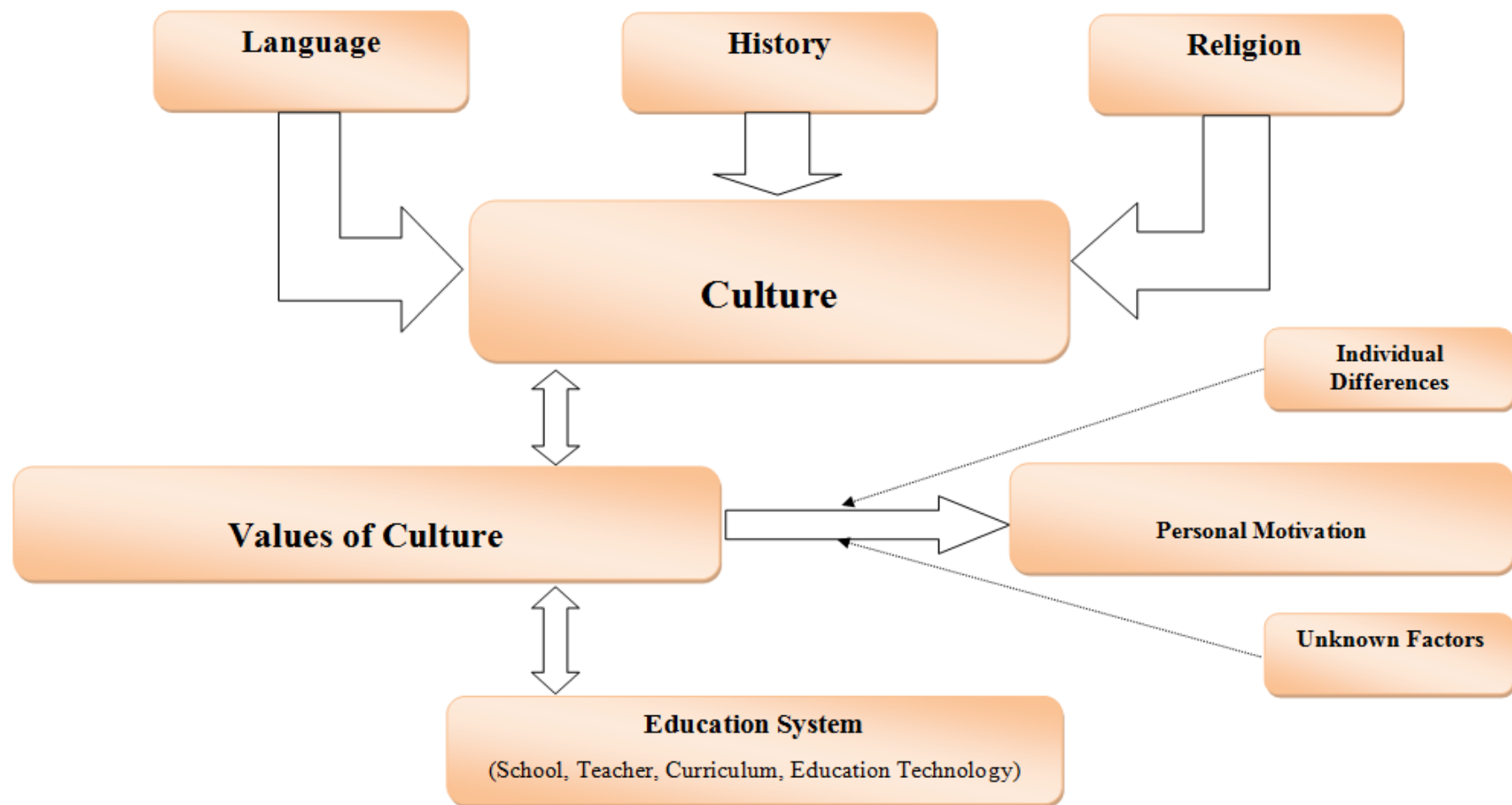


Figure 16: Factors that impact on OER users

Before exploring whether or not motivations agree with cultural values as measured by Hofstede, as discussed in the theoretical study, it must be stressed here that there are more than 25 years of these measures of values, and these measures do not cover all national cultures that will be examined. Therefore, the following value classification, as shown in Table 28, is not for the purpose of proving or defeating ‘hypotheses’ that discuss correlations between motivations and cultural values, since motivations, as discussed in Chapter 1, are values or goals – reasons when users report them. There is a need to go beyond ‘simplistic’ bipolar models of cultural categorisation represented in quantitative measures, to include unique values relating to people from each cultural group since culture is far more complex than the ‘limited’ dimensions.

How then can motivations for volunteering to RWO explain cultural differences in OER? If collectivism has strong positive correlations with the Values motive and Social motives, while individualism is positively related to Career motives and has significant correlations with Values, Understanding, and Enhancement motives (Finkelstein 2010), how can such results be related to the values of culture? Like Hofstede (2001), Batson, Ahmad and Tsang (2002) argue that volunteers may be motivated by collectivist motives to increase the welfare of their collective. This view specifically can be argued as related to feminism, rather than collectivism. Hofstede (2001, p. 244) asserts that while individualists are motivated by enjoyment, collectivists are motivated by duty/obligation. Does that mean that individualists are more intrinsically motivated, while collectivists are extrinsically motivated? But, how can self-oriented motivations and others/eco-oriented motivations, as argued in Table 22, be used to examine cultural differences in OER motivations? How can self-oriented motivation and others/eco-oriented motivation be distinguished especially if, as discussed in the theoretical study, intrinsic and extrinsic motivations co-exist?

Working on secondary data from previous research helps clarify such ‘methodological’ problems: how can motivations across cultures be assessed? In their quantitative research, Hustinx et al. (2010b, pp. 365-366), found that motivation to volunteer differs across countries. Measured means of motivations (Hustinx *et al.* 2010b, pp. 365-366) they provided in their study are extremely useful to lighten the way to address the

research problem. The countries that Hustinx *et al.* (2010b) studied can be categorised into three groups, depending on individualism scores (Hofstede 2001). These are: 1) high level individualism; 2) middle level individualism; and 3) low level individualism. Reasons for volunteering are categorised according to self-oriented reasons (S) and others/eco-oriented reasons (O). Means across levels of individualism and volunteer reason orientations are calculated based on the data published in Hustinx *et al.* (2010b, pp. 365-366).

Table 26: The self-oriented and others-oriented reasons for volunteering across six countries

Statement	Total	S / O	USA (91)	Canada (80)	US+CA (85)	Belgium (75)	Finland (63)	BE+FI (69)	Japan (46)	China (20)	JP+CH (33)
Work is important	4.18	S	4.32	4.29	4.31	4.19	4.50	4.35	3.79	3.87	3.83
Volunteering gives new perspective	3.95	S	4.01	4.05	4.03	3.46	3.99	3.73	4.40	3.90	4.15
Volunteering makes me feel better	3.93	S	4.02	4.01	4.02	3.64	4.08	3.86	3.63	4.03	3.83
Learn more about the case	3.52	S	3.63	3.72	3.68	3.42	3.76	3.59	3.38	3.21	3.30
Put on CV for job ¹	3.46	S	3.67	3.85	3.76	3.26	2.80	3.03	2.84	3.65	3.24
Foot in door at paid employment	3.29	S	3.54	3.81	3.68	3.15	2.99	3.07	2.46	3.19	2.83
Good escape from own trouble	2.46	S	3.00	2.81	2.91	2.35	2.07	2.21	2.02	1.97	2.00
Total Self-oriented reasons	3.54		3.74	3.79	3.77	3.35	3.46	3.40	3.22	3.40	3.31
Important to help others	4.29	O	4.36	4.35	4.36	4.22	4.54	4.38	4.12	4.11	4.12
Make new friends	3.60	O	3.37	3.50	3.44	3.53	3.50	3.52	3.67	4.04	3.86
New contact that help business career	3.54	O	3.58	3.75	3.67	3.19	3.24	3.22	3.61	3.70	3.66
Influence close environment	3.21	O	3.39	3.22	3.31	3.52	3.13	3.33	2.30	3.21	2.76
Friends volunteer	3.20	O	3.36	3.18	3.27	3.30	3.26	3.28	2.88	3.07	2.98
Advised to do so	2.80	O	3.09	2.12	2.61	2.49	2.72	2.61	2.88	2.88	2.88
Relieves guilt	2.66	O	2.83	2.55	2.69	1.99	2.88	2.44	2.51	2.51	2.51
Total Others-oriented reasons	3.33		3.43	3.24	3.33	3.18	3.32	3.25	3.14	3.36	3.25

Note: An adapted table, in which original data presented in grey-shaded cells are retrieved from Hustinx *et al.* (2010, pp. 365-366).

1: In the original Table 2 in Hustinx *et al.* (2010, pp. 365-366), there are two items (Put on CV for job application & Put on CV for admission education) that are merged together to make this adapted item.

A number of inferences can be made from Table 26. These are:

- Enjoyment-based intrinsic motivation is missing from Hustinx *et al.*'s. (2010b) study; enjoyment is one of the significant factors found to influence volunteering to OSS (Lakhani & Wolf 2005a) and OCW (Nov 2007a), and it is the ultimate of self-determination.
- Motivational reasons to volunteer can theoretically 'fit in' the proposed model: for example, 'helping others' and 'learning' can be considered as 'integrated values'; 'guilt relief' and 'trouble escape' can fit in 'ego-enhancement/guilt-reduction'; and 'being advised' as 'external regulation'.
- Volunteers value more the self-oriented reasons than others-oriented reasons; this suggests that if volunteering does not hold benefits for the self, an individual would not volunteer.
- Means of volunteer reason orientations across individualism levels suggest that self-oriented reasons are positively correlated with individualism; the more individualist, the more self-oriented, and vice versa.
- Means of volunteer reason orientations across individualism levels suggest that there is no clear pattern of correlation between others-oriented reasons and individualism, which suggest that individualism and collectivism are two separate dimensions.
- It is difficult to link many of the reasons of volunteer listed in Table 26 to other Hofstede's values of culture beyond individualism.
- Finally, such classification of reasons to self-oriented and others-oriented is subjective. Can primary data support the proposed model that will be used to compare cultures?

As discussed earlier, among the four values of culture, according to Hofstede (2001) theorisation, two values appear to have wide acceptance in cultural studies: individualism versus collectivism, seen as independence versus interdependence (Kitayama & Markus 2000; Kitayama *et al.* 1997; Triandis 1995), and power distance, seen as the level of equality represented in vertical and horizontal dimensions (Triandis 1995). The notion of masculinity versus femininity (Hofstede 2001) can be argued to represent some sort of individualism versus collectivism; while masculine cultures focus more on material things and earning (also associated with individualism), feminine cultures focus on quality of life and friendly (a sense of care about others).

Such issue confuses the minor values classification across the major value categories (the dimensions) – again, a matter that subject to interpretation.

It is not possible to find significant correlations between variables when the number of cases is less than 25. However, there are some important conclusions that can be drawn from Table 27.

Table 27: Ranking of motivations to volunteer, and density scores of values on the cultural dimensions across the United States and Hong Kong

Country	Rankings of voluntarism motivations ⁴						Density scores of the four cultural dimensions ³			
	Career ranking	Enhancement ranking	Protective ranking	Social ranking	Value ranking	Understanding ranking	Power Distance	Individualism	Masculinity	Uncertainty Avoidance
United States ¹	4	3	5	6	1	2	40	91	62	46
Hong Kong ²	4	5	6	1	2	3	68	25	57	29

Notes

1: Rankings of voluntarism motivations as reported in Clary *et al.*'s (1998b) study, which recruited participants from the United States.

2: Rankings of voluntarism motivations as reported in Wu, Lo & Liu's (2009) study, which recruited participants from the Hong Kong.

3: Density scores of the four cultural dimensions in relation to the US and HK are reported by Hofstede (2001).

4: Rankings of voluntarism motivation are illustrated in Table 15. These rankings are from 1 (the highest) to 6 (the lowest).

Hofstede (2001), in identifying differences between individualist and collectivist cultures, also discusses differences in values and behaviours. These values and behaviours can be understood within goals and reasons for volunteerism that constitute each of the six motivational factors as identified by Clary *et al.* (1998b). Hence, a closer look at Table 27 may suggest the following interpretations:

- 1) Since 'masculinity' for both US and HK are close to each other, and at the same time 'career' factor has the same ranking, this suggests that career is more related to masculinity – which is consistent with Hofstede who argues that masculine cultures focus more on paid work and ambition.
- 2) Clearly, 'social' factor is higher for collectivist HK and lower for individualist US.
- 3) Looking at items that constitute the 'protective' and 'enhancement' factors which attempt to enhance the ego and/or reduce guilt/trouble are more relating to 'femininity' – suggests that masculinity and femininity are two different dimensions.
- 4) Similarly, 'values' factor is more concerned with 'others' than the 'self' – and this suggests that individualism and collectivism are two different dimensions.
- 5) The 'understanding' factor is more related to individualism as a matter of gaining lifelong learning skills. But since Hong Kong is a collectivist culture, this suggests that framing people from individualist cultures are skills-oriented, while people from collectivist cultures are degrees-oriented, is not very accurate.

So, will it be possible to use Hofstede's indices that describe national cultures? It is more appropriate to study value categorisation through more qualitative measures rather than relying heavily on the quantitative measures for the following reasons:

- 1) Values of culture cannot be represented on dimensions, since it has been shown that masculinity is not an opposite to femininity, and similarly with individualism and collectivism.
- 2) Quantitative measures are in themselves not representative of values since values are immeasurable, are old enough to be claimed as still valid.
- 3) Each of these major values involves minor values – the classification of these minor values is more subjective – since interpretation is involved.

To explain this last point further, as argued in the theoretical study, each motivational dimension: intrinsic, extrinsic and amotivation involves two sub-dimensions concerning with and/or reflecting on the self and the others/community/system. At the same time, each minor dimension is not purely oriented to the self or the others since motivation itself is a factor of the individual and their surrounding environment, which makes it difficult to relate any of these dimensions with Hofstede's value dimensions – but it is worth trial and exploration. For example, 'integrated values' can involve education, which is self-oriented, but also can also involve 'helping others', which is others-oriented. As discussed above, the meaning of 'education' can be seen as an individualist value when it relates more to 'lifelong learning skills' and as collectivist since people from collectivist cultures focus more on 'memorisation skills' – and this suggests that Hofstede's theory is more Western than cross-cultural. Similar concern can be raised when 'helping others' can be classified as collectivist orientation, and at the same time, if it involves a notion of enhancing the quality of life, then it can be seen as feminine value – so subjectivity is always there in cultural studies as Kirkman, Lowe and Gibson (2006) argue.

Therefore, it can be concluded that establishing 'hypotheses' in cultural studies is difficult since interpretation might cause subjective categorisation. To explain further, while a reason can be considered self-oriented, another interpretation may classify the reason as others-oriented. Furthermore, while a reason can be seen as evident of power distance, another reader considers it as collectivist value. Table 28 demonstrates how a certain classification of motivations varies across value dimensions.

Table 28: Subjectivity in value classification

Dimension	High	Low
Power distance	People in the community expect and accept the inequality of power, and followers do what their leaders ask them to do, including the power of religious teachings. In education, the teacher is the initiator of the learning process.	People in the community seek and prefer democracy, therefore use consultation in their decision making process. Everyone in the community expresses an opinion and recognises other people's opinions. In education, the student plays a significant role in gaining the knowledge in two-way communication with teachers.
	<i>Self-oriented</i> : personal needs such as success in assignments <i>Others-oriented</i> : a religious command becomes an integrated value	<i>Self-oriented</i> : peer recognition <i>Others-oriented</i> : information democracy as an integrated value
Uncertainty avoidance	People in the community attempt to cope with anxiety over uncertain situations by establishing rules. Students prefer structured learning situations.	People do not feel anxiety over uncertain situations. Therefore, students do not find problems with unstructured learning, and feel free to express innovative ideas.
	<i>Self-oriented</i> : the more contributions the less anxiety because of the lack of knowledge OR no contributions <i>Others-oriented</i> : a need: the current information is wrong	<i>Self-oriented</i> : a need for knowledge away from formal/structured education <i>Others-oriented</i> : a need: lack of current (structured) knowledge
Masculinity	Responsibility for paid work is allocated to men. People are assertive, ambitious, and seek wealth. Students admire achievement. Most contributors will be men. They aim at success.	Both male and female sharing the responsibility. People seek quality of life, and therefore value voluntary work. Students admire brilliance. They focus on gaining more skills.
	<i>Self-oriented</i> : Success in course <i>Others-oriented</i> : the sense of responsibility (assertiveness as a belief).	<i>Self-oriented</i> : skill gaining, value of volunteering. <i>Others-oriented</i> : Altruism: share quality knowledge
Individualism	People are expected to locate their own goals. Education is their way to gain self-respect	It is expected that the individuals work in harmony with the groups they belong to. Education is the way to gain prestige.
	<i>Self-oriented</i> : fun and self-determination <i>Others-oriented</i> : reputation and publishing their work	<i>Self-oriented</i> : Community belonging <i>Others-oriented</i> : Social: friends

While the results from the quantitative study (using questionnaire) may indicate how respondents rate their own motivations, the qualitative study (using interviews) will go beyond relating motivations to the intensity and direction of cultural values. There is a need to provide a deeper understanding of how 'values' differ, and how OER users interact differently with OER, how they see their surrounding environment in order to

understand their motivation, and why their motivations differ – a point that is elaborated on later in this chapter in the discussing the interview rationale.

The questionnaire, although an easy and quick tool for collecting data, is limited. A questionnaire cannot explore users' experience and their values beyond what is theoretically proposed. There is a need to refine the focus on the cultural issues behind motivation – and to include the possibility of individual variation across different socio-cultural contexts. Interviews study will work to include a broad data collection from OER *producers* to reach deeper levels of understandings about differences in OER motivations across Arabic and Anglo cultural.

How will the research problem be addressed?

In the preceding chapters, the research question was divided into smaller ones. While available literature helps develop an understanding about culture and motivation in general, and in RWO, OSS, OCW, and OER in particular, it does not provide clear answers about how motivation for contribution/non-contribution to open educational resources differs across cultures, specifically Anglo and Arabic cultures. Nor does it provide a means for considering issues of community values, contextual differences, including socio-political differences, differences in education system and perhaps concerns about the economic and digital divide.

At the same time, individual characteristics impact upon motivation, in the way OER users approach or avoid contribution. These factors include age, gender, educational level and field, and economic status. Hence, there is a 'need' to conduct empirical research to collect primary 'relevant data' from 'representative sample'. These data will be analysed used 'appropriate analyses' to have results that can tell more about the research problem. Such results are believed to be helpful in developing and designing OER, and to get users involved, by considering individual and cultural differences.

The rest of this chapter includes a description of the research methods that will be used to address the research. These methods include:

- 1) Online questionnaire;
- 2) Face-to-face (F2F) questionnaire; and
- 3) Online interviews.

For each method, four issues will be discussed:

- 1) Objectives of the method – address the ‘need’ for the study.
- 2) Design of the method – explains the means by which ‘relevant data’ will be collected.
- 3) Administration of the method – describes the approaches to employs a ‘representative’ sample, and managing the data.
- 4) How data will be analysed using ‘appropriate analyses’.

This research, which examines OER motivation across Arabic and Anglo cultures, positions itself in the field of cross-cultural psychology. Social research methods that will be employed, in the current research, ‘triangulate’ (Bryman 2008c) between quantitative methods (commonly used in Psychology), and qualitative methods (commonly used in Cultural Studies), when using mixed methods. This empirical inquiry combines positivist and interpretative approaches to the research problem through integrating results from statistical data analysis with results from the interpretive analysis of interviews. Such triangulation not only examines consistency, but also helps draw a clearer picture of cross-cultural motivations for contribution to OCER, as the study progresses from stage to stage. More specifically, although statistical analysis helps identify factors and relationships between factors, the analysis of interview data may assist in finding causal explanations for any differences in motivation for OER contribution between Anglo and Arabic.

1) The online questionnaire

A) Objectives of the online questionnaire

This method aims to examine motivation for engaging in OCER Wikibooks, at the universal level, in terms of values, goals, or reasons that make Wikibookians ‘approach’

contribution, or ‘avoid’ contribution, or even face conflict between approaching and avoiding contribution. Such approach and avoidance is a universal phenomenon. The adapted proposed model of motivation, which needs to be tested on the total sample of different cultural groups participating in this online questionnaire study, argues not only that intrinsic and extrinsic motivation co-exist, but that approach and avoidance motivation co-exist too. Each intrinsic and extrinsic approach motivation and avoidance motivation consists of two sub-dimensions reflecting the self and the others/system. With the approach motivation, these two sub-dimensions are self-orientation and others/system orientation; and with the avoidance motivation, these two sub-dimensions are called self-focus and others/system-focus. Such distinction is functional for the purpose of results representation. After the model will be tested, comparisons between Arabic and Anglo cultures will be conducted to examine differences and similarities between the two cultural groups.

Since potential research participants exist in the online context, online research methods should be used. It is argued that a larger sample is required since current research proposes to examine motivation at the ‘universal’ level. In the theoretical study, motivations for contribution and non-contribution were identified, but of course the assumption of inability of identify ‘all’ OER user motivation should be understood, since motivations vary as people. Therefore, the way to receive OER user opinions about these ‘identified’ motivations is through a questionnaire.

There are two common ways to conduct questionnaires online: web-based questionnaire and email questionnaire (Bryman 2008c). The web-based questionnaire has some advantages over email questionnaire. Although it is argued that online research is cost-effective and provides an efficient means for generating large amounts of data – an essential matter for examining the ‘universal’ level of motivation, and when cost and time constraints are high (Hewson & Laurent 2008), the web-based survey provides a high level of privacy and anonymity – this can enhance response rate. Social desirability effect is argued to be minimal when using web-based survey since there is no direct contact between the research and potential research participants (cited in Hewson & Laurent 2008).

Furthermore, the web-based survey is more efficient than email surveys because it provides higher levels of security and control over collected data (Couper 2000), as data is simultaneously checked, against unanswered questions, and stored, often on a secure server (Bryman 2008c; Vehovar & Manfreda 2008) – this also helps by saving the time and effort required to manage the anticipated ‘large’ data set. One of the challenges in designing such a long and comprehensive survey is that participants may not complete all components, which reduces the reliability of a survey. Thus, in designing the survey, the following strategies were employed: 1) avoiding the multi-step survey, and 2) designing the questionnaire to ensure it is of a length that provides adequate data, but is not too long for participants to complete in full.

As discussed in the preceding chapters, there are a large set of factors that need to be researched, not only reasons for contribution and non-contribution (dependent variables), but also a number of independent factors. These independent variables include individual factors (age, gender, educational level and field, socio-economic status, ICT self-efficacy) and contextual factors (including culture indicated by religion and native language, level of ICT equipment at schools, and digital literacy of teachers) – it is a complex questionnaire. Web-based surveys enable more complicated structures than email surveys, because they provide for different question designs and response options (Rasmussen 2008).

It is argued that online research, despite its advantages, is subject to a problematic issue relating to the biased nature of online sampling, since respondents are generally educated, computer literate, and male (Hewson & Laurent 2008). However, given the research population is internet users who are educationally-oriented, it is argued that education and computer literacy are not likely to be major concerns in the ‘representative’ samples. However, in regard to gender-bias, previous research conducted to examine motivation to OSS, OCW, and OER has found that a large percentage of the sample is male (Lakhani & Wolf 2005a; Nov 2007a; Nov & Kuk 2008; Oreg & Nov 2007; Sajjapanroj *et al.* 2008) – this suggests that the nature of population is already biased towards males. Therefore, even if the sample is male-biased, it may not violate the representativeness of population. In other words, this online study is sensitive to offline contexts (Hanna 2011).

Although it is argued that data collected using an online questionnaire can be of poor quality since respondents who work alone to answer such surveys may lack motivation to read questions carefully and answer seriously, or they may be tempted to send multiple responses (Fraley 2007), such issues can be avoided when designing the online questionnaire by adopting certain procedures. These procedures include:

- Setting up the survey that cannot be submitted until the respondent has answered all of the questions.
- Making the questionnaire simple and short, and incorporating a user-friendly design to avoid boredom (for example choice of easy to read fonts and colours, and employing different question styles).
- On submission, respondents can be logged out to ensure that they do not re-submit their answers.

These procedures will be considered when designing the online questionnaire.

B) Design techniques of the online questionnaire

As Gaiser and Schreiner (2009) argue, anyone with skill in database design and webpage development can create a web-based survey from scratch; but it is the conceptual design of the questions that challenges the researcher. Having Information Technology (programming and website design) background, such skills will enable the researcher to design, implement, and publish the online survey, without using ready-survey-system, to be able to take into account issues discussed above while designing the online questionnaire.

A readable font type (Times New Roman), size (12, 14, and 16 pt), colour (black) and pattern (bold) will be used on white background (see for example Bos *et al.* 2011; Hill 1997). Another colour will be used in sections of questionnaire. The design will be created as an html page to allow participants to change the font size from the options/settings of their internet browser. Different kinds of answer options, such as checkboxes for multiple options, radio buttons for single choice, text boxes for short answers, and text areas for detailed answers will be used (Gaiser & Schreiner 2009; Hanna 2011; Vicente & Reis 2010). Designing an online survey is not an easy process.

It requires programming scripts at two sides, the server-side and the client-side: what appears to research participants is the client side, but for the online survey to be functional and data to be stored in the database on the server, requires server-side programming¹⁷.

The user-side of the web-based survey, including its different sections (the information sheet, consent form, the questionnaire itself and interview contact details form), will be available to two languages: Arabic and English, to suit potential research participants and avoid as much as possible any misunderstanding, and to also be culturally-appropriate for Arabic and English participants (see for example Eynon, Fry & Schroeder 2008). Appendix E includes translation and back translation for the online questionnaire (from English to Arabic and then from Arabic to English) as recommended by research methodologists (Alasuutari, Bickman & Brannen 2008; Bernard 2000; Bryman 2008b; Neuman 2006). Translations, to a large extent, show similarities between the English version of the questionnaire to be used online and the back translation from Arabic to English. Such consistency in language versions of the questionnaire enhances data reliability especially in cross-cultural comparisons.

As discussed earlier, interviews with OER users will need to be conducted for further exploration that may provide causal explanations for any differences in motivation for OER contribution between Anglo and Arabic, since it is often argued that ‘statistical associations and statistical models can never be a sufficient basis for establishing causality’ (Elliott 2006, p. 97). Thus, the online questionnaire consists of three sections: 1) the general section relating to demographic information about the research participants; 2) questions designed to elicit information relating to respondents’

¹⁷ Web-surveys have two sides: the server-side and the client-side. The server side includes a script that runs the questionnaire, and the client side appears to a participant and allows interaction with the questionnaire (see also Vehovar & Manfreda 2008). The user-side of the survey includes the four-steps outlined here, while the server-side includes the Active Server Pages (ASP) code script that runs the processes of data submission and users’ authentication. The server-side also includes a Microsoft Access Database to store the submitted data. Both online questionnaire and database will be designed, developed and tested locally, on the researcher’s personal computer running Professional Windows XP, along with Internet Information Services (IIS7) and Microsoft Access, before it will be published on one of the University of South Australia servers. The server’s operating system is Microsoft Server, supporting Internet Information Services (IIS7), and has Microsoft Access installed. The server is secured and protected with Antivirus and Firewall. The web-based survey and the accompanied database will be hosted in a password-protected directory on the UniSA’s server.

motivation for contribution and non-contribution to Wikibooks; and 3) a special section designed to collect contact details for follow up online interview.

1. The demographic data section

As discussed in the preceding chapters, although motivation study in the psychological tradition sees motivation as universal, with all individuals sharing the intrinsic and extrinsic motivations (and amotivation), there are both individual and socio-economic/cultural differences in motivation. Such differences in motivation occur not only because of demographic differences, such as age, gender, educational level and field, socio-economic status and the level of ICT skills, but also depend on environmental factors, which include culture itself (and it is indicated by dominant language and religion) and education system (and its levels of ICT equipment in schools and digital literacy of teachers, and the language of instruction in schools).

The country where the research participant lives most of their time is the most important criterion for selecting responses to be included in the data analysis. Since the country is very important, to determine the culture that a participant exposed to, this question will be designed in textbox to avoid any possibility of the respondent accidentally making an incorrect choice from drop-down options. However, most of the remaining questions in this section are in the form of drop-down options, to allow participants to choose the most appropriate answer; at the same time, textboxes are available to research participants to provide alternative responses if there are no appropriate options provided in the drop-down options.

2. The motivations for contribution and non-contribution section

This section is divided into two sub-sections: reasons for contribution to Wikibooks (*approach*) and reasons for non-contributions to Wikibooks (*avoidance*). As discussed earlier in this chapter, review of literature shows that there is as yet no research that provides evidence that explains why people contribute to open educational resources, considering contextual (and individual) circumstances. The review of literature in relation to volunteering to RWO, OSS, OCW, and OER (as discussed in Chapter 3 and

Chapter 4), and results of the OER website content analysis reported in Chapter 5 do, however, reveal a number of reasons that might motivate users to contribute to OCER. Although review of literature demonstrates that there are cultural differences in the patterns of volunteering to RWO and OCW, it remains unknown if there are any cultural differences in the contribution and non-contribution to OER, and why, if any, such differences occur.

As discussed earlier in this chapter, the reasons for contribution identified through the review of literature and content analysis of OER websites, include: 1) enjoyment; 2) social functions; 3) values; 4) request; 5) ideology; 6) obligation towards community; 7) ego-enhancement; 8) career development; 9) killing time; 10) recognition; 11) sudden need; 12) protective ; and 13) develop understanding. These reasons will be represented in the questionnaire using statements as illustrated in Table 29:

Table 29: Items of reasons for contribution scale

No	Items of reasons for contribution subscale
01	I want to have fun
02	My friends do so
03	Poor people can use these free books
04	My teacher asked me to do so
05	I believe that information should be free
06	My religious teaching asks me to help others
07	Others do not have the expert knowledge that I have
08	I cannot find other places to publish my work
09	I'm lonely and have free time
10	I want to express my personal opinions
11	Logical and grammatical errors have to be corrected
12	There is a lack of information resources in my language.
13	I contribute because I want to learn

Reasons for non-contribution, as discussed in the theoretical study, include: 1) no sense of reward; 2) inability to use wikis; 3) unhelpful website; 4) unsupportive system; 5) lack of knowledge; 6) views towards OER; 7) valueless voluntarism; 8) free-riding; 9) unclear wiki structures; 10) other interests; 11) social responsibilities; 12) lack of awareness; 13) lack of confidence; 14) lack of language command; 15) poor engaging; and 16) lack of writing skills. These reasons will be represented in the questionnaire using statements illustrated in Table 30:

Table 30: Items of reasons for non-contribution scale

No	Items of reasons for non-contribution subscale
01	No financial reward
02	I can't use wiki
03	This is an un-helpful website
04	Our educational system (institution) does not (or cannot) adopt this technology as a part of the learning process
05	I don't have a knowledge base in any suitable topic
06	Contribution is useless unless others know of this website
07	Our society does not value voluntary work
08	I prefer reading to writing
09	There is no clear structure for textbooks
10	I have other hobbies and interests that take up my time rather than contributing to wiki
11	I prefer socialising with family and friends rather than sitting on the computer to contribute
12	Others do not have internet access or do not know of this website
13	I do not feel confident
14	I prefer to write in my own language
15	As this is voluntary work, orders to contribute are not acceptable to me
16	It is not my job to write textbooks

Sentences in the form of first person will be designed to reflect each of these reasons. These reasons will be designed in the form of *Likert*-type scale, which help research participants to rate reasons according to their level of motivation. Answers of the *Likert*-type scale will range from +5 (strongly agree) to +1 (strongly disagree), with no zero point.

Potential research participants will be offered the opportunity to write down their own reasons for contribution and non-contribution in their own words, enabling them to express their thoughts (Sarantakos 2005). In other words, these open-ended questions offer the means to collect more information about motivational phenomena that might not have been foreseen by the researcher – and if any of these reasons should be highlighted through the interviews. Open-ended questions can however, produce large amounts of information, be time consuming to code and assess, and sometimes provide information that is not relevant or cannot be used for comparative analysis (Sarantakos 2005). However, this opportunity also does address an essential and important purpose for validating the identified reasons for contribution and non-contribution.

The identified reasons for contribution and non-contribution identified through the review of literature and content analysis are 'limited in terms of numbers, and are also subjective due to interpretation of literature and qualitative content analysis. Analysis of

these reasons will also help to validate, using content validity (Babbie 2010), the identified reasons. While interpretation of responses will still involve a level of subjectivity, it is argued that this approach will minimise the potential problems identified in the preceding discussion.

The questionnaire will also include a question relating to the topics OER users read and contribute to. The inclusion of this question will help in identifying any differences in preferences for topics between cultural groups.

3. The contact details section

There is no list of *all* internet users (O'Connor *et al.* 2008). Similarly, there is no list for all Wikibooks users. Moreover, only a few Wikibooks users have chosen to subscribe to the Wikibooks email list. This is demonstrated clearly from the difference between number of registered users in Wikibooks and number of subscribers to the email list. Furthermore, registration in Wikibooks does not require users to provide their email addresses. This raises concerns regarding the potential risk of not being able to recruit an adequate number of respondents for both the questionnaire and subsequent interview stage of the study. The actions to be taken to address these are discussed further in the ‘action plan’ section of this chapter.

The contact details section will also include provision for respondents to the online questionnaire to indicate their interest in being contacted at a later stage to participate in the interviews.

This contact detail section will therefore be designed as a separate form from the main questionnaire form. This strategy will be adopted to maintain the confidentiality of research participants, and to encourage them to provide contact details without fear of their identity being linked to their responses to the rest of the online questions. It is expected that this strategy will also increase the number of respondents willing to participate in the interview stage of the study. Potential research participants who agree to provide their contact details will be required to leave their Instant Messenger (IM) accounts (such as MSN, Yahoo, and GTalk). IM will be used during interviews – as will be discussed in a subsequent section of this chapter. The contact detail form also

includes an option enabling research participants to specify the time/language they prefer for the interview, and to add any additional comments via an open ended text field.

Before contacting potential research participants, a research ethics application will need to be lodged to the 'Human Research Ethics Committee' of the University of South Australia, to ensure that there is no physical or moral risk to research participants. Appendix A and Appendix B include the Ethics application and the approval to conduct the online questionnaire.

C) Administration procedures of the online questionnaire and data management

In this section, two issues are discussed: 1) The action plan to deal with expected low response rate; and 2) Steps in delivery of the online questionnaire.

Action plan

The action plan involves three actions to deal with the expected problem of low response rate.

- Personalised emails (Heerwegh & Loosveldt 2006) planned to be sent to the Wikibooks' email list subscribers, addressing them by their registered names. Approval to be sought from both the Wikimedia Foundation and the University of South Australia's Human Research Ethics Committee.
- Invitation emails to be sent to Wikipedia email list subscribers, targeting those who also use the Wikibooks website.
- Broadening the research sample from potential Australian and Egyptian research participants, to include participants from all Arabic and English speaking countries.

Negotiation with the Wikibooks administrator resulted in: 1) offering to publish a web advertisement (also called a site notice) on the Arabic and English Wikibooks homepages (see Appendix J); and 2) permission given for an email to be sent to the Wikimedia Foundation mail list subscribers with an invitation to participate in the web-based survey.

Invitation emails, consent forms, website advertisement, and the questionnaire itself are presented in two languages, Arabic and English. This approach was necessary to target native Arabic and English speakers – those who represent Arabic and Anglo cultures. Hence, it is expected that many of non-English speakers will answer the English version of the questionnaire, since English is language of science and business, and official and second language for many individuals worldwide. Other cultures can be considered, in the analysis of questionnaire responses, if an adequate response rate has been achieved. Any additional cultures that can be included in the current study will not affect the main focus of examining the differences in OER motivation.

Steps in delivery of the online questionnaire

As noted above, the questionnaire is to be available in two languages, Arabic for Arabic participants and English for Anglo participants. Participants to be recruited through two means: 1) email invitation sent to the Wikibooks email list and Wikipedia email list, inviting those who use Wikibooks to participate in the questionnaire study; and 2) website advertisement published in Arabic on the Arabic Wikibooks and in English in English Wikibooks. Both the email invitation and website advertisement contain a link to the web-based survey, along with a username and password to login to the survey. Hence, the potential research participants will go through the following steps:

1. Authentication using usernames and passwords

The purpose of this authentication process is to limit access to the survey to contributors, visitors, and subscribers to the Wikibooks website. Only those receiving the email invitation or those who are already Wikibooks users visiting the website will have access to the username and password.

Only one username and password will be used for all research participants. This strategy has been adopted to protect the privacy and confidentiality of participants, since respondents are unidentified, and also to reassure potential participants that they will not be identifiable¹⁸; this would be a valid concern if potential participants were given a unique username and password to log in to the survey (see Appendix A and Appendix B for ethics application and approval). It is anticipated that this approach will thus increase the likely response rate to the survey (Hanna 2011).

2. Reading the electronic ‘Information Sheet’ and signing the electronic ‘Consent Form’

Since the questionnaire includes sensitive data (such as religious beliefs and socio-economic status) and non-sensitive data (including motivations and public/private education system), an informed consent from respondents needs to be obtained prior to participants responding to the questionnaire (Charlesworth 2008). Once interested potential participants are able to login, they will be required to read the electronic Information Sheet. On agreement, they are required to sign the electronic Consent Form, by pressing on the ‘*I agree*’ button, and then they will be redirected to the questionnaire they are required to answer. If they do not agree, they can press the ‘*I do not agree*’ button, and will then be logged out from the questionnaire system automatically (see Appendix A). The *Information Sheet* and *Consent Form* are designed in two languages: Arabic and English.

¹⁸ According to the Data Protection Act (DPA), ‘personal data’ involves any information relating to an identified/identifiable living person, and may include combinations of information from sources that could permit identification (Charlesworth 2008).

3. Answering the Online Questionnaire

The online questionnaire (see Appendix A) has been designed in two languages: Arabic and English. The questionnaire involves five parts: 1) participants' demographic details including country, age, gender, educational level and field, and socio-economic status; 2) information about the context including language, religion and education system (teacher ICT skills and level of ICT equipment in schools); 3) *Likert*-scale questions designed to elicit participants' reasons for contribution to Wikibooks and reasons that hinder or decrease contribution; 4) subjects/topics participants indicate they contribute to and read; 5) open-ended questions that enable participants to discuss any additional reasons they may have for approaching or avoiding contribution to OER. The objectives underlying the reasons for obtaining information from each of these sections of the questionnaire are discussed earlier in this chapter.

Upon completing the online questionnaire, participants are required to press the '*Submit*' button, and their answers are then automatically sent and stored in a database on the UniSA server – as discussed earlier in this chapter. On submission, participants are then directed to the '*Contact Form*'.

4. Providing email addresses in a separate *Contact Form*.

In this step, participants are asked to provide their IM email addresses in order to arrange interviews for the second stage of research (see Appendix A). The reason for separating responses to the *Contact Form* from the *Online Questionnaire* is to maintain respondents' confidentiality – these two kinds of information (answers to the questionnaire and contact details) are designed to be stored in two separate tables in the database. As noted in the previous section of this chapter, confidentiality is also ensured by the use of one username and password for all research participants. Survey respondents are also invited to indicate the date and time they prefer for the interview and also specify their preferred language to be used in the interview (either Arabic or English).

On completing the *Contact Form*, participants are invited to press the ‘*Submit*’ button, and their answers will be automatically sent and stored on the database. On submission, participants will be thanked and logged out.

D) Analysis techniques of collected data through the online questionnaire

Before conducting any analysis, the data set must be ‘clean’ – the details of this process are elaborated on further in the following sections. Once this process has been undertaken, a series of statistical tests will be conducted to examine OER motivations across cultures.

Towards a completed clean set of responses

The question asking respondents to indicate the country in which they reside most of the time helps to identify the culture and context to which they are exposed. It is argued that the culture and context may impact on participants’ thoughts and behaviour orientation, so this information is of critical importance to the study. Therefore, respondents who do not answer this question will be excluded from the data set.

Responses from non-Arabic or non-English nations will be excluded from the data set. The English speaking countries will be researched are Australia, Canada, Ireland, New Zealand, the United Kingdom, and the United States of America, while the Arabic speaking countries are Algeria, Bahrain, Egypt, Iraq, Jordan, Morocco, Oman, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, the United Arab Emirates, and Yemen (see Appendix G and Appendix H for more information about language map around the world and language statistics). It is expected to receive responses from outside the targeted cultural groups; these responses might be considered in the analysis if number of these responses is relatively high.

Respondents who fail to complete most questions included in the online questionnaire will be excluded from the data set. Those complete either the *Likert*-scale questions (reasons for contribution or reasons for non-contribution) will not be excluded from the data set, provided that they have answered all *Likert*-type scale items in either subscale. Furthermore, those who may leave a few questions of the demographic information unanswered will not be excluded from the data set. This is to avoid losing too many responses; and these unanswered demographic questions will not be replaced by calculated mean or the most frequent answer, to avoid any bias. These cells will be treated as ‘missing’ data when analysed. It is very common that some respondents may leave few of scale items unanswered. With these cases, mean values, of either reasons for contribution or reasons for non-contribution, of a certain participant will replace the missing values.

Statistical analyses

Frequency tables will be used to gain an overview of the demographic characteristics of the participants (age group, gender and education level), whether respondent are contributors or non-contributors, subjects they like to read and/or contribute to, religion, native language, and language of instruction at universities/schools.

Factor analysis: Exploring factors of motivation

Factor Analysis is a technique that is used to ensure that scale items are clustered. Thus, it excludes other items that are not highly correlated with the rest of the grouped items. Therefore, factor analysis is a data reduction technique (Pallant 2005). In other words, this technique summarises the scale items to smaller sets of components (smaller subscales) to make those items more manageable for further analyses (Pallant 2005). This analysis has been used in previous research aiming to establish factors/dimensions such as: 1) Clary *et al.* (1998b) who found functions of volunteers (reasons to volunteer); 2) Triandis and Gelfand (1998) who aimed to refine and support horizontal and vertical individualism and collectivism dimensions; and 3) Legault, Green-Demers and Pelletier (2006) who identified the factors that cause amotivation. When applying factor analysis, it is suggested that the inter-correlations in the matrix should be lower than 0.3. If there are few correlations above 0.3, factor analysis may not be appropriate

(Pallant 2005) – a matter that should be considered when applying factor analysis on the research data set.

There are differing views about the required sample size required to be able to undertake Factor Analysis. While it has been argued that the larger the sample size, the better (at least 300 cases), others suggest that five cases for each item are adequate for most analyses (cited in Tabachnick & Fidell 2007). Therefore, the data collection will cease when a sufficient number of responses (above 300 responses) are received.

Confirmatory factor analyses, such as Varimax rotation, are important to confirm the theories and previous research – if a theory proposes two factors, for example, the Varimax rotation should be instructed to extract two factors. This technique used to structure the sets of variables that parallel with a theoretical study (Pallant 2005). Tabachnick and Fidell (2007, p. 610) further discuss how some researchers use confirmatory analyses, such as Varimax, Orthogonal or Oblique rotations, in different stages, using different runs of confirmatory tests (Tabachnick & Fidell 2007, p. 642):

During the next few runs, researchers experiment with different number of factors, different extraction techniques, and both orthogonal and oblique rotation. Some number of factors with some combination of extraction and rotation produces the solution with greatest scientific utility, consistency, and meaning; this is the solution that is interpreted.

For example, Collins, Litman and Spielberger (2004) use oblique rotation *twice* on the subscales to retrieve more concrete components. Similarly, Nguyen, Le and Boles (2010) conducted a survey to assess individualism-collectivism in a cross-level study on two samples: United States students and Vietnamese students. The data were analysed twice (across two stages):

- 1) Considering the cultural dimensions (of Hofstede as well as Triandis) are mainly Western-oriented, they applied factor analysis on only the US students sample, and retrieved four dimensions: *independence*, *competence*, *group belonging*, and *individuality subordination*.
- 2) Confirmatory factor analysis of the US and Vietnamese samples. Nguyen, Le and Boles (2010) considered *competence* and *independence* as underlying factors of individualism, while *group belonging* and *individuality subordination* are underlying factors of collectivism. In their cross-level model, they found that

individualism-collectivism (I-C) values are impacting the individual cooperation behaviour, where I-C values at the individual level are theorised as bi-dimensional constructs, and the group-level I-C is theorised as bi-polar construct, providing contextual factors for the target relationship of cooperation at micro level (organisation) and macro level (culture).

This suggests that Varimax rotation can be used to analyse the questionnaire's data set several times until an 'acceptable' solution can be reached, meaning that rotated items should support, as far it possible, the proposed model of OER motivation. More specifically, Varimax rotation analysis should be instructed, in relation to current research, to extract two factors in each run: motivation and amotivation; intrinsic motivation and extrinsic motivation; enjoyment and integrated values; external regulation and ego-enhancement/guilt reduction; and inability and unwillingness – according to the research OER motivation model proposed, as discussed in Chapter 1.

Prior to any analysis, such as factor analysis and Varimax rotation, negatively-worded scale items should be reverse-coded. For example, Bearden, Money and Nevins (2006) reverse-coded item scores for some items in their survey that measure *power distance*, *individualism*, *masculinity*, *uncertainty avoidance*, and *long term orientation* (the five dimensions of Hofstede's theory); and then they applied confirmatory factor analysis (using Oblique and Orthogonal techniques) to extract five factors.

Therefore, the 16 identified reasons for non-contribution will be reverse-scored before all the scale items, both the 13 identified reasons for contribution and the 16 identified reasons for non-contribution, are included in the factor analysis and confirmatory Varimax rotation performed. Then, after each subscale, 'reasons for contribution' subscale and 'reasons for non-contribution' subscale, are clearly shaped, a number of Varimax rotations will be applied on the combined sample of the cultural groups in relation to each subscale to test and confirm the proposed model. Factors emerging from this analysis will be used for the next stage to undertake comparison between cultural groups.

Any scales and subscales should be reliable. Ideally, the alpha coefficient of a scale should be above 0.7 (Pallant 2005). However, it is common to find the alpha coefficient as low as 0.5 in cross cultural studies (Kâğıtçıbaşı 1997, p. 28). Only results can tell, whether internal consistency is ideal or as low reliability as what is common in cross cultural studies.

One-way ANOVA: Differences between cultural groups

Varimax rotation is designed to cluster items to reveal different dimensions in both subscales: 'reasons for contribution' and 'reasons that hinder and decrease contribution'. One-way ANOVA will be used to explore significant differences between reasons for motivation (intrinsic and extrinsic) and reasons for amotivation among the research cultural groups (Anglo and Arabic).

Regression analysis: Exploring independent variables and their contribution to the variance of approach and avoidance motivation

Multiple regression analyses are a set of techniques that are used to explore sophisticated interrelationships between one in an interval of measured dependent variables and a number of independent variables. This analysis is an ideal technique to investigate real-life rather than laboratory-based problems (Pallant 2005) – which means that this analysis is suitable to investigate OER motivation across cultures.

Regression analysis is used to explore the importance (B) of each independent variable in having an impact on the dependent variable. Regression analysis may also be used, at a sophisticated level, to explore the relationship between a dependent variable and a number of independent variables, when some effects of other independent variables are statistically eliminated (Tabachnick & Fidell 2007) – the case that argued is occurring in relation to the many individual and contextual factors affect on OER motivation. In undertaking regression analysis extreme cases can affect the precision of the estimation of the regression (Tabachnick & Fidell 2007). Therefore, any such extreme cases will be deleted or transformed prior to undertaking regression analysis.

Two types of regression analysis will be used: *standard regression*, followed by *stepwise regression*. Firstly, standard regression analyses will be used to explore the important independent variables that contribute most to the dependent variable. More specifically, *standard regressions* will be performed on factors that emerge from Varimax rotation factor analyses to exclude independent variables that do not provide additional prediction to the dependent variables included in the equation. After identifying and confirming the ‘important’ independent variables, *stepwise regressions* will be used on variables that are identified from standard regression.

In the theoretical study, it is argued that:

$$\text{Motivation} = f(\text{culture, individual's education, educational context, demographic factors})$$

Where

Culture = $f(\text{religion, history of their country, native language})$;

Individual's education = $f(\text{education level, education field, mastering the ICT})$; and

Educational context = $f(\text{level of ICT equipment in schools, teachers using ICT, language of instruction})$.

Standard regression will be conducted to explore ‘important’ independent variables (variables that follow the ‘=’ in above formula) on dependent variables (factors that will be emerged from Varimax rotation). Then, *stepwise regressions* will be entered in the order, to identify the contribution of each ‘important’ independent variable in the variance of different motivational factors. Because culture is an important factor impacts upon motivation, it will be entered in each run of regression analysis alongside other individuals (such as gender and age) and contextual factors (such as the level of ICT equipment at schools and digital literacy of teachers).

This analysis will help identify ‘important’ factors that need further exploration through the next study, which involves interviews with respondents who agree to participate in this next stage of the study.

Content validity

There is a common confusion between reliability and validity. Measures in any research should be reliable and valid (Babbie 2010, pp. 150-156). Reliability of measurement suggests that the same data would have been collected in each repeated observation; validity refers to the extent to which an empirical measure reflects the real meaning of the concept under examination adequately. Research involving both qualitative and quantitative approaches, as the case of examining the OER motivational phenomenon across cultures, is complex since quantitative methods tend to be more reliable, while as a general rule qualitative methods have more validity (Babbie 2010, p. 156).

Another major challenge in undertaking research involving a ‘single’ researcher undertaking the coding, is that there is a risk that analyses may be ‘subjective’. However, at the same time, it can be argued that ‘different coders will code the same editorial differently’, since even if a standard coding scheme is established, coders will classify behaviours differently across identified categories (Babbie 2010, p. 151). Even research participants may have different answers for the same questions at different times. To address this potential reliability problem, an adapted established measure will be used to reflect the nature of volunteering to OER, as discussed in Chapter 5, and incorporate other aspects of voluntarism to OSS, OCW, and RWO as discussed in Chapter 3 and Chapter 4. This adapted measure that constitute the web-based survey scale needs to be validated.

The open-ended questions constructed to identify reasons for contribution and reasons for non-contribution will provide a sense of *content validity*: ‘the degree to which a measure covers the range of meanings included within a concept’ (Babbie 2010, p. 155). If answers to these open questions show consistency with meanings of scale items, then the measure can be considered valid – and vice versa.

As discussed earlier in this chapter, research participants will have the opportunity to add any reasons for contribution, and/or any reasons they see might reduce their motivation or hinder them from contribution, in their own language. Analysed reasons, as expressed by potential research participants, will help to validate reasons identified in the theoretical study. These reasons, and for organisation and presentation purposes, will be reported using serial number following their country, to represent their culture (i.e. USA008, Australia005, Egypt007, and Iraq011 so on).

2) The face-to-face (F2F) questionnaire

This F2F questionnaire study is argued to be needed for the following reasons:

- 1) While the online questionnaire aims to explore motivation at the ‘universal’ level, the sample itself is not broad enough to represent all individuals around the globe; an approach which would not impossible due to time and resource constraints.
- 2) The sample size of the online questionnaire may not be equally divided between collectivist (Arabic) cultures and individualist (Anglo) cultures, provided that there are already significant differences in the number of users across the Arabic and English Wikibooks.
- 3) The views toward reasons, as either self-oriented (self-focused) or others/community/system-oriented (others/community/system-focused), differ from one culture to another. For example, while having friends can be seen as others-oriented to individuals from one culture, it might be seen as self-oriented to individuals from another culture. This is an issue that could not be explored using the online questionnaire.
- 4) Instructing Varimax rotation analysis to extract a certain number of factors is an approach which has been criticised because it involves ‘directing’ results to a certain path wished by a researcher (cited in Tabachnick & Fidell 2007).

For all of the above reasons described, there is a need for this supplementary study that deals with such issues – as discussed below in more detail.

A) Objectives of the F2F questionnaire

Results shall be obtained from the F2F questionnaire aim to validate the quantitative study of the online questionnaire. As issues described above, there is a need to consider views about self-oriented and others-oriented goals, from individualist and collectivist cultures, around the universe. At the same, Wikibookian motivations, as will be examined through the online questionnaire, should be considered as a representative sample for the ‘universal’ motivation. Triandis and Gelfand (1998) study exploring cultural differences highlights potential solutions to such problems. Triandis and Gelfand (1998), for example, used results received from one study and applied to the data obtained from another study. Participants in F2F questionnaire are not OER users or *producers*, but they can comment on motivations of OER users or *producers*, as being considered self-oriented or others-oriented. In doing so, results of F2F questionnaire can be used to re-analyse the data set of online questionnaire – the ‘actual’ OER *producers* to assess their motivations whether they are self-oriented or others-oriented.

The face-to-face questionnaire aims to further explore the findings obtained from the online questionnaire. It is argued that this approach will provide richer data to shed further light on the findings from the online survey. The face-to-face questionnaire has several advantages:

- 1) Among other methods of survey research, including phone questionnaires, mail questionnaires, and web-based questionnaires (Corbetta 2003; McBurney & White 2010; Saris & Gallhofer 2007), meeting face to face between a researcher and research participant is one of the oldest methods to administer questionnaires, in which a researcher is responsible for contacting and collecting information from respondents (Dykema, Basson & Schaeffer 2008).
- 2) It is argued that F2F meetings result in a higher response rate (90%) (Dykema, Basson & Schaeffer 2008; McBurney & White 2010; Neuman 1994; Neuman 2003), compared to other means of surveying. Thus, this approach is likely to result in obtaining a good number of responses within a short time.
- 3) Data obtained from the F2F questionnaire can be considered accurate and reliable, because any misunderstandings, when apparent, can be clarified by the researcher; at the same time, the researcher is able to ensure that research participants answer all of the questions (see also McBurney & White 2010).

- 4) The sample is representing the offline context, which suggests it will not be a biased sample. Such sample can cover different age groups, different educational levels, different genders, and different socio-economic backgrounds of research participants. Unlike this F2F sample, a bias matter is of concern when conducting online research to examine offline context phenomenon (Hewson & Laurent 2008; Hewson *et al.* 2003).
- 5) Classifying reasons/goals as self-oriented or others-oriented might be confusing for research participants when they answer the questionnaire. Therefore, the F2F approach allows the researcher to provide detailed explanations of how to answer the questionnaire. Despite the extra effort required to explain how to answer the questionnaire, this minimises the level of effort required of respondents to answer the questionnaire (Mishra 2008). An issue of ‘social desirability’ may exist due to the presence of researcher (see also McBurney & White 2010). Social desirability is a broad term and involves different situations where research participants are not fully neutral when responding to surveys. In this case, the F2F questionnaire, the presence of the researcher and instructions they provide to research participants may cause situations of desirability towards certain responses.

B) Design techniques of the F2F questionnaire

This additional study uses the same scale items used in the online questionnaire. However, answers to this F2F questionnaire differ from the online questionnaire in several ways. The F2F questionnaire, see Appendix D, consists of only two types of questions out of the four possible types: demographic questions, questions about past experience and present activities, questions about respondents’ knowledge, and questions about respondents’ beliefs and values (Gray *et al.* 2007). These two types involve:

- 1) A question about the country where respondents live most of their time (in short answer form) to identify their culture they exposure; and
- 2) Questions about respondents’ opinions regarding Wikibookian motivations and amotivation (in the form of nominal questions). In nominal questions, responses are represented as options (Saris & Gallhofer 2007), which means that this type of question is closed-ended, with answers pre-specified by the researcher (Peterson

2000). Such pre-specification of responses enables the research to emphasise those answers relevant to the study of OER motivation (Peterson 2000).

Research participants are required to provide their opinions about the 29 statements, that are included in the online questionnaire, representing reasons for contributing to Wikibooks (13 statements), and reasons for avoiding contribution to Wikibooks (16 statements). Respondents will be asked to choose one response from three the following three options:

- a goal that represents a self-oriented motivation and self-focused amotivation;
- a reason that reflect an others-oriented motivation and eco-focused amotivation; or
- if they unsure about either of previous two possible answers, they can choose ‘I do not know’ answer.

Self-oriented motivations include rewards/pain reduction for oneself, or a belief in oneself. Others-oriented motivations include reasons for contribution that involve a return to the whole community (community obligation) or being directed by the community to contribute; but research participants might also have differing opinions. Self-focused reasons for non-contribution involve inability, inability belief (lack of confidence in their ability), or any personal reasons that may hinder people from contribution. Eco-focused reasons for non-contribution reflect views about the system, community, and other individuals.

The provision of an ‘I do not know’ option in the F2F questionnaire increases the reliability of the questionnaire responses, since responses are more likely to reflect respondents’ confidence about the answers they choose. The ‘I do not know’ options reflects hesitance in a respondent about the appropriate choice of opinion. It is suggested that not more than 15% is anticipated in the ‘other’ choice (Peterson 2000) – an equivalent answer to ‘I do not know’ in the F2F questionnaire. However, if more than 15% of respondents choose this answer further consideration will need to be given to alternative questioning techniques (Peterson 2000).

The F2F questionnaire is written in English. Although translation to national languages is preferred when approaching respondents from different linguistic backgrounds (Saris

& Gallhofer 2007), it is very difficult to make different language versions of the questionnaire due to funding and time constraints as well as the effort involved in carrying out accurate translations. More specifically, since the native languages of potential research participants are unknown, it is difficult to make different language versions of a questionnaire that accommodates all of the possible languages that need to be represented. Regardless of such shortcomings, the interpretation of written words is held to be more accurate than that of spoken words (Peterson 2000).

C) Administration procedures of the F2F questionnaire and data management

This questionnaire will be conducted in Adelaide's central business district (CBD). The CBD has places of attraction (such as Rundle Mall, the SA Art Gallery, and the SA Museum). Adelaide, as a major capital city of Australia, also attracts tourists and international students from all over the world, and is also a multicultural.

Data will be collected from participants representing individualist and collectivist cultures. The selection of participants will be determined by their racial appearance. The matter of 'selectivity' based on racial appearance can be considered one of the limitations in this F2F questionnaire study (Peterson 2000). There appears to be little choice to determine the participant cultures other than by racial appearance – an acknowledged limitation, since it was not feasible to collect such data in the home country of the participants. The racial appearance allowed the researcher to select tourists and international students who were visiting or studying in Australia. Despite this limitation, the direct short-answer questions included in the questionnaire produce a large and positive statistical effect for reliability (Peterson 2000; Saris & Gallhofer 2007).

To attract attention of potential research participants, a simple question '*Do you know Wikibooks?*' or '*Do you know Wikipedia?*' will be asked. Such attracting question will not affect the reliability of responses, because it only acts as an introduction statement to participants to attract their attention. Furthermore, although it might be said that potential research participants may not have experienced using Wikibooks (or

Wikipedia), the popularity of Wikipedia will help participants to make their own choices, especial after terminologies of ‘self-oriented’ or ‘others-oriented’ will be explained before they begin to answer the F2F questionnaire.

Those who show their awareness about Wikibooks and/or Wikipedia will be asked to participate in the F2F questionnaire. Information about the nature of questionnaire and the time needed to answer the questionnaire (5-10 minutes) will be provided to each potential research participant. Although the consent form is printed on the other side of the questionnaire, the consent itself will be verbal once a potential research participant has decided to participate in the questionnaire.

Once the potential participant has given their consent, instructions about how to answer the questionnaire including statements, answer options, and explanations of terminologies (self-oriented and others-oriented) will be provided. The country, to reflect the culture that a participant exposure to, will be collected first, before seeking their opinions about each of the statements. Each statement will be read to participants, exactly as it is written, to avoid changing the meaning of the questions (McBurney & White 2010). Research participants will be encouraged to complete answering the questionnaire through the use of non-verbal stimuli, such as smiling for two or three seconds at a participant and/or looking for a little more than two or three seconds at respondents' eyes to encourage them to think of an appropriate answer. By doing this, participants may not be tempted to choose the easy answer of ‘I do not know’. Cargan (2007) specifically highlighted such problems and suggested that ‘the respondent should be prompted to make sure [the answer] reflects his or her true beliefs and is not just a dodge’ (Cargan 2007, p. 109).

D) Analysis techniques of collected data through the F2F questionnaire

The F2F questionnaire study involves recruitment of an equal number of participants from each cultural orientation (individualist culture and collectivist culture) based on Hofstede’s (2001) classification of national cultures. Therefore, the binomial test will be used to analyse the F2F questionnaire data. The binomial test is a procedure that is used

to compare two populations in which the sample populations consist of paired observations (Mendenhall, Beaver & Beaver 2009, p. 639). In this current study, the paired observations are self-oriented and others-oriented motivations. The binomial test assumes a minimum number of responses from each population, in this case, should not be less than 25 cases; and at the same time, the size of the two samples, the individualist participants and collectivist participants, should be ‘identical’.

A binomial test evaluates the same basic hypothesis as a χ^2 test evaluating the goodness of fit; and can be represented as follows:

$$\chi^2 = Z^2$$

χ^2 represents the Chi-square test statistic for goodness of fit, and Z^2 represents the binomial test.

A binomial test evaluates the potential result of equality where equality is more likely to occur if N is large rather than small (Huck 2009). Binomial distribution illustrates the probability, p , of the outcomes being focused on as equal to 0.50: ‘the probability of observing a result that *exactly* matches N_p is different from the probability of observing a result that *approximates* N_p ’ (Huck 2009, p. 92).

To ensure the ‘identical’ and ‘optimum’ requirements are met, data will be saved and stored in an Excel spread sheet; and an audit will be conducted on a continuous basis to ensure the ‘balanced’ samples. Each questionnaire response will be given a serial number, and the country will be recorded for the purpose of such audit process, necessary for this test. Responses will be coded as 1, 2, or 3 to represent self-oriented/self-focused choice, others-oriented/eco-focused choice, or ‘I do not know’ choice, respectively. If a participant identifies an item as self-oriented as well as others-oriented, their answer will be considered as an ‘I do not know’ answer, since their answer indicates hesitation. All ‘I do not know’ answers will be treated as missing, since the binomial test examines significant differences of paired observations.

Results will be obtained from this sign will be used to re-analyse the data received from the online questionnaire – this is to see how OER *producer* motivations can be seen as self-oriented or others-oriented. The results from this analysis will help to further explore self-oriented / others-oriented motivations and self-focused / eco-focused

amotivation for contribution to Wikibooks of ‘actual’ OER users. Results from the ‘re-analysis’ will also help to validate the results obtained from the online questionnaire. Furthermore, results of ‘re-analysis’ can provide an indication to how individuals across individualist and collectivist cultures do rational decision making, when contribution benefits *producers* more than benefiting the community or others. It is argued that OER users may not contribute when they do not have sense of benefits.

3) The online interview

As explained in a preceding section of this chapter, questionnaires are limited in that they cannot explain causal relationship between variables. Online meetings provide an opportunity to further explore OER user education, skills, and values; their surrounding environments including education system – not only as a factor of acculturation, but also enabler/hinderer of OER engagement. Education systems may enable or hinder the use of OER engagement, depending on levels of ICT equipment and teachers’ digital (ill)literacy. How OER users see the world around them, as a way of distinguishing themselves from the other, will also help assess OER *producer* motivations across culture – exploring their understandings of culture helps crystallise reasons for OER contribution across cultures.

Individuals are interacting within their socio-cultural contexts where their actions and values are reshaped and filtered by habitus, traditions, and beliefs; and that is consistent with socially collective responses (Bourdieu 1984). Therefore, understanding Wikibookian beliefs about Wikibooks and their context is essential to understanding contributors’ motivations. Such analysis will be enriched by paying attention to the social processes evident within local contexts, and acknowledging how contexts shape understandings is crucial to establishing self-reflexive awareness (Saukko 2006). Analysis of cultural data interlaces contextual analysis of the social structure impacting upon responses. The interviews will, therefore, provide a picture of how respondents feel about themselves, as well as their perceptions of their social reality (Fontana & Frey 2006). Participants from different cultures may respond differently and it is

important to distinguish such differences within the represented data to achieve clear comparisons (Ryen 2001).

While the ‘universal’ quantitative measures – as obtained through online and F2F questionnaire – help ‘deduce’ differences at cultural level, these ‘individual’ qualitative observations – through interviews – will help ‘induce’ cultural differences. The study of these two levels (the universal level and the individual level) will help to provide a richer understanding of the OER motivational phenomenon across Arabic and Anglo cultures. Such moves from ‘why’ to ‘whether’ – deduction that starts from theory – and from ‘whether’ to ‘why’ – induction that starts from observation – work together to provide complete understandings this social phenomenon (Babbie 2010, pp. 23-56).

A) Objectives of the online interview

As argued in the theoretical chapters, OER users and their demographics, interests and values, education field, and occupation are part of a whole system, where culture, including religion and educational system, plays a significant role in building the foundation for user orientation toward/against contributing to Wikibooks.

The categories used within cross-cultural studies in particular, including Hofstede’s structuring of cultural values, are central to the examination of cross-cultural differences in OER motivation. However, online questionnaires and F2F supplementary questionnaires are limited in their ability to provide information that enables the research to draw causal explanations between cultural values and OER motivation. But at the same time, there is a need to go beyond the ‘limited’ cultural values as expressed in ‘direction’ and ‘intensity’. Culture is not only about influences in a society that reshape people, it also involves meanings that people develop about their surrounding environments: how OER users see and experience wikis and Wikibooks, bringing their traits, values, and skills help assess differences among cultural groups.

As argued in this chapter, motivation is multileveled and complex. Research on voluntarism, in RWO, OSS, OCW and OER, outlined in Chapter 3 and Chapter 4, depends heavily on quantitative methods (see for example Clary *et al.* 1998b; Lakhani & Wolf 2005a; Nov 2007a; Nov & Kuk 2008; Roberts, Slaughter & Hann 2006; Sajjapanroj *et al.* 2008; Wu, Lo & Liu 2009; Xia & Subramanyam 2008). Such quantitative methods cannot go beyond the ‘superficial’ reasons for volunteering.

Furthermore, Shye (2010) highlights the methodological difficulties that commonly occur when conducting motivation-to-volunteer research: a response by a volunteer to a question such as ‘why did you volunteer?’ (Shye 2010, p. 185) rarely includes all the motivating factors. Shye (2010) explains further that a questionnaire response does not necessarily provide a *full* measure of a volunteer’s motivation. Replies to such question usually reveal the presence of the *social desirability problem* (Shye 2010, p. 186) whereby a volunteer tends to feel compelled to report altruistic motivations – a finding that is consistent with the findings from a recent study exploring motivations for contribution to English Wikibooks (Metzer & Hanna 2011).

To avoid these methodological issues, the social desirability, Shye (2010) recommends a method that can be adopted ensure that all the motives can be presented is by asking volunteers why, in their view, people volunteer. This makes it possible to compare between volunteers and non-volunteers – an argument that is supported in Shye’s (2010) research which found that regardless of the revealed difference, the overall responses proved to be quite close. This, too, is argued to be a useful approach to examine motivations for contribution and non-contribution to OER Wikibooks.

Interviews study adopts a slightly different approach: it will incorporate explicit and implicit motivational understandings. Interview research participants will be asked to express ‘explicitly’ their reasons for volunteering (or not volunteering) to OER Wikibooks, as a means of self-reported reasons. Research participants will be also asked their opinions about others’ reasons for volunteering (or not volunteering) to OER Wikibooks, as a mean to understand ‘implicit’ motivation. A clearer picture could be drawn.

There is a need, however, to understand user experiences with using wikis and Wikibooks, as well as their perceptions about the self and the other in relation to reasons for contribution/non-contribution. Such experiences are related to how participants consciously or unconsciously view their culture and context. How do Wikibookians feel about promoting contribution, and the need for Wikibooks development? Understanding user experiences and motivations in relation to Wikibooks use is imperative in promoting future uses of open educational resources through designing OER that match with user motivations according to cultural preferences of specific target populations. Wikibookian thoughts about promotion ideas and development needs will help address any difficulties in OER use in curriculum and appropriate marketing strategies. How then can information be generated with enough detail to capture motivation at such a level of depth?

B) Design techniques of the online interview

Among different techniques for interviewing including structured and unstructured, semi-structured interviews allow participants to express themselves in their own words and explore issues in greater depth within a limited time frame (Bernard 2000). In other words, semi-structured interviews allow the interviewee the flexibility to interact with the interviewer and interview questions; while at the same time minimising the time and effort required of both interviewer and research participants. Semi-structured interviews therefore provides an ideal method to further understand individuals' life experiences and intimate values (Elliott 2006), as well as any disagreements between real and ideal; and self and society (Riessman 1993).

Semi-structured interviewing is used in situations where there is less chance of meeting the participant again (Bernard 2000) – in this case, interviews study is the last study of the PhD research and is of a fixed duration. Given these constraints, written list of topics that need to be covered in the interviews will be outlined before commencing any interviews (Bernard 2000).

Interview process and recruitment methods

The recruitment of interviewees involves single-method and multi-method recruitment, each requiring ethics approval (Appendix A and Appendix C include approval for the single method and the multi-methods respectively).

Single-method recruitment

In the online questionnaire stage of the research, participants who agree to be interviewed are required to leave their email addresses in a separate contact form. After the quantitative analyses of the online questionnaire data is completed, invitation emails (with information sheet attached) will be sent to interested participants, anonymously, using non-personal emails. Potential participants will need to respond to the email invitation with their country, city, and preferred time (see Appendix A and Appendix C for email invitation & information sheet). Their responses will indicate their consent to be interviewed. Once their responses are received, they will be sent invitations to add the researcher's IM identity, *interviewonwikiboos*, to their messenger's contacts.

Multi-method recruitment

A secondary action plan has also been prepared to address potential issues relating to a low response rate. This action plan requires the approval of Wikibooks administrator (see Appendix C) and involves:

- 1) Publishing a web notice on the Arabic and English Wikibooks homepages to recruit participants. Participants will be asked to provide their IM email addresses and their first/nick names for the purpose of emailing personal invitations to their messenger add-contact. Such 'Personalised emails', it is argued, have the potential to enhance response rate (Hewson & Laurent 2008).

- 2) Email distribution to Wikibooks and Wikimedia Foundation mail lists will invite potential participants (and *only* those who are Wikibooks users) to fill in the interview form with their IM email addresses.
- 3) Email invitations will be sent to those who express their interest in being interviewed when participating in the online questionnaire.
- 4) When each email address of potential research participants who express interest in being interviewed are received, 'add contact' invitations will be sent to them from the researcher's digital IM identity '*interviewonwikiboos*'.

Which online interviewing technique should be used?

The population of this study are online OER users who are distributed around the globe. This implies that interviews will be conducted via the internet since it is difficult, and perhaps impossible, to meet research participants face-to-face (O'Connor *et al.* 2008). This method is thus considered to be 'computer-assisted' (Couper & Hansen 2001).

Computer-assisted techniques in online interviewing can be: 1) *asynchronous* (using email conversation and online discussion forums), where participants are invited to respond to questions in the body of emails or on discussion boards; and 2) *synchronous* (using instant messaging software such as MSN Messenger and ICQ) (Hewson & Laurent 2008). Synchronous communication methods to conducting online interviews overcome some of the limitations of asynchronous approaches. These limitations include lack of continuity due to the extended interview duration carried over different stages/days, alteration, by a research participant, in discussion board posts or email content, and breakdown in conversational flow (O'Connor *et al.* 2008). Therefore, a synchronous interview technique will be used to meet with potential research participants. Instant messaging is a communication format that mediates directly between the sender and the receiver of messages, through the internet (Gaiser & Schreiner 2009). It allows messages to be sent either online or offline; and these messages can be logged (Gaiser & Schreiner 2009).

Semi-structured interviews will be conducted through an instant messaging (IM) system. IM systems allow synchronous computer-mediated-communication (CMC); and this can help to establish a dynamic, chatty, and interactive communication with an immediate sense of the other, as well as a high degree of control over the interview process (Mann & Stewart 2005). To be able to examine OER motivation at the ‘individual’ level, meetings with potential research participants will be conducted individually. Such one-to-one communication facilitates a voluntary and mutual association between the researcher and potential research participants (Mann & Stewart 2005).

A common concern in all online research relates to the risk that the sample does not represent the population – a ‘biased sample’ towards educated, digitally literate, and above-averaged socioeconomic status individuals (Hewson *et al.* 2003, p. 32). In this case, the biased sample, it can be argued, is not of a concern in this interviews study. This is because the population of the OER *producers* are those who are educated and digitally literate. Furthermore, Wilson and Dewaele (2010) argue that there is evidence that suggests the internet population is rapidly moving beyond this group. Another potential concern in relation to representativeness of the sample is the possibility of gender-bias.

However, previous research, in OSS, OCW, and OER, shows that their samples are male-biased (see for example Bitzer, Schrettl & Schröder 2007; Forte & Bruckman 2006b; Hars & Ou 2001; Hertel, Niedner & Herrmann 2003; Krishnamurthy 2006; Lakhani & Wolf 2005a; Nov 2007a; Sajjapanroj *et al.* 2008). Furthermore, a superficial, and perhaps inaccurate, assumption that Wikibooks usernames reflect their gender. It suggests that Wikibooks users population is male-dominant since usernames, more or less, are male-biased (see Wikibooks 2011c; Wikibooks 2011d).

A more relevant concern for this interviews study relates to the authenticity of responses. It is argued that participants in online interviews are able to disguise their nationality, gender, age, occupation and even their interests (Hewson *et al.* 2003). However, repeating questions in different forms may allow checking the reliability of interview responses. For example, asking a research participant about their user page helps, to some extent, verify their gender and their readings/writing preferences (Hanna 2011); and a combination of age and educational level or occupation and age may indicate to their age (Hewson *et al.* 2003), or country, city and language can help to determine authenticity of participant responses in relation to their culture. Despite these possible limitations, IM remains an effective tool to conduct interviews, with participants who are geographically distributed.

Written communication

Online interviews will be conducted using instant messenger software. Examples include *MSN Messenger*, *Yahoo Messenger* and *GTalk (Google Talk)*. While IM software allows for a range of different communication modalities including voice and text, interviews will be conducted using text chat. IM systems provide an easy means of contacting globe-distributed potential research participants; and it also minimises the potential technical and communication difficulties – as discussed in detail below:

- Text-based chat systems provide a real-time direct communication channel between research participants and researcher.
- The ‘*add contact*’ feature is another advantage of this software, allowing invitations to be instantly sent to participants, who can in turn easily accept those invitations.
- Written communication, as in emails and text messages, is more precise than oral communication. Writing lacks nonverbal cues, and is more formal and undisputed (Schafer 2010).
- Writers often think more carefully about what they write (Schafer 2010), so participants have more time to carefully craft their responses.
- Text-based conversation is more reliable (King 2008; Niinimäki, Piri & Llassenius 2009) than transcribed audio/video taped interviews, since the transcription process can change meanings significantly (Kvale 1996, 2007).
- Although written communication lacks emotional and paralinguistic cues, there is

evidence of widespread use of emotive symbols in emails and text messages, which are designed to fulfil a similar function in written communication (Schafer 2010).

- Using text instant messaging means that interviews are ‘immediately transcribed in the messaging window’ (Gaiser & Schreiner 2009, p. 62). Text-based chat saves time associated with transcribing audio/video interviews (O'Connor *et al.* 2008). Such audio/video transcription process, one hour of conversation may take 6 to 8 hours to transcribe (Bernard 2000).
- The use of text based IM communication ensures that only invited participants are able to respond to the interview (Fielding, Lee & Blank 2008).
- Text-based chat overcomes the potential misunderstanding that can occur in oral conversations between people of different cultures, languages, and dialects, since communicators (researchers & research participants) have the time to read and think more carefully about their transmitted messages.
- Text-based chat overcomes potential limitations relating to poor bandwidth as text chat does not require high speed internet connection, like video/voice chat.
- Text chat allows both participants and researcher enough time to read the written instant messages posted, and minimises problems relating to interpretation of comments made by participants.
- As a computer mediated tool over the internet, text-based instant messaging overcomes the problem of the time/space difference between communicators; and when both researcher and a potential research participant are online, immediate communication can be established.
- Instant messaging overcomes difficulties that are posed in face-to-face interviews, which may be impossible or risky to conduct (Couper & Hansen 2001; Mann & Stewart 2001).
- Digital files of text conversations can be saved and copied easily, thus allowing for easy management and quick editing.
- Both interviewee and researcher can maintain a chat history of the text conversation. The conversation history can be stamped with the time and date of the conversation. This chat history builds a convenient data archive for the many processes involved in interview editing and analysis.
- Most IM systems have features allowing users to ‘*change statuses* from/to *available/busy/away*. Similarly, this feature allows the researcher to change their status to ‘*busy*’ during interviews and so avoid any possible interruptions.

- The ‘*offline messages*’ mode is a useful feature that allows the researcher to schedule or reschedule the interview time when needed in a more efficient way.
- Text-based chat allows interactivity between communicators, but also overcomes communication barriers of shyness that research participants may face. Research participants feel more secure with text chat as there is no need to communicate by voice or to show their face/body in video chat.
- IM systems allow users (and research participants) to remain in the contact list for future conversations, if needed, thereby enabling follow up interviews, whether by offline message, email, or even text-based chat when they are available.
- IM systems also provide emoticons (symbols that express emotion) that allow research participants to express their emotions more freely (Jones 1999). Emotions will be used and interpreted for the purpose of continuing interviews – and not for any later emotional analysis.
- The anonymity involved in online communication can lead to an enhanced self-disclosure (Hewson & Laurent 2008), because participants do not feel threatened since responses cannot be associated to their ‘real’ identities.

Trillian: The interviewing software

Trillian software (Trillian Astra 2010c) will be used to conduct the interviews. This software is a particular type of instant messenger software that includes a number of additional features:

- Trillian integrates different accounts from different instant messaging providers such as *Yahoo*, *MSN*, *GTalk*, *ICQ*, and *AIM* in one account (Trillian Astra 2010a). Research participants may have different IM accounts, which might involve extra effort and time in managing different IM software if this type of ‘all-in-one’ messenger is not used.
- Trillian provides a feature that enables the researcher to maintain the history of a conversation with time and date stamp, sorted into folders (according to instant messaging providers). This feature helps record-keeping (chat transcriptions and time stamps), all done automatically, without additional effort or any risk of losing details of a conversation.
- Although it is argued that online interviews require both researcher and research participant to download communication software, adding a level of complexity

(O'Connor *et al.* 2008), the web version of messenger software deals with such issues. *Trillian Messenger* has a web messenger system that enables text-based conversation without the need to download the software (Trillian Astra 2010b).

- The above feature also makes it possible for the researcher to conduct interviews from any PC, anywhere, whenever needed, without any extra stress or effort in setting up interview software.
- Participants are not required to download plug-ins to use this software. They are able to use their regular IM software.
- This software maintains all contacts in one contact list; and thus reduces the workload of maintaining and running different instant messaging systems.

To be able to use this software, the researcher will need to create a free account with *Trillian Astra* using the same IM identity '*interviewonwikibooks*'. The researcher will be using the free version of the software, since no audio/video communication will be established.

The interview guide

It is argued that most interviews these days occur without any overview of the themes to be investigated (Kvale 1996). However, since interviews are the third step in the current research, and the interviews are designed to deepen analysis of the research data collected in online questionnaires and F2F questionnaire, the topics to be covered in the interviews are purposely directed towards certain themes. In this way the interviews can deepen understandings relating to the domain of these themes. As Kvale (1996, p. 95) argues:

Without any presentation of the existing knowledge about the topic of an investigation, it is difficult for both researcher and reader to ascertain whether the knowledge obtained by the interviews is new, and thus what the scientific contribution of the study is.

The use of a flexible interview guide can help to ensure that in-depth semi-structured interviews maintain focused (Mason 2004; Wolcott 2001). The topics to be covered in the interviews, as discussed below, include the experiences of contributors with wikis and Wikibooks, their reasons for contributing/non-contribution to Wikibooks, how they see others in relation to their reasons for contribution/non-contribution, how they see

and define their culture, and the impressions and opinions they have about the whole system including education system (schools and teachers).

Since the interviews are semi-structured, the only specific questions to be asked are those relating to demographic data. Topics that will be discussed with research participants include:

- Demographic questions: country, age, gender, education level, occupation, and religion.
- Participants' experience with wikis and Wikibooks.
- How a participant sees and defines their culture.
- Participants' reasons for contributing to Wikibooks (explicit & implicit reasons).
- From participants' perspectives, the possible reasons they feel others might be motivated to contribute to Wikibooks.
- Their views on the factors that hinder and/or decrease their contribution.
- The reasons they feel that might hinder others in the society from contributing.
- What are the topics a participant likes to write to, or read; and why.
- Their opinions on the future development of Wikibooks (technical views) and its promotion (social & non-technical views).

Ethical issues in interviewing

Although this interview study has gained a research ethics approval, ethical issues during interviewing should also be considered. Interviewees will be emailed with information sheets about the research, its aims and scope, and the sort of questions will be asked during the interview. Interviews are voluntary, and a research participant has the right to leave the interview at any stage during the interview.

It must be stressed that it is difficult to assess and judge participants' reactions to interview questions (Eynon, Fry & Schroeder 2008). Although research participants have the right to not respond to questions they find offending or may breach their privacy, they might still take offence to certain questions. For instance, while asking about religion-affiliation of Arabic participants is acceptable in Arabic culture, such a question may be offensive for some Anglo research participants. This question cannot

be ignored, since ‘religion’ is a main source of identity formation (Foucault & Voeltzel 1999; Gruenwald 2009; Madeley 2009), and is found significant in many volunteering activities (Hood, Hill & Spika 2009). If such a question is seen as problematic, a less direct form of question will be asked, such as whether a participant contributes for humanitarian or religious reasons. Managing interviews requires a good rapport from the researcher (cited in Eynon, Fry & Schroeder 2008).

C) Administration procedures of the online interview

About the interview process

Most interviews are expected to take between an hour and an hour and half. Interviews will be conducted with those who accepted ‘add contact’ invitations to their IM messengers. This approach involves non-traditional consent to participation in the interview. Therefore, at an agreed time convenient to the researcher and participant, the researcher will initiate the interview process at that time make sure that the participant is ready for the interview, and aware of the objectives of the study. The topics in the interview guide will be covered during the interview. Research participants can choose the language they prefer for the interview either Arabic or English. At the completion of the interview the participant will be invited to add any additional information they wish. Once participants have indicated that they have nothing further to add to the interview, they will be thanked for taking the time to provide useful information to the research.

It is expected that most interviews will be conducted out-of-work-hours to suit the participants’ availability.

Administering the interview transcripts

Once an interview finishes, the data will be saved to the assigned specific folder on the secured hard drive, for further processes before the analysis is undertaken. As discussed earlier in this chapter, Trillian includes the IM identities of communicators (the ‘interviewonwikibooks’ identity and the IM identity of research participant) along with the date and time stamp. These processes include: 1) Protecting the confidentiality of a

research participant; 2) Translating Arabic interviews into English; and 3) Editing interview transcripts.

Protecting the confidentiality

A pseudonym will be given to each interviewee to maintain confidentiality; but at the same time, this pseudonym will reflect their gender and cultural background for reporting purposes. According to the Data Protection Act (DPA), 'personal data' involves any information relating to an identified/identifiable living person, and may include combinations of information from sources that could permit identification (Charlesworth 2008). According to the DPA, pseudonymised data is also covered, since pseudonyms or codes can be linked back to a specific individual. Sensitive personal data, according to DPA, include political opinions, racial and ethnic group membership, and religious beliefs (Charlesworth 2008). Fully anonymised data is outside the DPA (Charlesworth 2008). Therefore, research participants are protected when a pseudonym is used, without any risk about their sensitive data.

As discussed earlier in this section of the chapter, research participants will be asked some questions in different ways, to ensure the participant is authentically responding to the interview questions. Other strategies for ensuring the authenticity will include the requirement for participants to provide the url of their personal page on Wikibooks. Any identifying data will be deleted from the interview transcript, and will be replaced by a description.

Translating Arabic interviews into English

Interviews will be conducted in either Arabic or English to suit research participants. It will be necessary to translate Arabic interviews into English since this research is being conducted in English. Translation from Arabic into English will be done by the researcher, providing the researcher is fluent in both Arabic and English.

Editing interview transcripts

Text-based interviews avoid the need for transcription, and thus save time and effort. However, editing interview transcripts will still be necessary to:

- Correct grammar and spelling errors.
- Complete sentences to make them understandable.
- Merge answers since online interviewees tend to post answers to certain question divided into several instant messages.
- Use punctuation carefully to avoid changes in meaning (Seidman 2006).
- Organise answers into a standard order. Due to poor internet connection, delays between questions and responses will occur. Participants can continue to answer previous questions while the next questions are being asked, so that responses may need to be re-ordered.
- Remove any information that may reveal personal identification. Interviewees may for instance provide their user pages, discuss other people's views, or even discuss their work. All of these details will be removed from the transcription, and alternative descriptions of removed data will be used.
- Remove personal names as well as participants' IM identity recorded in the conversation history (the text files of text-based conversation). IM identities, and any names mentioned in interviews will be replaced by pseudonyms.
- For easy citation and reporting purposes, pseudonym will be used; but at the same time will reflect gender, culture, and religion (when possible), and to distinguish participants from each other.

D) Analysis techniques of collected data through the online interview

Qualitative research such as this requires both clear evidence of recurrent or patterned responses, and a range of data analysis techniques to ensure validity. Approaches that can be used in interview analysis involve organising the interview texts into meaningful forms of presentation. These approaches include meaning categorisation, codification of meanings, and meaning interpretation (Kvale 1996). Analysis of qualitative data can also involve quantification. Categorisation allows some degree of quantification of the qualitative data. Quantification makes observation explicit, and makes it easier to

aggregate, summarise, and compare data (Babbie 2010, p. 24). Since interviews serve as an auxiliary tool, such approaches of analysis should follow the broad outlines of the theoretical study. The selection of one approach or another depends on the researcher and on the overall thematic questions (Kvale 1996).

It is argued that peer validation helps check whether interpretation of interview transcripts (including codification and perhaps quantification) is reliable or not (Kvale 2007). It would be expected from independent interpreters to classify interview statements across the categories identified primarily by the researcher and to check the reliability of the analysis, a comparison of categorisations (conducted by both researcher and interpreter) should be made. In this interviews study, an independent interpreter will not be used the following reasons:

- 1) Different interpreters may find different meanings in the same interview. The ‘one’ true meaning cannot be reached, and ‘dissimilar interpretations of the same interview passages do occur’ (Kvale 1996, p. 120).
- 2) In the post-modern modes of research, methodologists ‘allow for a legitimate plurality of interpretations’ (Kvale 1996, p. 120). If interpretations are to be accepted at all, then ‘it becomes meaningless to pose strict requirements of interpreter consensus’ (Kvale 1996, p. 121).
- 3) As Reis and Judd (2000) argue, interviewers who understand the coding system are in a better position to create more meaningful probes.

Since interviewers must be ready to acknowledge the limited reliability of semi-structured (and unstructured) interview data (Kaplan & Saccuzzo 2009), the research will not be dependent on an independent interpreter.

The aim of interviews is to identify cultural differences at the ‘individual level’. That means interviews need to be exploratory, with little structure, to allow participants to develop their thoughts and provide insights into their own experiences and attitudes, and convey perceptions of their culture and community, especially that such thoughts,

values, attitudes and/or experiences cannot be observed in other ways (Lindlof & Taylor 2011). These reported experiences of interviewees (research participants) need to be interpreted (Walliman 2006b). There are some techniques/steps that will be used to analyse these qualitative data.

1. Categorisation

Interviews analysis aims to compare cultural groups in their experience, orientation, values, attitudes towards wikis and Wikibooks, and the system. Therefore, transcripts of interviews will be categorised based on the cultural groups under examination.

2. Themes identification

The reading and re-reading of interview transcripts will help identify themes. Themes in general should follow and be consistent with the theoretical study, but differences will occur especially since the nature of this interview study is to explore cross-cultural OER motivational phenomenon beyond what is known from the theoretical study and the ‘superficial’ results of questionnaire studies, extended to include perhaps views of participants in design, implantation and promotion of OER.

3. Codification

Silverman (2006) argues that coding – at core a quantitative technique – has a role in qualitative analysis. Coding strategies stem from an interpretive epistemology’s hermeneutic process; codes as symbols can be applied to a segment of words (or in audio/video data, vocal expressions, or visual gestures) in order to classify evidence into recurrent categories (Huberman & Miles 2002). Coding allows organising and synthesising of the information that transcripts contain (Huberman & Miles 2002). One of the reasons to code qualitative data is to quantify different categories of a variable (Bryman & Burgess 1994), and so prevent them being subsumed into dominant categories, or eclipsed entirely..

After identifying the themes, several follow-up readings of interview transcripts will help to determine codes that are essential for the ‘quantification’ stage. For example, within ‘motivation for non-contribution’ theme, there might be many reasons that participants may highlight, each participant expresses these reasons (whether implicitly or explicitly) in their own words. Understanding of these reasons will be interpreted into ‘codes’ that link relevant reasons, across participants, together. However, to be able to make comparisons, it will be sensible to establish one set of codes to be used across cultural groups, which means it will be necessary to identify codes within a specific cultural group first.

Several re-readings of interview transcripts will be required. The distribution of interviewees’ responses across the common categories of codes will be based on interpretation of interviewee statements, classified according to literature of motivation in OSS, OCW, and OER, and the literature on psychological and sociological backgrounds to human motivation for volunteering in general, and in open educational resources in particular.

4. Quantification

Quantifying qualitative data, as discussed in Chapter 7, is thus a useful primary stage in a number of analytical techniques. Quantification is used for instance in discourse analysis or critical discourse analysis, to identify the dominant language sets (Baker *et al.* 2008). Potter (2002, p. 140) explains that in the case of the linguistic categorisation processing of conversational analysis:

Schegloff (1993) and Heritage (1995) both provided clear arguments for being cautious when seeking to quantify, because of a range of difficulties that arise when transforming discursive materials into a numerical form. However, the issue of quantification is undoubtedly going to become more important with the future growth of this research area.

Although techniques such as discourse analysis remain interpretive, the techniques of that analysis do indeed rest on a quantification of frequencies of a given discourse. A discourse is a group of statements that define objects of knowledge, and so inform us of how cultural and social practices of realities are conducted and represented through the language, creating webs of meanings which can be clustered around certain topics (Foucault 1972, 1989). Such ‘webs’ are at one level, quantities as much as qualities.

In analysing interview or focus group data, it is difficult to identify dominant and frequent themes *without* quantifying the data. It is often clear that opinions recur, and so should be considered important. It would otherwise be difficult to compare the presence or absence of certain views, as well as their strength across the comparative study groups (Sim 1998). Techniques which do exist to handle such work (see for instance Zemel, Khafa & Stahl 2005) use language counts to argue the influence of certain recurrent elements of expressions of personal views in online conversations.

Quantification makes observation explicit, and makes it easier to aggregate, summarise, and compare data (Babbie 2010, p. 24). After identifying codes, quantification will be conducted. Each sentence in interview transcripts will be sorted into a relevant code category, for the purpose of condensation of meanings. To quantify meanings the numeral one (1) will be inserted in the relevant cell. Table 31 explains this further:

Table 31: Quantification technique against identified codes set

Participant Statements	Other responsibility	Lack of knowledge	Code 3	Code 4
I do not have time to contribute	1			
I do not know much about the topic, and this is why I read		1		

Positivists continue to argue that quantitative precision is the only reliable means by which a close approximation to a reality can be reached. Here the key technique involves reducing the complexity of information. However, as interpretivists argue, positivists are trying to impose standard definitions, which can in themselves be misleading and may miss the meanings of messages (Rubin & Rubin 2006). Here the coding aims to approach a dynamic balance between the qualitative meanings that emerged from the data, and the quantitative number categories which measure their relative frequency, to allow a range of possible views (Dey 1993).

5. Comparisons and conclusions

It is argued that in qualitative research it is difficult to distinguish between presentation of the analysis of results and interpretation of these results, since categorisation, codification, and quantification processes are also dependent on researchers themselves. Regardless of these potential problems with subjectivity, the interviews will provide a picture of respondent selves and their social reality (Fontana & Frey 2006). Participants from different cultures may respond differently; and it is important to distinguish such differences within the represented data to achieve clear comparisons (Ryen 2001). Only analysed primary data can help make powerful conclusions.

The next three chapters, Chapter 8, Chapter 9 and Chapter 10 will report data analysis results and discuss these results in accordance with the theoretical study, reality and logic, not only to understand the experience of OER users, but most importantly, to enhance OER potential. Understanding individual and contextual/cultural differences in motivation of OER participation is very useful when designing, implementing, and engaging OER in education, that more OER users can be engaged in the produsage of its content.

Chapter 8

Patterns of Contribution to Wikibooks

For the most part, cross-cultural research on values has been driven by results of influential studies (especially those of Hofstede, 1980) whose conclusions rest upon data derived from imposed-etic measures. Such studies have given substantial impetus to the study of cross-cultural psychology in general. Now that this momentum has been achieved, it is time to attend more closely to improving our data. In particular, it is critical to establish our instruments to have reasonably equivalent meanings across the cultures studied ... The most defensible approach is to start with parallel emic studies within many different cultures, seeking convergence in structures of values chosen for study

(Smith & Schwartz 1997, p. 84).

[Some previous research is not based on empirical evidence.] Even when there is empirical evidence of relationship, it is not clear if Individualism/Collectivism is causally associated (either as cause or effect) or whether some other factors might be involved...multi-methods measurements of each of these [constructs of individualism and collectivism] need to be interrelated. Thus far the alphas of scales that measure the constructs have been no greater than .7 and often as low as .5... There is a need, also, for studies that will link the measures of Individualism/Collectivism with outside variables. Background factors such as socioeconomic development, in particular education, income, urban-rural standing, type of employment, all defining conditions under which people live, can account for some of the characteristics assumed to be correlates of Individualism/Collectivism.

(Kâğıtçıbaşı 1997, p. 28).

The distinction between approach and avoidance has deep theoretical roots (Miller 1944) and also in the achievement motivation literature (Gonzalez-Pienda *et al.* 2001; Quilty 2006; Skopek 2007), especially in the field of education and student motivation. Contemporary goal theorists have only recently begun to explore the nature of avoidance, as well as approach, in the forms of achievement regulation (Elliot & Sheldon 1997). Volunteers, too, have goals that they want to achieve. These goals, determined from volunteers' self-reports, can be represented as conscious reasons for volunteering their time and efforts.

Reasons for volunteering (in physical organisations) have been discussed at length (Clary & Snyder 1999; Clary *et al.* 1998b; Hustinx *et al.* 2010b; Snyder, Clary & Stukas 2000; Stebbins & Graham 2004; Stukas, Daly & Cowling 2005). Reasons for volunteering (contributing) to open content webpages (Baytiyeh & Pfaffman 2010; Forte & Bruckman 2006b; Nov 2007a; Rafaeli & Ariel 2008), open source software (Bitzer, Schrettl & Schröder 2007; Hars & Ou 2001; Hertel, Niedner & Herrmann 2003; Lakhani & Wolf 2005a) and open educational resources (Augar, Raitman & Zhou 2004; Bold 2006; Bruns & Humphreys 2005; Désilets & Paquet 2005; Duffy & Bruns 2006; Sajjapanroj *et al.* 2006; Sajjapanroj *et al.* 2007) have also been considered.

Although there have been some attempts to explore the intrinsic and extrinsic reasons for contributing in the physical world (Antoni 2009; Finkelstein 2008) as well as the virtual world through contributing to open content and open source software (Hars & Ou 2001; Krishnamurthy 2006; Lakhani & Wolf 2005a; Ou & Hars 2002; Yang & Lai 2010), none have distinguished between intrinsic and extrinsic motivation based on known psychological foundations, as proposed by Deci and Ryan (2000, 2008). Moreover, no previous studies have aimed to explore both intrinsic and extrinsic (approach) reasons for contribution to open educational resources, as well as issues of amotivation (or avoidance), when individuals lack the intention/skills, specifically in the context of contribution to open educational resources.

Studying values is a way of understanding culture, because the value priorities prevalent in a society help in understanding the overall culture (Smith & Schwartz 1997). In each culture, there is a pattern of value priorities that characterise individual distributions across those cultural dimensions (Triandis 1995, p. 61). However, a value priority is influenced not only by the individual's culture; individual differences such as age, education, occupation, and religion, may also impact upon value priorities (Sagiv & Schwartz 1995; Schwartz 1994, 1996).

It is important, however, before beginning values analysis of research data, that the conceptualisation of measured values, as shown in the scales sections in the research online questionnaire, is driven by Schwartz's (2006b) work: values include not only beliefs, but also refer to desired goals that motivate action. Values guide an individual's selection of an action. When values are competing, their relative importance (or priority) guides attitudes and behaviours.

In the theoretical framework of this research, a set of values has been derived from different studies that seek understanding of the values of contributors to open software or open content (OSOC), as well as values that are understood from the comparative study [Chapter 5] of OER web sites. These values are constructed on the basis of the cultural theories of Hofstede (2001) [Cultural Consequences Theory] and Triandis (1995) [Individualism/Collectivism Theory] as well as the work of Clary *et al.* (1998a) [Volunteerism Functionalist Theory]. Together, these have revealed a set of values which can help locate any cultural patterns of motivation for OER contribution.

Self-determination theory (Deci & Ryan 1985b) was adopted, but adapted to consider not only approach and avoidance tendencies, but at the same time, consider the self versus the collective – a framework that argues for the need to consider cultural orientation of motivation. In this study's model, proposed and discussed in the earlier chapters, contributors' motivations are not only influenced by their culture, but also by contextual factors such as their education system. Probably, there are individual

differences in the values for contribution. However, the values that motivate those contributors are likely influenced by their education (level, field, and their mastery of ICT) as well as demographic factors such as age, gender, and social class.

Procedures for administering the Web-based survey

The web-based survey was available online for three months: February, March and April 2009. The survey was available in two languages, Arabic and English. The web-based survey involved four sections presented in successive stages, each section opening in a separate browser window. These sections include: 1) information sheet; 2) consent form; 3) the online questionnaire; and 4) contact form for later on interviews.

Recruitment procedures

As discussed in Chapter 7, the main method of recruiting research participants was by sending subscribers an email invitation to participate in the web-based survey. The subscribers reached 251 by 1st February 2009. Since the number of subscribers to the Wikibooks' mail list is quite low, a low-response rate was expected, as is common with online research (Bryman 2008c). Thus, an *Action Plan* was designed to deal with the expected problem of low response (see details in Chapter 7).

A) Email invitation

The email invitation was distributed in two rounds; the first in mid February 2009 (on 17th February 2009). The invitation email was sent to subscribers to the Wikibooks' mail list. The invitation email included a username and password for the web-based survey, an attached information sheet, and the web link to the web-based survey. The invitation email and information sheet were bilingual (Arabic and English). There were two links included to the invitation email: a link to the Arabic version of the web-based survey, and a link to the English version. The invitation email was targeted to Egyptian contributors to represent Arabic culture, and Australian contributors to represent Anglo

culture. Due to the low response rate, as expected, the approved action plan was put into effect – targeting users from all Arabic and Anglo countries.

The second round of invitation emails was conducted in late March 2009. In this round, invitation emails were sent to Wikibooks mail list subscribers (23rd March 2009) and Wikimedia Foundation's mail list subscribers (24th March 2009). In this round, the targeted groups were expanded to include contributors from all Arabic regions and all English regions (see Appendix B). The second round invitation was sent in Arabic and English with bilingual information sheets attached as well as the web link for the Arabic and English web-based survey and a username and a password included. To be able to email subscribers to the Wikibooks mail list and the Wikimedia Foundation mail list, the researcher subscribed to both lists.

B) Web advertisement

As mentioned earlier, the Wikibooks administrator had offered to publish a site notice (web advertisement) on the Arabic and English version of Wikibooks. The advertisement was in Arabic for the Arabic Wikibooks and in English for English Wikibooks. The advertisement was simple and included the link to the Arabic or English web-based survey and a username and password to access the web-based survey (see Appendix J).

Targeted groups

Participants in the web-based survey were from all around the globe. The targeted groups, however, include participants from Arabic regions and participants from English regions. Initially, the research focused on Australians and Egyptians as representatives of Anglo and Arabic culture. However, due to the very low rates of response from Australia and Egypt, a decision was made, according to action plan described in Chapter 7, to expand the research groups to include participants from countries where English or Arabic is the first language of participants.

While cleaning the data set according to procedures described in Chapter 7, a decision was made not to exclude 16 responses received from another culture, India, for two reasons:

- 1) The number of responses was deemed worthy of inclusion given they represented the third highest cultural group of respondents.
- 2) These responses might provide some indication as to whether expected levels of individualism of the sample (Anglo, Indian, and Arabic sub-samples) have any impact upon motivations, and at the same time follow the pattern of self-oriented motivations versus others-oriented motivation as shown in Table 26, which demonstrates high-individualism, medium-individualism, and low-individualism.

Towards one total scale

As discussed in Chapter 7, the online questionnaire included two subscales: the ‘reasons for contribution’ scale and ‘reasons for non-contribution’ scale. While answer codes of the motivations for contribution subscale are from 5 (strongly agree/ high motivation) to 1 (strongly disagree/ low motivation), answers to motivations for non-contribution subscale are value-reversed into 1 (high motivation) to 5 (low motivation). Code reversal was conducted to be able to combine the reasons for contribution subscale with reasons for non-contribution subscale to produce one total scale, and to measure the internal consistency of the total scale.

Participants

By 1st May 2009, the web-based survey was no longer accessible, and the web advertisement was removed from Wikibooks website. On 1st May 2009, the number of responses was 371. After cleaning the data set (371 responses), based on criteria described in Chapter 7, the final sample size (*N*) became 262. The sample of research participants was classified into two categories (see Table 32).

- 1) Those participants who defined themselves as contributors and answered
 - A) the reasons for contribution to Wikibooks scale only (possibly because they saw nothing to hinder them from contribution); were identified as ‘Contributor’.

- B) the reasons for contribution to Wikibooks scale and the reasons for non-contribution scale; were identified as ‘*Contributor, but*’.
- 2) Those participants who defined themselves as non-contributors and thus answered only the reasons for non-contribution scale; identified as ‘*Non-Contributor*’.

Table 32: Participants (N=262) to the online questionnaire, both contributors and non-contributors to Wikibooks

Culture	Level of Contribution	N	%
Arabic ($N_{Ar}=87$)	Contributor, but	79	90.8
	Contributor	7	8.05
	Non-Contributor	1	1.15
Anglo ($N_{En}=159$)	Contributor, but	118	74.2
	Contributor	11	6.9
	Non-Contributor	30	18.9
Indian ($N_{In}=16$)	Contributor, but	16	100.0
	Contributor	0	0.0
	Non-Contributor	0	0.0

N=16 Indian participants answered the English version of the online survey advertised on the English Wikibooks website. As it appears from Table 32, the Anglo participants (as representatives of individualist cultures) are more than half of the total sample, and the considerable number of Indian participants (as representatives of collectivist cultures) cannot be ignored, so they will be analysed with Arabic participants (as representatives of collectivist cultures), to enhance the balance between the individualist and collectivist cultures when it comes to the analysis, and to deal with the bias towards Anglo culture as much as possible in the data set

As outlined in Chapter 7, there are two groups of independent variables that impact upon Wikibookians: 1) individual factors which include age, gender, education field, educational level, occupation, and private/public education system which indicate their socio-economic status; and 2) contextual factors including religion and native language which define their cultures, level of ICT equipment in schools, teacher encouragement.

There are a number of inferences can be made from following Table 33:

- 1) The largest age groups using Wikibooks are 18-24 years old and 25-34 years old.
- 2) Wikibookians are mainly highly educated: those who have university degree/education and post-university degree/education constitute more than $\frac{3}{4}$ of the total sample
- 3) Wikibooks is male-dominant ($\sim 72\%$).
- 4) Wikibookians are mainly those of low socio-economic background (those who received public education).

Such inferences describe the total sample of Wikibookians as highly educated and of low socioeconomic background. Conversely, such a description does not necessarily imply that those of low socioeconomic background are mainly highly educated.

Table 33: Percentages of participants of the total sample (N=262) across age, educational level, gender and education system

Age						Educational level					Gender			Education System			Total (N)
Younger than 18 years	18-24	25-34	35-45	Older than 45 years	Unspecified*	Primary Education	Secondary and Trade Education	University Education	Advanced Education (Diploma, Master, PhD and Post Doc)	Unspecified*	Female	Male	Unspecified*	Public schools	Private schools	Unspecified*	
3.1	40.8	30.2	11.1	14.5	.4	3.8	24.4	44.7	23.3	3.8	26.0	71.8	2.2	74.0	19.5	6.5	262

* Those who did not answer questions related to above variables were not excluded from the data set to avoid losing responses. These unanswered questions were considered missing from this analysis.

As discussed in Chapter 7, dominant religion and language define the culture of a participant. Table 34 shows percentages of religious affiliation and native language across the three cultures studied. It must be noted here, the classification of cultures here is made based on the country of each participant where they live most of the time.

Table 34: Percentages of participants' religious affiliations and languages, across the three cultural groups and for the total sample

Participants	Classification	Anglo N _{En} =159 60.7%	Arabic N _{Ar} = 87 33.2%	Indian N _{In} = 16 6.1%	Total N= 262 100%
Religious affiliation	Atheism	23.3%	3.5%	6.25%	15.6%
	Baha'ism		1.1%		0.4%
	Buddhism	1.9%			1.1%
	Christianity	31.4%	4.6%	12.5%	21.4%
	Hinduism	1.3%		68.75%	5.0%
	Judaism	3.1%			1.9%
	Islam	1.9%	87.4%	6.25%	30.5%
	Sikhism			6.25%	0.4%
	Non-religious affiliation	27.7%	1.1%		17.2%
	Other religious affiliation	7.5%	1.1%		5.0%
	Unspecified	1.9%	1.2%		1.5%
Languages	Arabic	0.6%	88.5%		29.8%
	English	91.2%	4.6%	18.75%	58.0%
	Hindi		1.15%	37.5%	2.7%
	Russian	1.3%			0.8%
	Spanish	0.6%	1.15%		0.8%
	Others	5.0%	4.6%	37.5%	6.9%
	Unspecified	1.3%		6.25%	1.1%

There are a number of inferences which can be concluded from Table 34:

- 1) Participants from Anglo countries consider themselves mainly as no-religion affiliation (Atheist 23.3% and non-religious 27.7%), followed by those who see themselves as Christians. The majority of Anglo participants speak English as their native language.
- 2) The majority of participants from Arabic countries consider themselves as Muslims, while a very few participants were Christians. The majority of Arabic participants speak Arabic as their native language.
- 3) The largest group of Indian participants is Hindu, while others are mainly Christians followed by Sikhs, Muslims, and Atheists. Indian participants speak a number of languages, mainly Hindi and perhaps other Indian languages, followed by English.

Language of contribution is determined by native language and language of instruction in schools. Table 35 reports participants' native language, language of instruction in schools, and the preferred language used in the contribution to Wikibooks.

Table 35: Percentages of participants across their native language, language of education, and the language they use in the contribution to Wikibooks.

Culture	Language at Schools	% ³	Language in Wikibooks	% ³	Native Language	% ³
Arabic ($N_{Ar}=86$)	Arabic	55.7	Arabic	72.1	Arabic	92.8
	English	36.7	English	15.1	English ¹	4.8
	French	5.1	Mixed	7.0	Other languages	2.4
	Other languages	2.5	Other language	5.8		
Anglo ($N_{En}=129$)	English	92.8	English	96.8	English	97.3
	Other languages	7.2	Other language	3.2	Other languages	2.7
Indian ($N_{In}=16$)	English	76.9	English	81.3	Hindi ²	66.7
	French	7.7	Hindi	6.3	English	33.3
	Japanese	7.7	Japanese	6.3		
	Mixed	7.7	Mixed	6.3		

¹ Percentages less than 5% were merged together into 'other languages' category. However, native English language for Arabic people was retained for the purpose of the analysis.

² This percentage involves Hindi and other Indian languages

³ These percentages are calculated based on only *producers* to Wikibooks (those in 'contributor' and 'contributors, but' groups as illustrated in Table 32)

From Table 35, a number of inferences can be made:

- 1) Although the majority of Arabic participants speak Arabic as their native language, and a large percentage of those Arabic participants received an English education, it appears that they prefer to contribute more in Arabic than in English.
- 2) It makes sense that the majority of Anglo participants contribute in English, mainly because the majority of Anglo participants speak English as their native language and received an English education.
- 3) While $\frac{2}{3}$ of Indian participants speak Hindi and other Indian languages as their native language, and the other $\frac{1}{3}$ speak English, and $\frac{3}{4}$ of them received an English education, they prefer more to write in English, perhaps because they were recruited through the English Wikibooks and answered the English survey.

Wikibookians involve two groups: 1) those who read only and 2) those who write (contribute), which involves an assumption that this group also read.

Table 36: Topics of contribution and the three cultural groups in terms of percentages

Culture	Natural and Hard Science				Human and Social Science								
	Natural sciences	Engineering	Geography	IT & Programming	Business & Economics	History	Literature	Languages	Religion	Humanities	Politics	Sports	Media & Arts
Arabic	17.4	24.4	11.6	26.7	15.1	20.9	24.4	19.8	24.4	15.1	17.4	17.4	18.6
Anglo	20.9	9.3	9.3	31.8	9.3	15.5	20.2	17.1	7.8	13.2	13.2	7.0	13.2
Indian	25	37.5	18.7	43.8	6.25	12.5	6.25	0	25	25	6.25	6.25	0

Note: These percentages were calculated by, dividing the number of contributors in each topic by the number of contributors (the outcomes of ‘contributor’ category with ‘contributor, but’ category), which were 86, 129, and 16 for Arabic, Anglo and Indian respectively.

Table 36 shows that, regardless of cultures of contributors, a large number of participants contributing prefer to write on IT and programming subjects. While both Anglo and Indian participants appear to prefer writing in natural and hard sciences, Arabic participants appear to prefer writing in social and human sciences.

Table 37: Topics of reading interests and the three cultural groups in terms of percentages

Culture	Natural and Hard Science				Human and Social Science								
	Natural sciences	Engineering	Geography	IT & Programming	Business & Economics	History	Literature	Languages	Religion	Humanities	Politics	Sports	Media & Arts
Arabic	67.8	51.7	34.5	59.8	42.5	52.9	52.9	49.4	58.6	51.7	46.0	46.0	42.5
Anglo	61.6	35.2	32.1	50.9	33.3	54.7	51.6	36.5	36.5	43.4	38.4	25.8	32.7
Indian	75.0	68.8	43.8	62.5	50.0	56.3	37.5	31.3	43.8	50.0	37.5	43.8	43.8

Note: These percentages were calculated by, dividing the number of participants in each topic by the number of participants from each culture, which were 87, 159, and 16 for Arabic, Anglo and Indian respectively.

It appears from Table 37 that, regardless of cultures of participants, they prefer to read natural science subjects. However, Anglo and Indian participants show same interests in reading social science and natural science, Arabic participants appear to prefer more reading in social science than natural science.

Web-based survey: open-ended questions

There are five questions that were ‘*open answer*’:

1) Nature of education/academic association

Students

There were 8 participants who identified themselves as K-12 students:

- 1) Participants from Anglo culture (5): 3 students from the USA, 1 from Australia, and 1 from Canada.
- 2) Participants from Arabic culture (3): 2 from Saudi Arabia, and 1 from Yemen.

There were 55 participants who identified themselves as university students. While some indicated their program, others did not.

Participants from Anglo culture (37):

- 1) Unspecified university program (29): 23 from the USA, 2 from Australia, 2 from Canada, 1 from Ireland, and 1 from the UK.
- 2) Specified programs (8): 7 from the USA in biomedical engineering, computer sciences, engineering, management, medicine, music, and nursery; and 1 from Australia in humanities.

Participants from Arabic culture (18):

- 1) Unspecified university program (7): 3 from Egypt, 2 from Yemen, 1 from Algeria, and 1 from Bahrain.
- 2) Specified programs (11): 4 in engineering from Egypt, 2 in engineering from Iraq and Syria, 2 in medicine from Sudan and Yemen, 1 from biochemistry from the United Arab Emirates, 1 in history and literature from Egypt, 1 in science from Jordan.

Instructors

Teachers in schools

There were 2 participants from Anglo cultures who described themselves as language teachers from Canada and the USA; while there was 1 science teacher from Syria, 1 computer teacher from Egypt and 1 unspecified secondary school teacher from Iraq as participants from Arabic culture.

Lecturers at universities

There were 3 participants who identified themselves as: a language lecturer from the UK, an associate professor from the USA, and a head of school Egypt respectively.

Researchers or research students

All participants from Anglo cultures who defined themselves as researchers or research students were from the USA: 2 unspecified research degrees, 1 PhD, 1 post doctoral researcher, and 1 working as a researcher in an academic institution. Participants from Arabic culture who defined themselves as researchers or research students were 2 masters degrees from Egypt and 1 masters degree from Saudi Arabia, 1 unspecified research degree from Algeria and 1 working as a researcher in a research centre in Egypt. There was 1 participant from India who defined himself as an M. Phil student.

There were participants from other cultures who defined themselves as researchers: 2 from Sweden doing a masters degree, 1 from the Netherlands doing a masters degree and 1 from Israel doing a masters degree, while there was a participant from Greece who is doing PhD research.

Other academic professions

Other academic professionals who were involved in Wikibooks activities were a K-12 business consultant, a middle school director and teaching assistant and those from the USA, while there was a K-12 school technology coordinator from Canada; in addition to an Indian student research assistant.

2) Computer literacy

Table 38: Anglo participant comments about their computer literacy

Australia001	I first studied computing in 1988 at TAFE
Australia002	[I] mostly self taught by internet resources. We had a computer at home before our primary school had one
Australia003	I educated myself in various programming languages and other computer related topics
Canada004	[I] took extracurricular classes, but mostly self-taught
UK005	Almost all my computer learning has been self-driven
UK006	[I] read several textbooks related to computing in my own time, [and] out of education
UK007	The internet did not exist when I did my undergraduate degree.
USA008	[I] grew up in very computer friendly house
USA009	[I] grew up with a computer in the household
USA010	[I] grew up with computers
USA011	[I] learned to use PC at home and wok
USA012	[I] taught myself computers and went on to do custom software
USA013	I've used computers since elementary school, and took formal Microsoft classes in high school

Most Anglo participants (as shown in Table 38) show evidence that they are members of the *net generation*, who grew up with computers connected to the internet.

Table 39: Arabic participant comments about their computer literacy

Algeria014	[AR] ¹⁹ [I knew Wikibooks] because of the search technology and the internet
Egypt015	[AR] I taught myself how to use the computer without having private lessons
Egypt016	[AR] I have used computers since I was five years old
Iraq017	[AR] [I am a] self-learner for everything about computers
Oman018	Actually [the] computer is the most important thing in my life. Always I try to know more and more about it and now I am studying computer engineering

Although some Arabic participants (as shown in Table 39) showed evidence that they are members of the *net generation*, others stressed the ‘effort’ they made to learn.

Data analysis

Data analysis aims to examine differences, but also similarities, among the three cultural groups. Analysis involves examining the impact of independent variables (individual factors and contextual factors) and their impact on OER motivation (for contribution and non-contribution to Wikibooks). Before undertaking analysis,

¹⁹ [AR] means that the sentence that follows is translated from Arabic to English.

correlations between independent variables were conducted, to demonstrate the level of interdependency.

Table 40: Pearson correlations between demographic factors

Pearson Correlation	Age Group	Educational Levels Group	Level of Computer-related Education Field	Education-related Occupation	Level of Contribution	ICT Equipped School	ICT Self-Learning	ICT Teacher encouragement
Age Group	1	.151*	-.010	-.270**	.079	-.102	.117	-.265**
Educational Levels Group	.151*	1	.044	.099	.129*	.174**	-.071	.121
Level of Computer-related Education Field	-.010	.044	1	.001	.021	.110	.002	.100
Education-related Occupation	-.270**	.099	.001	1	-.055	-.014	-.049	.176**
Level of Contribution	.079	.129*	.021	-.055	1	.039	.001	-.187**
ICT Equipped School	-.102	.174**	.110	-.014	.039	1	-.297**	.238**
ICT Self-Learning	.117	-.071	.002	-.049	.001	-.297**	1	-.081
ICT Teacher encouragement	-.265**	.121	.100	.176**	-.187**	.238**	-.081	1

** Significant correlation at $p < 0.01$

* Significant correlation at $p < 0.05$

Correlations presented in Table 40 show that all correlations between independent variables are weak (below 0.3). This suggests some sort of ‘independency’, which is important when examining their impact upon OER motivation. However, some of these correlations were significant:

- 1) The older the age, the less for teacher encouragement.
- 2) The more schools are ICT equipped, the more teachers are able to encourage their students to use ICT
- 3) The less ICT facilities in schools, the more ICT self-learning

Table 41 shows the age, gender, educational system and educational level distributions across Anglo, Arabic and Indian cultures, represented by percentages.

Table 41: Percentages of participants in relation to age, gender, education system and educational level among the three cultural groups

Culture	Age ¹				Gender ²		Education system ³		Education level ⁴		
	Younger than 18	18-24	25-34	Older than 35	Female	Male	Public	Private	Pre-University	University	Post-University
Anglo ($N_{En}=159$)	43	25.3	12.7	19	29.49	70.51	81.38	18.62	35.52	38.82	25.66
Arabic ($N_{Ar}=87$)	46	35.6	9.2	9.2	23.81	76.19	79.76	20.24	22.6	60.7	16.7
Indian ($N_{In}=16$)	43.75	50	6.25		12.5	87.5	56.25	43.75	6.25	43.75	50.00

¹ Age groups ‘35-45’ and ‘older than 45’ were merged into a new group ‘older than 35’ to avoid empty cells

² Category ‘other’ was treated as missing.

³ The ‘other education system’ group was treated as missing

⁴ To avoid empty cells, the first three categories (primary school, secondary school, and trade and professional education) were merged to form pre-university education; the second two categories (university education and honours) were merged to form university education; and the following four categories (post graduate diploma, masters, PhD or professional doctor and post doctorate) were merged to form post-university education. The very small “other” category was excluded

There are a number of inferences which can be made from reading Table 41:

- 1) Users of Wikibooks are mainly younger than 24 years old, which agrees with the view that they are either in university or pre-university education.
- 2) Participants of online survey are mainly male regardless of their cultures.
- 3) Wikibookians from Arabic and Anglo countries received mainly public education, while participants from India appear to be divided between public and private education.

Analysis of associations between variables

A Chi-square analysis was used to discover if there are any significant associations between the cultural groups and age, gender, educational system, educational level,

religion, level of ICT equipment in schools, occupation, ICT-self learning, and teacher encouragement of the use of ICT in education. If p is 0.05 or less, that means that there is a significant association between categories of a variable and the cultural groups

There was no significant association ($\chi^2 = 11.42$, $df = 6$, $p = 0.076$, $N = 261$) between age categories and the three cultural groups.

There was no significant association ($\chi^2 = 2.63$, $df = 2$, $p = 0.268$, $N = 256$) between gender categories and the three cultural groups.

There was no significant association ($\chi^2 = 5.55$, $df = 2$, $p = 0.062$, $N = 245$) between education system categories and the three cultural groups.

There was a significant association ($\chi^2 = 18.29$, $df = 4$, $p = 0.001$, $N = 252$) between education level categories and the three cultural groups. Table 41 shows the percentages of education level of participants across the cultural groups. More specifically, while different educational levels from Anglo participants are active in wiki engagement (although slightly higher for university and pre-university than post-university), the active educational level for Arabic participants is those in the university; and both post-university and university levels for Indian participants share very close interests in active wiki engagement.

Table 42 shows Religion group, Level of computer-related educational field, Education-related occupation, ICT self-learning, ICT equipped schools and ICT teacher encouragement distributions across Anglo, Arabic and Indian cultures, represented by percentages.

Table 42: Percentages of participants in relation to religion, computer-related education, education-related occupation, ICT self-learning, level of ICT in schools, and teacher encouragement of the use of ICT in education among the three cultural groups

Culture	Religion group ¹				Level of Computer-related Education Field ²					Education-related Occupation		ICT Self-Learning		ICT Equipped School		ICT Teacher encouragement	
	Western Religions	Middle Eastern Religions	Eastern Religions	No Religion	Very low computer-related	Low computer-related	Medium computer-related	High computer-related	Very high computer-related	Yes	No	Yes	No	Yes	No	Yes	No
Anglo ($N_{En}=159$)	38.2	2.1	3.5	56.2	7.1	7.7	54.8	12.3	18.1	60.1	39.9	92.4	7.6	48.4	51.6	77.7	22.3
Arabic ($N_{Ar}=87$)	4.7	90.6	---	4.7	7.0	14.0	48.8	11.6	18.6	40.5	59.5	78.0	22.0	51.8	48.2	49.3	50.7
Indian ($N_{In}=16$)	12.5	6.25	75	6.25	0.0	6.3	12.5	0.0	81.3	68.8	31.2	62.5	37.5	75.0	25.0	62.5	37.5

1: Western Religions are Christianity & Judaism; Middle Eastern Religions are Islam & Baha'ism; Eastern Religions are Hinduism, Sikhism & Buddhism; and No Religion includes Atheism and Non-religious people.

2: The education fields that the participants had chosen were transformed into five categories based on the level of dependency on the computer in the education process.

There was a significant association ($\chi^2 = 5315.21$, $df = 6$, $p < 0.001$, $N = 245$) between religion group categories and the three cultural groups. As shown in Table 42, while most Anglo participants are relatively evenly divided between no religion and Western religions, the majority of Arabic participants are Muslims, while $\frac{3}{4}$ of Indian participants are Hindus.

There was a significant association ($\chi^2 = 37.56$, $df = 8$, $N = 257$, $p < 0.001$) between Level of computer-dependency education field categories and the three cultural groups. As shown in Table 42, although Arabic and Anglo participants share the same patterns in terms of half of their sub-sample received medium computer-related education, the majority of Indian participants receive very high computer-related education.

There was a significant association ($\chi^2 = 9.98$, $df = 2$, $N = 258$, $p = 0.007$) between levels of computer-dependency education field categories and the three cultural groups. As appears in Table 42, although Anglo and Indian participants share relatively similar patterns in terms of more than 60% are working in education or studying, the vice versa is true for Arabic participants – around $\frac{6}{10}$ are neither studying nor working in education.

There was a significant association ($\chi^2 = 16.79$, $df = 2$, $N = 255$, $p < 0.001$) between the level of ICT self-learning categories and the three cultural groups. Table 42 shows that although most cultural groups are self-ICT-learners, Anglo participants are more responsible for training themselves in the use of ICT followed by Arabic participants than Indian participants.

There was no significant association ($\chi^2 = 4.128$, $df = 2$, $N = 258$, $p = 0.127$) between ICT-equipped school categories and the three cultural groups.

There was a significant association ($\chi^2 = 18.815$, $df = 2$, $N = 246$, $p < 0.001$) between teachers' encouragement of the use of ICT categories and the three cultural groups. As illustrated in Table 42, while the Anglo participants see their teachers encouraging them to use ICT in their courses, the Arabic participants are divided relatively equal between the two groups (teacher encourages/not-encourages the ICT use).

The Scale

As discussed earlier in Chapter 7, there are two 5-point *Likert*-type subscales: the first scale explores different reasons for contributing to open textbooks, and the second assesses the different barriers that hinder or reduce contribution. Ideally, the alpha coefficient of a scale should be above 0.7 (Pallant 2005). However, it is common to find the alpha coefficient as low as 0.5 in cross cultural studies (Kâğıtçıbaşı 1997, p. 28).

- 1) The Cronbach's Alpha coefficient for the total scale, which constitutes the subscale for reasons for contribution, added to the subscale of reasons for non-contribution, is adequate because it is greater than 0.7 (Pallant 2005): Its internal consistency using Alpha coefficient is 0.76.
- 2) The Cronbach's Alpha coefficients for the total scales separated into 3 groups of respondents from each of the Arabic, Anglo, and Indian cultural groups are also adequate at 0.80, 0.75, and 0.69 respectively.

As appears from the previous Alpha coefficients, ranging from 0.69 to 0.80, the internal consistency for the total scale and the two subscales for the total sample and for each cultural group, is generally adequate. There are only two Alpha coefficients less than 0.7, but still acceptable in the field of social science (Kâğıtçıbaşı 1997, p. 28).

Content validity

As discussed in Chapter 7, there are a number of motivations for contribution and non-contributions were identified – discussed in Chapter 3 and Chapter 4. These motivations were identified based on the review of literature related to volunteering to OSS, OCW, OER and RWO – as outlined in Table 14, Table 16, Table 18, Table 19, Table 20, and Table 21. These 'identified' reasons, as reported in Table 43, Table 44, Table 45, Table 46, Table 47, Table 48, Table 49 and Table 50, have an acceptable validity (using *content validity*) as summarised in Table 51 and Table 52.

The following three tables, Table 43, Table 44, and Table 45, report individual reasons for contribution as expressed by Anglo and Arabic participants. These reasons were analysed against the ‘reasons for contribution’ subscales to examine the content validity of the ‘reasons for contribution’ subscale.

Table 43: Reasons for contribution as expressed by Anglo participants

Participant	Comment	Item No
Canada019	I am writing because I want a freely accessible, accurate and (most importantly) user-ready resource on energy. Primarily to better society by making businesses in general more robust and sustainable in an environment of diminishing energy resources	12 05
Canada020	I cannot write in a language that is not my own therefore it does not put me off contributing as I can write in English.	12
Canada021	HTML Coding and layout are not among my strengths; but with the proper guidance and constructive criticism, nothing would please me more than to contribute my understandings and knowledge to the world!	07
USA022	Being able to convey one's thoughts is a positive method of communication and having a mechanism to do this with, through on is essential.	10
USA023	Contributing to Wikibooks is also a way to document both for yourself and for others something you just had to work out for yourself the hard way. I *know* if I add what I've learned to Wikibooks I'll be able to access it again later, possibly with improvement	08 13
USA024	Currently in a mathematical proof so decided would be helpful to any others looking for examples of proofs, so decided to contribute to the page	11
USA025	Environmental issues and converting to a "Green" lifestyle is one of my newest interests. My biggest interest is how a disabled person handles adjusting to their world.	03
USA026	I am helping my old mother publish her knitting book. She wants to share her experience with others and she doesn't want her knowledge to be lost when she dies.	03 07
USA027	I believe that knowledge is and always will be the fundamental foundation to not only happiness, but a necessary ingredient for survival socially and as a species.	05 01
USA028	I typically only make short additions or corrections of an existing article, usually focusing on correcting missing or unclear information, or making grammatical corrections.	11
USA029	My contributions thus far were deleted even though factual and informative. Why would you do this? They were biographical in content about an author who has written 20 books.	08 10
USA030	Sometimes you may just know a lot about something that nobody would ever have guessed, and not too many others seem to know much about could be from extensive research or personal experience. It is important to contribute these things for the world.	07 05
USA031	Any time we can further the education of anyone no matter their background or social status. It is our responsibility as human beings and our duty as social animals.	03
USA032	The honour would be mine to participate with Wiki and to have an opportunity to help other honours.	03
UK033	Should I contribute, I would do so to impart knowledge to others. By doing so, others may critique my work and further expand the topic, either by application or contributions of their own.	05 13

UK034	The old saw "you never truly understand something until you explain it to others" seems to be true for me - I find my internalised structures of knowledge are woefully vague until I have to try to express them to someone else without the same background.	13
UK035	I'm curious how we justify Wikibooks not as a common good, but as a personal or specific good. (The arguments in favour of common good are pretty clear - human patrimony to be universally accessible etc.).	13 05

Table 44: Reasons for contribution as expressed by Arabic participants

Participant	Comment	Item No
Algeria036	Sometimes there is a lack of resources in any language [an Algerian who lives in the UK].	12
Egypt037	[AR] I contribute in any voluntary work that aims at disseminating culture.	05 12
Egypt038	My only concern is what other contributors/readers may think or find my personal contributions or thoughts.	05
Egypt086	[AR] Perhaps because I do not have enough time and I am busy with work. Moreover, it is hard to write in my field (physiotherapy) and this is why I prefer to write in other subjects such as religions and history.	09
Iraq039	[AR] I like contributing because it gives me the feeling that I am still able to give and produce. Another reason, I like the Arabic language because it is my mother tongue and the most beautiful language.	12 01 05

Table 45: Reasons for contribution as expressed by Indian participants

Participant	Comment	Item No
India040	I think that I am the smartest person you could come across, although I am ginger, and an F grade student, that was because the mother in my home town was my tutor. I am sorry for this.	07
India041	About textbooks, they have clear structures but exams should not be based on only the text book but also on the application of content and personal view of the student.	04
India042	It is easier to publish on Wikibooks than to find a publisher.	08
India043	I would like to contribute to the betterment of children in this world - This was an impulsive decision to try and contribute - I hope it will make a difference to someone. I'm drawn to helping people and helping out projects with noble objectives.	03 05

As shown in Table 43, Table 44 and Table 45, items that include the reasons for contribution subscale has an acceptable validity since most items, except item 2 and item 4 as outlined in Table 29 in Chapter 7, were reported by participants themselves.

The following three tables, Table 46, Table 47, Table 48, Table 49 and Table 50, report reasons for non-contribution as expressed by Anglo, Arabic, and Indian participants. These reasons were analysed against the 'reasons for non-contribution' subscales to examine the content validity of the 'reasons for non-contribution' subscale.

Table 46: Reasons for non-contribution as expressed by Anglo participants

Participant	Comment	Item No
Australia044	We have a strict university policy not to use Wikipedia/ Wikibooks	04
Australia045	I do not feel that I have anything of value to contribute. Everything I know, others know also and have generally already expressed much more eloquently and succinctly. I dislike the proliferation of what I consider to be merely ignorant opinion	13 05
Australia046	No specialist knowledge that would be of value	05 13
Australia047	Wikibooks is the first wiki I have contributed to. Largely the barrier was not knowing how it was done and being too hesitant to find out. Now that I have done it once (and since it was very easy) I will probably contribute to wikis more often.	02 13 09
Australia048	Wikipedia is stealing time from Wikibooks. That will probably switch in [the] future.	06
Canada049	As a 22 year old just starting off in my selected vocation, my confidence and knowledge levels are still in the growth and acquirement stages.	08 13 05
Canada050	If I were more qualified in any subject, I would contribute.	08 05
Canada051	Most articles are already quite well written. I only occasionally fix grammatical and spelling errors. Also, when I (seldom) contribute, my contributions get either deleted or heavily edited.	05 01 07
Canada052	I actually just discovered Wikibooks.	06
Canada053	I'm young, impressionable, and driven.	16 08 05
UK054	The text of a book is only a small part of the work, like the final report of your study. More support and advice about collaborating on working notes might be useful.	02 09 13
UK055	The business of "profit from knowledge" is a vile and evil concept. I endorse the purchase of books and do so willingly. I am also more likely to buy a book once I have used it online. If the value of a wiki book is beneficial whilst online, then having [missing].	16 07 03 08
UK056	I often cannot find any gaps or missing information (from a sentence to an entire Wikibook*) that I feel I could fill. Many subjects are already "complete," as far as my knowledge base and I can tell.	05 08
UK057	The biggest problem is people who, usually through incompetence, destroy the good work that goes into Wikibooks by deleting or changing correct information, by adding incorrect information, or by making edits that make material less clear or less accurate	07 09
UK058	The main factor that stops me contributing to a range of books is that I view them as mainly belonging to other people not shared works. Also, any participation could raise unrealistic hopes and expectations in other authors that finally somebody somewhere would read.	13 16 06
UK059	I am not interested in text books. I am interested in reading adult, general, secular books. I am a retired person, 78 years old, and perhaps could be treated as a secular explorer into mysteries of life. However, I carefully avoid obscurantism.	08 03 10
Ireland060	Main reason for non-contribution is my very recent discovery of this website.	06
USA061	I have not contributed any articles so far, but I do read them.	08
USA062	I have considered writing articles myself, but I have not yet done so because of my limited time.	07 01
USA063	I work primarily on Wikijunior, books for younger children.	10
USA064	Whenever I have an interest in something I turn to Wikipedia	10
USA065	I am somewhat reluctant due to a perceived lack of experience as a writer, or as any sort of expert in my field; I would only want to	13 05

	contribute in areas in which I am certain that my information would be correct	
USA066	I am very grateful to the people that spend time sharing and writing about the topics that interest me and others!	08 16
USA067	I just come to the Wikis to find out information. I don't get involved.	06
USA068	I was not angry reading through the beginning of this section but reading all those counterpoints makes me want to contribute far less.	08 09
USA069	I would add that the politics/ cliques/ drama associated with the people more heavily invested in Wikibooks administration causes me to keep my distance. There is an emphasis upon theoretical perfection rather than helping people produce.	03
USA070	I would be interested in becoming aware of the subject areas that would be useful in this search engines data base for reference purposes; [but] how do I get involved?	05 02
USA071	I would like to contribute if it would be useful to someone. I would feel a bit rejected if I contributed and it wasn't used or useful. I find jumping into something others will view as a little intimidating is worrying me	03 06 13
USA072	If I had the time I would post, but I never do because there is so much going on with the kids all the time.	01
USA073	It is hard to find topics that (a) I am an expert on (b) require contribution. Would there be a board on the front page of the Wiki "Topics that should be covered. Math: theorem..., physics: the effect of... etc", it would help find relevant stub topics.	05 13
USA074	Knowledge speaks, Wisdom listens.	08
USA075	One disincentive is that contributions to Wikibooks have little or no academic standing - my 'free' labour in academic publications goes on my academic CV; my labour on a Wikibook has no such professional reward. It's not a disincentive to contribute at all.	04
USA076	Overall this is an outstanding website. I have, in the past, tried to contribute especially medically related information however I seemed to have trouble with the format.	02 09
USA077	The impact and method of contributing are not evident; coupled with feeling unqualified to author something to be sourced, are the primary reasons I would not want to contribute.	03 06 13 05
USA078	There may come a time in the future that I have the time and motivation to contribute to this extremely worthwhile project.	07 10 01
USA079	While I think anyone who contributes factual knowledge is helpful, those who may post false or uninformed or useless information to mislead or deceive others, well hopefully will be dealt with somewhere! but.... this fact that there is that possibility of inaccurate information, I don't use it much	03 06
USA080	Wikibooks lacks some features that would allow the content to be more interactive.	03
USA081	Wikipedia and Wikibooks are valuable tools. I am unemployed and using this time to learn things I did not have a chance to learn. No college due to marriage, kids and no money. I now live alone and still have no money, but learning is my companion. I would write if I'm confident that information I have is worthy contributing.	08 11 13 05
USA082	I am a user of this site, not yet a contributor; I hope to contribute in the near future	08 16
USA083	I have found Wiki et al to be informative and useful information. I seldom take the info at face value and double check most all its reports. It has made me aware of how many smart and dedicated people there are all over the world.	08

Table 47: Reasons for non-contribution as expressed by Arabic participants

Participant	Comment	Item No
Algeria084	[AR] No words may represent my gratitude of your efforts publishing all what are relating to our society, and knowledge and mental development.	08
Algeria085	I will write to Wikibooks in the future.	08
Egypt086	[AR] Perhaps because I do not have enough time and I am busy with work. Moreover, it is hard to write in my field (physiotherapy) and this is why I prefer to write in other subjects such as religions and history. However, I am not 100% sure of my knowledge in those subjects, and this is why I am reluctant to write and publish something which is not true. This is the most important reason that stops me not to contribute.	01 10 11 13 05
Egypt087	[AR] Time constraint is the main factor.	01
Egypt088	I think u should open a lot of branches of knowledge to the internet users in several fields by reading not writing	06 08
Egypt089	It is for the first time being on this web.	06
Iraq090	[AR] I do hope to contribute to this website specially those who have good knowledge.	16 08
Iraq091	Wikipedia is an amazing site, always I get whatever required, thanks for providing such a massive collection in all forms [it appears that he does not know the difference between Wikipedia and Wikibooks].	08 06
Saudi092	Actually, I do not use Wikibooks except when I want to read about languages, countries, and humanities.	08
Jordon093	I do prefer this website to be unbiased in the future; because this website tends to be biased.	03
Jordon094	[AR] There are some difficulties in writing to Wikibooks. It is required to make writing and formatting a lot more easier	02
Saudi095	I guess nobody knows about it, and the only ones I can work on are the ones that nobody knows about, thus nobody needs it.	06
Yemen096	[AR] Support and help us with all what are new and old of electronic books, software, educational videos for programming languages etc.	16

Table 48: Reasons for non-contribution as expressed by Indian participants

Participant	Comment	Item No
India097	I can manage time if I get some good ideas to write on	13
India098	I did not know about Wikibooks until yesterday.	06
India099	I have not written anything yet. Just read	08
India100	I strongly support the idea of open source websites, but I do not have time to contribute at present. I hope to do so in the future, partly because I often see mistakes. This is the single greatest drawback in wikis and other open source sites.	01 08 05
India101	Wikibooks is really helpful for learners.	08
India102	Those who already contributed wrote everything that I would have written; and a lot more ☺	13
India103	Unable to find time out of my busy schedule.	01
India104	The quality of many of the Wikibooks is astonishingly high - the scope of them is significantly broader than a typical Wikipedia article - and I'm regularly amazed at the pedagogical nous of some of the contributors.	08

As shown in Table 46, Table 47 and Table 48, items that include the reasons for non-contribution subscale has an acceptable validity since most items, except item 12, item 13 and item 15 as outlined in Table 30 in Chapter 7, were reported by participants themselves.

Participants who generally commented on Wikibooks and their motivations (as reported in Table 49 and Table 50), stated they mainly admire Wikibooks and its great impact – in a way it can be seen that those participants are not active contributors to its content but rather readers only.

Table 49: General comments on Wikibooks from Anglo participants

Participant	Comment	Item No
UK105	Wiki books are a fantastic innovation and should broaden its foundations globally across all disciplines.	06 07 16
USA156	It is all about how to publicize Wikibooks to the general [public]	06
USA107	Is there a sense of arbitration on the editing of material? As a consumer, I would like to know how these wiki websites provide a service through other funding without asking for readers' money?	09 03

Table 50: General comments on Wikibooks from Arabic participants

Participant	Comment	Item No
Iraq108	[AR] I hope the information in this website is secure enough to avoid the attempts of any vandals who aim to destroy what is published.	06
Jordon109	[AR] I suggest strengthening the advertisement and the awareness of this website among the internet users.	06

In general, reasons for contribution (as reported in Table 46, Table 47, and Table 48) and reasons for non-contribution (as reported in Table 46, Table 47, Table 48, Table 49 and Table 50) were summarised, including averages of these answers, in the following two tables, Table 51 and Table 52, to reflect these reasons, frequencies and crude percentages, against the identified reasons outlined in Chapter 7.

Table 51: Frequencies and percentages of respondents in the 3 cultural groups to open-ended questions, what they might tell about identified reasons for contribution

No	Items of reasons for contribution subscale	Anglo		Arabic		Indian		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
1	I want to have fun	1	4.17%	1	12.50%	0	0.00%	2	5.41%
2	My friends do so	0	0.00%	0	0.00%	0	0.00%	0	0.00%
3	Poor people can use these free books	4	16.67%	0	0.00%	1	20.00%	5	13.51%
4	My teacher asked me to do so	0	0.00%	0	0.00%	1	20.00%	1	2.70%
5	I believe that information should be free	5	20.83%	3	37.50%	1	20.00%	9	24.32%
6	My religious teaching asks me to help others	0	0.00%	0	0.00%	0	0.00%	0	0.00%
7	Others do not have the expert knowledge that I have	2	8.33%	0	0.00%	1	20.00%	3	8.11%
8	I cannot find other places to publish my work	2	8.33%	0	0.00%	1	20.00%	3	8.11%
9	I'm lonely and have free time	0	0.00%	1	12.50%	0	0.00%	1	2.70%
10	I want to express my personal opinions	2	8.33%	0	0.00%	0	0.00%	2	5.41%
11	Logical and grammatical errors have to be corrected	2	8.33%	0	0.00%	0	0.00%	2	5.41%
12	There is a lack of information resources in my language.	2	8.33%	3	37.50%	0	0.00%	5	13.51%
13	I contribute because I want to learn	4	16.67%	0	0.00%	0	0.00%	4	10.81%
	Total	24	100.00%	8	100.00%	5	100.00%	37	100.00%

Table 52: Frequencies and percentages of respondents in the 3 cultural groups to open-ended questions, what they might tell about identified reasons for non-contribution

No	Items of reasons for non-contribution subscale	Anglo		Arabic		Indian		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
1	No financial reward	4	4.60%	2	9.09%	1	11.11%	7	5.93%
2	I can't use wiki	4	4.60%	1	4.55%	0	0.00%	5	4.24%
3	This is an un-helpful website	8	9.20%	1	4.55%	0	0.00%	9	7.63%
4	Our educational system (institution) does not (or cannot) adopt this technology as a part of the learning process	2	2.30%	0	0.00%	0	0.00%	2	1.69%
5	I don't have a knowledge base in any suitable topic	12	13.79%	1	4.55%	1	11.11%	14	11.86%
6	Contribution is useless unless others know of this website	10	11.49%	6	27.27%	1	11.11%	17	14.41%
7	Our society does not value voluntary work	6	6.90%	0	0.00%	0	0.00%	6	5.08%
8	I prefer reading to writing	13	14.94%	6	27.27%	4	44.44%	23	19.49%
9	There is no clear structure for textbooks	6	6.90%	0	0.00%	0	0.00%	6	5.08%
10	I have other hobbies and interests that take up my time rather than contributing to wiki	4	4.60%	1	4.55%	0	0.00%	5	4.24%
11	I prefer socialising with family and friends rather than sitting on the computer to contribute	1	1.15%	1	4.55%	0	0.00%	2	1.69%
12	Others do not have internet access or do not know of this website	0	0.00%	0	0.00%	0	0.00%	0	0.00%
13	I do not feel confident	11	12.64%	1	4.55%	2	22.22%	14	11.86%
14	I prefer to write in my own language	0	0.00%	0	0.00%	0	0.00%	0	0.00%
15	As this is voluntary work, orders to contribute are not acceptable to me	0	0.00%	0	0.00%	0	0.00%	0	0.00%
16	It is not my job to write textbooks	6	6.90%	2	9.09%	0	0.00%	8	6.78%
	Total	87	100.00%	22	100.00%	9	100.00%	118	100.00%

Exploring motivational factors

Factor analysis was conducted on the large total scale (39 items) that consists of the two subscales, 'reasons for contribution' (13 items) and 'reasons for non-contribution' (16 items), in order to ensure that items of each of the two subscales are inter-correlated. The Principal Component Analysis (PCA) revealed that the most items of the first scale, 'reasons for contribution', were loading on component two, while items of the second scale, 'reasons for non-contribution', were loading on component one. Varimax rotation was conducted to confirm the previous results by instruction to extract two components. The result of Varimax analysis confirmed that items of the 'reasons for contribution' scale were inter-correlated and loaded on component two, while the items of 'reasons for non-contribution' were inter-correlated and loaded on component one. Table 53 shows the result of the Varimax rotation.

Table 53: Rotated components matrix for approach and avoidance motivations

Scale items	Component	
	1	2
I want to have fun	.106	.511
My friends do so	.082	.514
Poor people can use these free books	.117	.549
My teacher asked me to do so	-.121	.419
I believe that information should be free	.074	.373
My religious teaching asks me to help others	-.088	.643
Others do not have the expert knowledge that I have	-.125	.373
I cannot find other places to publish my work	-.219	.566
I'm lonely and have free time	-.189	.442
I want to express my personal opinions	-.171	.640
<i>Logical and grammatical errors have to be corrected^b</i>	-.040	.065
There is a lack of information resources in my language.	-.083	.557
I contribute because I want to learn	.239	.455
No financial reward	.652	-.164
I can't use wiki	.549	-.156
This is an un-helpful website	.620	.040
Our educational system (institution) does not (or cannot) adopt this technology as a part of the learning process	.575	-.249
I don't have a knowledge base in any suitable topic	.466	-.029
Contribution is useless unless others know of this website	.597	.123
Our society does not value voluntary work	.533	-.214
I prefer reading to writing	.372	.082
There is no clear structure for textbooks	.684	-.023
I have other hobbies and interests that take up my time rather than contributing to wiki	.451	.407 ^a
I prefer socialising with family and friends rather than sitting on the computer to contribute	.371	.347 ^a
Others do not have internet access or do not know of this website	.615	-.217
I do not feel confident	.496	.075
I prefer to write in my own language	.451	-.262
As this is voluntary work, orders to contribute are not acceptable to me	.637	-.058
It is not my job to write textbooks	.647	.067

Note: ^a items that were loaded substantially on the two components were not excluded from the analysis, because they were loaded more heavily on component 1 (reasons for non-contribution).

^b This item was excluded from further analysis because it did not load on either component one or component two.

Table 53 confirms justification for the continuation of further Factor analysis, treating each subscale as a stand-alone scale. The results illustrated in Table 53 suggest that the item '*Logical and grammatical errors have to be corrected*' should be excluded in further analysis as this item was not significantly loaded on either component 1 or

component 2. However, the item '*Logical and grammatical errors have to be corrected*' was retained for analysis in the next step where each subscale was treated separately.

The total scale consists of two sub-scales: 1) reasons for contribution subscale; and 2) reasons for non-contribution subscale.

Internal consistency analysis for reasons for contribution subscale:

- 1) The internal consistency for the reasons for contribution scale is 0.74.
- 2) The internal consistency for the reasons for contribution scale for the Arabic, Anglo, and Indian cultural groups is 0.75, 0.67, and 0.74 respectively.

Internal consistency analysis for reasons for non-contribution subscale:

- 1) The internal consistency for the reasons for non-contribution scale is 0.84.
- 2) The internal consistency for the reasons for non-contribution scale for the Arabic, Anglo, and Indian cultural groups is 0.87, 0.83, and 0.81 respectively.

As appears from the previous Alpha coefficients, ranging from 0.67 to 0.87, the internal consistency for the total scale and the two subscales for the total sample and for each cultural group, is generally adequate. There are only two Alpha coefficients less than 0.7, still acceptable in the field of social science (Kâğıtçıbaşı 1997, p. 28).

Reasons for contribution subscale (Approach)

The 13 items of the first scale were subjected to a Principal Component Analysis. The KMO value was 0.744. This value is higher than the recommended value suggested by Kaiser (1974 cited in Tabachnick & Fidell 2007) which is 0.6. The analysis reveals that most items were loaded on component one, except again the item '*Logical and grammatical errors have to be corrected*'. Thus, this item was excluded from following analyses, such as the Varimax rotation. The proposed model, as demonstrated earlier in Table 7, suggests that there are two different groups of motivational reasons for contribution (approach): *intrinsic reasons* and *extrinsic reasons*. Hence, two components were extracted in the Varimax rotation.

Table 54: Rotated components matrix for reasons for contribution

Items	Component	
	1	2
I want to have fun	.237	.525
My friends do so	.666	.062
Poor people can use these free books	.103	.778
My teacher asked me to do so	.689	-.102
I believe that information should be free	-.106	.708
My religious teaching asks me to help others	.461	.426
Others do not have the expert knowledge that I have	.341	.214
I cannot find other places to publish my work	.679	.129
I'm lonely and have free time	.634	.025
I want to express my personal opinions	.549	.349
There is a lack of information resources in my language.	.371	.379
I contribute because I want to learn	.057	.629

Note: Loadings less than 0.45 were excluded from further analysis.

The result of Varimax rotation, as it appears in Table 54, suggests that items in component 2 revealed *intrinsic reasons* for contribution while items in component 1 revealed *extrinsic reasons*.

Intrinsic reasons for contribution

Intrinsic reasons for contribution, as they appear in Table 54, include enjoyment, helping the financially-disadvantaged, belief in information freedom and learning purposes. The reliability test showed that the internal consistency of items that constituted the emerged component, is acceptable ($\alpha = 0.63$).

According to the theoretical model, intrinsic reasons include *enjoyment* (the purely intrinsic) and *endorsed values* (integrated reasons). Thus, another Varimax rotation was conducted to confirm the theoretical model, with an instruction to extract a further two components.

The Varimax rotation suggested that there were two factors (see Table 55): enjoyment (fun) which loaded on component 2 (no Alpha coefficient could be retrieved since the component consisted of one item only); and endorsed values (helping the financially-

disadvantaged, belief in information freedom and learning purposes) which were loaded on component one ($\alpha = 0.64$).

Table 55: Rotated components matrix for intrinsic reasons for contribution

items	Component	
	1	2
I want to have fun	.110	.968
Poor people can use these free books	.686	.405
I believe that information should be free	.811	.015
I contribute because I want to learn	.730	.110

Note: Loadings less than 0.45 were excluded from further analysis.

Extrinsic reasons for contribution

Extrinsic reasons for contribution, as they appear in Table 54, include teachers' influence, friends' influence, religious teachings, publishing-orientation, solving the problem of loneliness, and expressing opinions. The reliability test showed that the internal consistency of items that constituted the emerged component, is acceptable ($\alpha = 0.71$).

According to the proposed theoretical model, extrinsic reasons include external regulation (external reinforcement) and introjected regulation (ego-enhancement). Thus, another Varimax rotation was conducted to confirm the theoretical model, with an instruction to extract two components.

The Varimax rotation suggested that there were two factors (see Table 56): an *ego enhancement* factor which includes religious teachings, publishing orientation, solving the problem of loneliness, and expressing opinions, all loading on component 1 ($\alpha = 0.632$), and *external regulation*, which includes the influence of teachers and friends, loaded on component 2 ($\alpha = 0.67$).

Table 56: Rotated components matrix for extrinsic reasons for contribution

items	Component	
	1	2
My friends do so	.194	.817
My teacher asked me to do so	.149	.856
My religious teaching asks me to help others	.700	.076
I cannot find other places to publish my work	.623	.282
I'm lonely and have free time	.525	.334
I want to express my personal opinions	.801	.085

Note: Loadings less than 0.45 were excluded from further analysis.

Additional Varimax analysis was conducted on the external regulation component with an instruction to extract two components. Two meaningful components were extracted. These two components (as they appear in Table 57) were *problem solving* (avoiding loneliness and publishing orientation) as component one ($\alpha = 0.55$) and *moral reward* (religious reward and society recognition) as component two ($\alpha = 0.56$).

Table 57: Rotated components matrix for external regulation

items	Component	
	1	2
I'm lonely and have free time	.843	.077
I cannot find other places to publish my work	.771	.232
My religious teaching asks me to help others	.032	.896
I want to express my personal opinions	.358	.723

Note: Loadings less than 0.45 were excluded from further analysis.

In general, the factors that emerged from Varimax rotation conducted on reasons for contribution subscale support the proposed model outlined in Chapter 1, Table 7. These emerged factors will be used as a basis for comparisons between the cultural groups – as will be reported soon in this chapter.

As demonstrated in Table 28, it is argued that motivations might correlate with cultural orientations. Table 58 shows correlations between motivational factors, which emerged from Varimax rotation, and the quantitative measures of cultural values.

Table 58: Pearson correlations between motivational factors and cultural dimensions

Cultural dimensions	Power distance	Individualism	Masculinity	Uncertainty avoidance
Motivational factors				
Enjoyment	+0.16	−0.18		
Integrated values		−0.25		+0.27
External regulation			−0.19	+0.20
Problem solving			−0.19	+0.20
Moral rewards	+0.49	−0.53		

Note: Correlation coefficient reported here are the maximum significant ($p < 0.05$) positive and negative values only

Results, shown in Table 58, demonstrate that correlations between motivational factors and cultural dimensions were weak (< 0.3) except a correlation between moral rewards and power distance, and correlation between moral rewards and individualism. Items included in moral rewards, as shown in Table 57 are mainly others-oriented, and this is why the correlation with individualism is negative. It is unexpected that any of the items constitute the moral rewards factor correlate positively with power distance.

Reasons for non-contribution subscale (Avoidance)

The reasons for non-contribution subscale were subjected to PCA. The KMO value was 0.828 and therefore higher than the 0.6 suggested by Kaiser (1974 cited in Tabachnick & Fidell 2007). All 16 items are heavily loaded on component 1 which suggests no deletion is to be conducted at this stage. Varimax rotation can be used to extract a number of components that equal (plus one or minus one) the number of components revealed from either the components matrix of PCA or components illustrated in the scree plot (Pallant 2005). Moreover, Pallant (2005) and Tabachnick and Fidell (2007) suggest that items that do load on different components can be removed until an optimum solution is reached.

Varimax rotation analysis was conducted a few times using different numbers of components (four, five and six components) until the optimum solution was reached without the need to remove any items. Another confirmatory analysis, Equamax rotation, was conducted with the instruction that six components be extracted. The result revealed that items of each component were similar, using two rotation methods,

Varimax rotation and Equamax rotation. Table 59 shows the six components that were retrieved from the Varimax rotation.

Table 59: Rotated components matrix for reasons for non-contribution scale

items	Component					
	1	2	3	4	5	6
Our society does not value voluntary work	.851	.056	.127	.019	-.041	.184
Our educational system (institution) does not (or cannot) adopt this technology as a part of the learning process	.694	.200	.060	-.055	.274	.146
I do not feel confident	.165	.743	.219	.065	-.016	.029
I prefer reading to writing	.016	.741	-.075	.157	.009	.195
I don't have a knowledge base in any suitable topic	.044	.669	.160	-.009	.391	-.089
There is no clear structure for textbooks	.393	.440	.125	.120	.228	.383
It is not my job to write textbooks	.077	.159	.783	.233	.107	.162
As this is voluntary work, orders to contribute are not acceptable to me	.100	.119	.762	.090	.107	.350
No financial reward	.442	.041	.526	.138	.341	-.001
I prefer socialising with family and friends rather than sitting on the computer to contribute	-.071	-.008	.526	.834	.021	.006
I have other hobbies and interests that take up my time rather than contributing to wiki	.019	.374	.251	.735	-.019	-.018
Contribution is useless unless others know of this website	.421	-.025	.130	.588	.373	.200
I can't use wiki	.073	.165	-.063	.016	.837	.109
This is an un-helpful website	.440	.019	.113	.147	.551	.037
I prefer to write in my own language	.140	.082	.246	-.013	-.083	.797
Others do not have internet access or do not know of this website	.244	.082	.276	.071	.383	.662

Note: Loadings less than 0.50 were excluded from further analysis.

The previous 6 components explain 68% of variance: 12.9%, 12.5%, 11.5%, 10.9%, 10.7%, and 9.5% respectively.

These six dimensions are:

Component one: Negative views toward contextual system ($\alpha=0.64$)

Component two: Lack of confidence ($\alpha=0.65$)

Component three: Not valuing voluntarism or Lack of reward for oneself ($\alpha=0.73$)

Component four: Distracting interests ($\alpha=0.64$)

Component five: Negative views toward wikis ($\alpha=0.58$)

Component six: Irrelevant excuses ($\alpha=0.57$)

In general, the factors that emerged from Varimax rotation conducted on reasons for non-contribution subscale did not support the proposed model outlined in Chapter 1,

Table 7. However, these emerged factors will be used as a basis for comparisons between the cultural groups – as will be reported soon in this chapter.

Differences between cultural groups

In the last analysis, Varimax rotation, clustered items revealed different dimensions in both subscales: ‘reasons for contribution’ and ‘reasons that hinder and decrease contribution’. In this section of data analysis, one-way ANOVA was used to explore differences in reasons for motivation (as shown in Table 60) and reasons for amotivation (as shown in Table 61) among the three different cultural groups: Anglo, Arabic and Indian cultures.

Table 60: Differences in approach motivation across Arabic, Anglo and Indian cultures

Factor	Culture	N	Descriptive statistics									ANOVA		Tukey HSD			
			Arabic			Anglo			Indian			F	p	Culture I	Culture J	M(I)-M(J)	p
			N _{Ar}	M	SD	N _{En}	M	SD	N _{In}	M	SD						
Reasons for contribution (Motivation)		231	86	3.56	0.56	129	3.09	0.55	16	3.35	0.65	18.22	<0.001	Arabic	Anglo	0.47	<0.001
														Anglo	Indian	-0.26	0.20
														Indian	Arabic	-0.21	0.34
Intrinsic motivation		231	86	4.27	0.62	129	3.90	0.67	16	4.20	0.83	8.18	<0.001	Arabic	Anglo	0.36	<0.001
														Anglo	Indian	-0.29	0.23
														Indian	Arabic	-0.08	0.91
Enjoyment-based intrinsic motivation		231	86	3.95	1.01	129	3.57	0.99	16	4.00	1.16	4.18	0.02	Arabic	Anglo	0.38	0.02
														Anglo	Indian	-0.43	0.25
														Indian	Arabic	0.05	0.98
Endorsed values-based intrinsic motivation		231	86	4.49	0.53	129	4.24	0.62	16	4.39	0.83	8.63	<0.001	Arabic	Anglo	0.35	<0.001
														Anglo	Indian	-0.15	0.61
														Indian	Arabic	-0.20	0.46
Extrinsic motivation		231	86	2.85	0.78	129	2.27	0.74	16	2.50	0.72	15.02	<0.001	Arabic	Anglo	0.57	<0.001
														Anglo	Indian	-0.22	0.51
														Indian	Arabic	-0.35	0.20
External regulation		231	86	2.27	1.06	129	1.95	0.92	16	2.09	1.23	2.70	0.07				
Ego enhancement		231	86	3.42	0.77	129	2.59	0.81	16	2.89	0.68	28.33	<0.001	Arabic	Anglo	0.83	<0.001
														Anglo	Indian	-0.30	0.34
														Indian	Arabic	-0.53	0.04
Moral rewards		231	86	3.97	0.81	129	2.65	0.99	16	3.35	1.30	49.60	<0.001	Arabic	Anglo	1.32	<0.001
														Anglo	Indian	-0.70	0.02
														Indian	Arabic	-0.62	0.05
Problem Solving		231	86	2.88	1.04	129	2.54	0.92	16	2.44	0.93	3.56	0.03	Arabic	Anglo	0.34	0.04
														Anglo	Indian	0.11	0.91
														Indian	Arabic	-0.44	0.22

Table 61: Differences in avoidance motivation across Arabic, Anglo and Indian cultures

Factor	Culture	N	Descriptive statistics									ANOVA		Tukey HSD			
			Arabic			Anglo			Indian								
			N _{Ar}	M	SD	N _{En}	M	SD	N _{In}	M	SD	F	p	Culture I	Culture J	M(I)-M(J)	p
Reasons for non-contribution (Amotivation)	244	80	3.37	0.67	148	3.57	0.61	16	3.90	0.50	5.75	<0.001	Arabic	Anglo	-0.20	0.06	
													Anglo	Indian	-0.33	0.11	
													Indian	Arabic	0.53	0.01	
Negative views toward contextual system	244	80	3.29	0.99	148	3.77	0.99	16	3.63	0.99	6.25	<0.001	Arabic	Anglo	-0.49	<0.001	
													Anglo	Indian	0.15	0.84	
													Indian	Arabic	0.34	0.43	
Lack of confidence	244	80	3.06	0.98	148	3.11	0.92	16	3.67	0.76	2.90	0.06					
Not valuing volunteerism or lack of reward for oneself	244	80	3.60	0.92	148	3.77	0.87	16	4.23	0.58	3.60	0.03	Arabic	Anglo	-0.17	0.35	
													Anglo	Indian	-0.46	0.12	
													Indian	Arabic	0.63	0.03	
Distracting interests	244	80	3.56	0.88	148	3.02	0.87	16	3.65	0.83	11.84	<0.001	Arabic	Anglo	0.54	<0.001	
													Anglo	Indian	-0.63	0.02	
													Indian	Arabic	0.09	0.93	
Negative views toward wikis	244	80	4.05	0.79	148	4.26	0.87	16	4.28	0.68	1.78	0.17					
Irrelevant excuses	244	80	2.59	1.07	148	3.49	0.96	16	3.97	0.49	22.32	<0.001	Arabic	Anglo	-0.81	<0.001	
													Anglo	Indian	-0.47	0.16	
													Indian	Arabic	1.28	<0.001	

From Table 60, results of one-way ANOVA and Tukey HSD tests, a number of inferences can be made:

- 1) One-way ANOVA test revealed that there are significant differences between means of motivational factors across the three cultural groups except *external regulation* factor.
- 2) The post-hoc multiple comparisons, using Tukey HSD test, revealed that the means of most motivational factors are significantly larger than Anglo participants. These differences were larger for extrinsic motivational factors than intrinsic motivational factors.

From Table 61, results of one-way ANOVA and Tukey HSD tests, a number of inferences can be made:

- 1) One-way ANOVA test revealed that there are significant differences between means of amotivational factors across the three cultural groups except *lack of confidence* and *negative views toward wikis* factors.
- 2) The post-hoc multiple comparisons, using Tukey HSD test, revealed that patterns of mean differences differ depending on the factor
 - A) Arabic participants were more amotivated due to *irrelevant excuses* and *negative views toward contextual systems* than Anglo participants.
 - B) Anglo participants were more amotivated due to *distracting interests* than Arabic participants.

Independent variables and approach and avoidance motivation measures

Independent variables that contributed to reasons for contribution

As discussed in Chapter 7, standard regressions are conducted at this stage to reduce the number of independent variables to the strongest independent variables that contribute to the variance in dependent variables (motivation/approach). Contribution of each group of independent variables to the variance in each dependent variable was measured using Standard regression. To illustrate, Figure 17 shows the process:

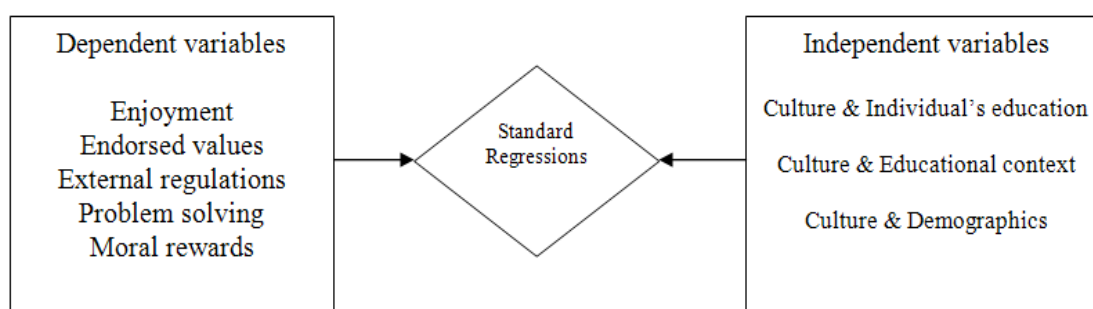


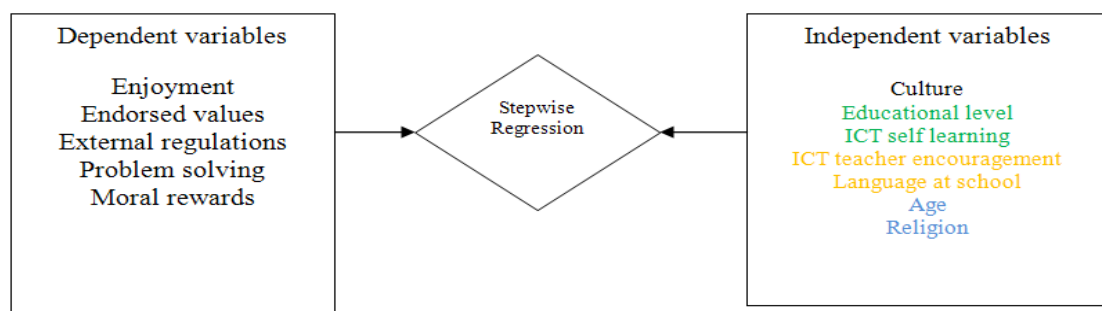
Figure 17: Process of standard regression analyses for reasons for contribution

The several runs of standard regression analysis (see Appendix K) have resulted in statistically significant independent variables that contribute significantly to the effect of dependent variables. These were found to be: culture; education level and ICT self learning (from the individual education group); teachers encouraging the use of ICT; and language at schools (from the educational context group); and age and religion (from the demographic group).

In the previous stage of standard regression analyses, a number of significant independent variables resulted. Following the theoretical model in the thesis, culture

was a strong contributor to the effect on reasons for contribution (whether individual subclasses or the total scale). Other important independent factors, as in the theoretical framework, are variables related to individual education, followed by factors related to the educational context, and then the demographic factors.

The data were then subjected to a stepwise regression to assess and confirm the theoretical order of importance of the significant independent variables. The different runs of stepwise regression analysis were conducted on each subclass and the total motivation resulting from reasons for contribution. Contribution of each group of independent variables (as highlighted in distinguished colours in Figure 18) to the variance in each dependent variable was measured using Stepwise regression. Figure 18 illustrates the different runs of stepwise regression analysis:



Note: Colour groups used for independent variables reflect the entry order of the groups of variables to Stepwise regression

Figure 18: Process of stepwise regression analyses for reasons for contribution

The following Table 62 summarises the results of the stepwise regression analyses:

Table 62: Stepwise Regression results for independent variables that contribute to reasons for contribution

Factor			R^2^*	F	β^*
Name	Mean	SD			
Reasons for contribution (Motivation)	3.28	0.60	0.102	12.039	
Culture					-0.237
Religious groups					-0.160
1) Intrinsic motivation	4.06	0.68	0.029	6.378	
Culture					-0.170
A) <i>Enjoyment</i>	3.74	1.03		-----	
No variable was available					-----
B) <i>Endorsed values</i>	4.34	0.63	0.103	6.071	
Culture					-0.154
Language at school					-0.146
ICT teacher encouragement					-0.180
Age group					-0.157
2) Extrinsic motivation	2.49	0.79	0.147	12.223	
Religious group					-0.222
Culture					-0.204
Education level group					-0.153
A) <i>External regulation</i>	2.08	1.00	0.061	6.892	
Educational level					-0.187
Religious group					0.149
B) <i>Ego Enhancement</i>	2.92	0.88	0.229	15.624	
Culture					-0.255
Religious group					-0.259
ICT teacher encouragement					-0.169
Age group					-0.140
1. <i>Problem solving</i>	2.66	0.98	0.028	6.165	
Culture					-0.167
2. <i>Moral rewards</i>	3.19	1.14	0.278	27.251	
Culture					-0.313
Religious group					-0.291
ICT teacher encouragement					0.139

Results, reported in Table 62, show that Culture (as indicated by native language, and Religion – as one of the important sources that reshape cultures) appear to contribute more to the variance of motivational factors than other individual and contextual factors. With the evidence that there was a positive correlation between Age and Educational level, as reported in Table 40, then it can be explained that educational level, among other individual factors, is an important factor contributing to the variance of motivational factors. Teacher support, amongst other contextual factors, is an important factor contributing to the variance of motivational factors.

Independent variables that contributed to reasons for non-contribution variance

Standard regressions are conducted at this stage to reduce the number of independent variables to the strongest independent variables that contribute to the dependent variable (amotivation/avoidance). Contribution of each group of independent variables to the variance in each dependent variable was measured using Standard regression. Figure 19 shows the process:

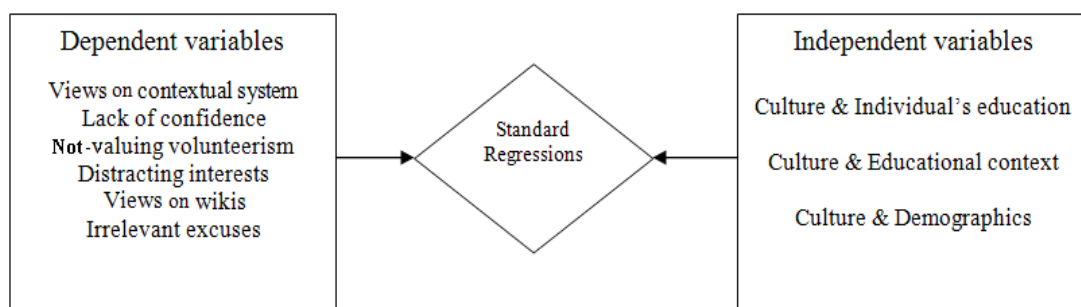
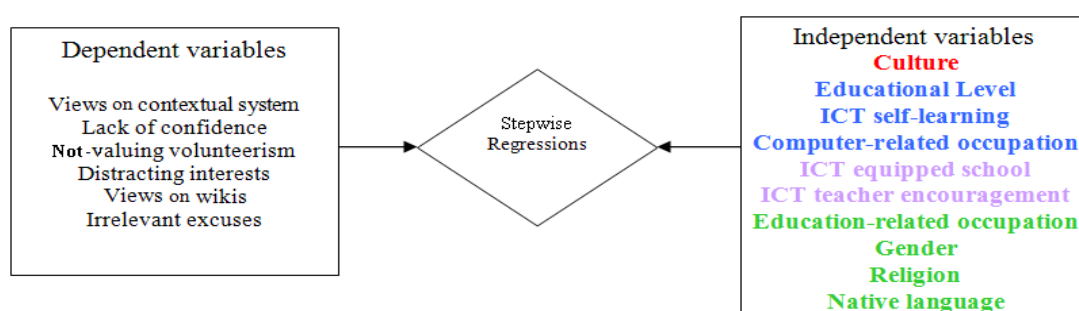


Figure 19: Process of standard regression analyses for reasons for non-contribution

Several runs of standard regression analysis (see Appendix K) resulted in statistically significant independent variables that contribute significantly to the effect of dependent variables. These include culture; education level, ICT self-learning and computer-related education (from an individual's education group); ICT-equipped schools, teachers encouraging the use of ICT, and language used at school (from the educational context group); and education-related occupation, gender, religion and native language (from the demographic group).

In the previous stage of standard regression analysis, a number of significant independent variables resulted. These significant independent variables include culture, education level, ICT self-learning, computer-related education, ICT-equipped schools and teachers encouraging the use of ICT, language at school, education-related occupation, gender, religion and native language.

The data were then subjected to a stepwise regression to assess and confirm the theoretical order of importance of the significant independent variables. The previous stage, of standard regression analysis, reduced independent variables to stronger factors. These factors were entered in the stepwise regression analysis in the same order, matching the theoretical foundation. Different runs of stepwise regression analysis were conducted on each subclass and also on the total motivation of reasons for contribution. Contribution of each group of independent variables (as highlighted in distinguished colours in Figure 20) to the variance in each dependent variable was measured using Stepwise regression. Figure 20 illustrates the different runs of stepwise regression analysis:



Note: Colour groups used for independent variables reflect the entry order of the groups of variables to Stepwise regression

Figure 20: Process of stepwise regression analyses for reasons for non-contribution

The following Table 63 summarises the results of the stepwise regression analyses:

Table 63: Stepwise Regression results for independent variables that contribute to reasons for non-contribution

Factor			R^2*	F	β^*
Name	Mean	SD			
Reasons for non-contribution (Amotivation)	3.53	0.63	0.067	8.090	
Culture					0.180
Education-related occupation					-0.154
1. Negative views on contextual system	3.60	1.01	0.078	6.328	
Culture					0.149
ICT-equipped schools					0.158
Education-related occupation					-0.141
2. Lack of confidence	3.13	0.94	0.047	5.541	
Educational level					0.156
Level of computer-related education					0.143
3. Not-valuing voluntarism	3.75	0.88	0.043	5.041	
Culture					0.193
Religion					-0.139
4. Distracting interests	3.24	0.91	0.060	7.153	
Education-related occupation					-0.194
Culture					-0.189
5. Negative views on wikis	4.19	0.84	0.017	3.991	
Native language					0.131
6. Irrelevant excuses	3.26	1.06	0.218	15.573	
Culture					0.334
Native language					0.170
ICT equipped schools					0.170
Educational level					-0.134

Results, reported in Table 63, show that Culture (as indicated by native language, and Religion – as one of the important sources that reshape cultures) appears to contribute more to the variance of amotivational factors than other individual and contextual factors. The nature of education or occupation, among other individual factors, contributes to the variance of amotivational factors. The level of ICT equipment in schools, as a contextual factor, contributes to the variance of amotivational factors.

Ranking of reasons for contribution

Table 64: Ranking of reasons for contributions for Anglo and Arabic participants

Ranking	Items ranking of Arabic participants	Mean
1	I believe that information should be free	4.79
2	I contribute because I want to learn	4.62
3	My religious teaching asks me to help others	4.44
4	Poor people can use these free books	4.37
5	I want to have fun	3.95
6	I want to express my personal opinions	3.49
7	I'm lonely and have free time	2.94
8	I can not find other places to publish my work	2.81
9	My friends do so	2.51
10	My teacher asked me to do so	2.02
Ranking	Items ranking of Anglo participants	Mean
1	I believe that information should be free	4.52
2	I contribute because I want to learn	4.24
3	Poor people can use these free books	3.97
4	I want to have fun	3.57
5	I want to express my personal opinions	2.72
6	I'm lonely and have free time	2.61
7	My religious teaching asks me to help others	2.57
8	I can not find other places to publish my work	2.47
9	My friends do so	2.19
10	My teacher asked me to do so	1.71

Note: Bold is used to highlight the difference in ranking in relation to this item.

As reported in Table 64, reasons for contribution to Wikibooks follow the same patterns of weight across Arabic and Anglo participants, except the motivation related to religious teaching: it ranks higher for Arabic participants than for Anglo participants.

Results reported above in this chapter, will be discussed in the following section.

Discussion

Extending the work on cultural differences in Wikipedian contribution patterns, by Pfeil *et al.* (2006), the current research relates to a cross-cultural psychology of motivation, with both cognition and social theories are considered. Patterns of motivational reasons for contribution to open content website Wikibooks are reported in this chapter. Examining motivational differences across cultures required identifying patterns of similarities and differences among contributors from two broad cultures: Middle Eastern Arabic culture and Western Anglo culture. Exploring differences in motivation allows designing and implementing open content learning activities OCLA that suit different users from different cultural backgrounds. Such cultures, as discussed in Chapter 2, have taken different lengths of time to transform to their current state of cultural values (see Mostyn & Hourani 1988 for Middle Eastern Arabic culture; see Parkes 1970 for Western culture).

Motivation is cultural (Hamamura 2008; Hofstede 2001; McClelland 1987; Robertson 2010; Triandis 2001). In the theoretical study, it is argued that motivation for contribution to open educational resources share the same, or very close, motivations with volunteerism to OSS, OCW, and RWO – motivation in terms of goals or reasons (Bitzer, Schrettl & Schröder 2007; Forte & Bruckman 2006b; Hars & Ou 2001; Hertel, Niedner & Herrmann 2003; Krishnamurthy 2006; Lakhani & Wolf 2005a; Nov 2007a) – as illustrated in Table 16. But research also shows that motivation itself differs from one to one, and from culture to another. In Chapter 1, it has been discussed that the prepositions of motivation theory are not adequate to explain motivation to volunteer and amotivation to volunteer, in a way that can also have the capacity to explain cultural differences. The review of literature helped adapt a model that considers the *self* and *others* orientations – as illustrated in Table 7. Exploring reasons for approaching and avoiding OCLA from a cultural perspective can help to identify strategies for enhancing participation, and also has the potential for enabling both OCLA designers and instructors to address issues that hinder contribution, taking into account individual and contextual differences.

Current knowledge was helpful, however, in determining factors that might impact upon motivation, but it does not provide explanations of how such factors impact motivation to approach or to avoid OER contribution. Differences in motivation can be explained by differences in individual characteristics (age, gender, educational level, socio-economic factor), and contextual system (culture, education system including teacher skills, pedagogy, and level of ICT equipment at schools) – as illustrated in Figure 16. Such educational systems should have incorporated the use of Web 2.0 technologies to boost teaching and learning activities (Grosseck 2009) in order to allow the *positive transfer* of experience (Elgort 2007) through collaboration activities that add a *rewarding dimension* of human experience (Crook 1996).

How can cultural differences be examined in relation to OER motivation? To answer this question, as it was discussed in Chapter 2, the collective mental programming is a middle layer between the universal level and the individual level – as elaborated by Hofstede (2001) and illustrated in Figure 4. Since culture is in-between these two levels (individual level and universal level), there is a need, as it is argued in Chapter 7, to explore cross-cultural motivation within these two levels (Figure 15). Such analysis is particularly important when designing and developing, or even hosting, open educational resources, in order to engage every learner to actively participate in creating or reshaping OER content and sharing the knowledge with others.

From the universal perspective, motivation involves tendency to approach or to avoid certain behaviour; but it also involves a conflict between these two tendencies. Within this universal agreement of human motivation, a proposed model is introduced to consider the complexity of human motivation. Theoretically, there was a need to consider the conflict between approach and avoidance motivation from a cultural perspective; such a view should not ignore individual aspects of motivation. Exploring the self and others dimensions of approach and avoidance motivation helps explore individualist and collectivist practices in OCLA. Humans are ‘mindful’ beings – in every situation they consider themselves and their surrounding environment.

Furthermore, individuals will decide to contribute when they expect benefits exceed their costs (von Hippel 2005). But within such thoughts and behaviours, cultural orientations manifest themselves. Moreover, within such decision making processes, individual differences and other contextual factors affect motivation (see Figure 16).

As discussed in Chapter 7, the online questionnaire is a research method to examine cultural differences (and similarities) of motivation for contribution to OER at the universal level; and both individual and contextual factors are also considered while planning and designing for researching that level. Uncovering cultural practices in OCLA motivation can aid in the design of incentives that stimulate contribution from individuals from different cultures, and at the same time address hindrances to contribution.

Motivation for contribution / non-contribution to OER

The review of literature as well as the content analysis of open educational resources have provided insight into the reasons for contribution and non-contribution to open educational resources – although it is admitted that it is ‘impossible’ to identify ‘all’ of the different reasons for contribution as long as people differ. However, answers to the two open-ended questions in relation to ‘reasons for contribution’ (as illustrated in Table 43 [Anglo participants], Table 44 [Arabic participants], and Table 45 [Indian participants] – and as summarised in Table 51), and ‘reasons for non-contribution’ (as illustrated in Table 46 and Table 49 [Anglo participants], Table 47 and Table 50 [Arabic participants], and 48 [Indian participants] – and as summarised in Table 52) provide an acceptable content validity to the identified reasons for contribution and non-contribution included in the questionnaire scale. Open-ended questions provided the means for exploring ‘all’ possible reasons for contribution and non-contribution from the view point of research participants.

As it appears and discussed here, reasons (whether to contribute or not contribute) to a large extent argue with the pre-identified reasons, except religious stimulus and the impact of friends (as reasons for contribution) and lack of awareness and internet access, languages preference, and unwillingness to receive instructions to contribute (as reasons for non-contribution). Although these reasons were identified in the review of the literature, these reasons require further exploration through the interviews stage of the research, given the variability across individuals. An interesting point is that people have many reasons for not engaging in a positive behaviour (contribution): this was argued when designing the questionnaire scale, 16 reasons for non-contribution versus 13 reasons for contribution, and was supported by participants' 'lengthy' reasons for not contributing to Wikibooks – as reported in Table 46, Table 49, Table 47, Table 50, and 48.

Reasons for contribution and non-contribution explored above can be seen as culturally-weighted as illustrated in Table 51 and Table 52. More specifically, while Anglo participants focus on learning, Arabic participants do not show any interest in learning; and Arabic participants seem to place greater weight on freedom of information and the need to increase available resources in their language, than Anglo participants. Furthermore, it seems that Arabic participants are more interested in some sort of reward for their contribution than Anglo participants. This might explain why Arabic participants prefer reading than writing compared to Anglo participants. This result suggests that to stimulate Anglo individuals to contribute, learning objectives and skills gained should be presented; while for Arabic individuals, the focus should be on the shared benefits from contribution, with their communities. An interesting finding that Anglo participants have twice expressed that they would not be able to contribute because of their lack of knowledge or lack of confidence than Arabic participants – as illustrated in Table 52. Overall, the factors that appear to motivate people to contribute the most, regardless of their culture, include the belief of freedom of information, lack of available resources, and the good will that others (including those who are disadvantaged), so that they can find free resources – which suggests humanitarian (and/or even religious) orientation behind such motivation. But what amotivates people from contribution are users' preference to reading and lack of awareness about the OER

websites. Linking reasons for non-contribution with reasons for contribution enables OCER designers to deal with issues that hinder contribution, such as lack of confidence, by providing tutorials that can help address issues such as lack of current knowledge.

Although content analysis of answers to open-ended questions relating to reasons of contribution and non-contribution demonstrated an acceptable validity to the questionnaire scale items, such analysis also provides qualitative meanings for each scale item – which makes the next stage, of data collection and analysis through interviews, easier. For example, the review of literature shows that volunteering to RWO appears to be motivated by religious/humanitarian reasons. Similarly the literature review and content analysis of OER websites suggest that contributions to OCW appear to be stimulated by similar reasons. Therefore, these issues were explored further through relevant questions included in the online questionnaire. However, such issues were not identified in respondents' answers to open-ended questions. Similarly, while the review of literature shows that many producers engage in activities such as correcting spelling errors and grammar, these reasons were not revealed in respondents' answers to open-ended questions, and were therefore excluded from the total scale after the factor analysis – a matter that needs further exploration through interviews.

Another inherent acceptable validity of web-based questionnaire responses is that respondents to the questionnaire, to a large extent, represent the population as demonstrated in Table 34 and Table 35: most respondents that represent Arabic culture are Muslim whose first language is Arabic; most participants from Anglo culture are either atheist or Christian and their first language is English; and most participants that represent Indian culture are Hindu, and speak Hindi and other Indian languages – see the CIA statistics (CIA 2010) as summarised in Appendix H.

Motivations at the universal level

There are three levels of contribution (Table 32) demonstrated by the way participants responded to the online questionnaire. These levels are: 1) contributors: those who answered the reasons for contribution subscale; 2) non-contributors: those who

answered the reasons for non-contribution subscale; and 3) contributors but: those who answered both subscales. The majority of respondents answered both subscales. This suggests that the majority of people face conflict between approach and avoidance tendencies; while very few do not experience a conflict, and this is why they decided to approach contribution or avoid it – which supports the proposed motivation model illustrated in Table 7.

This finding in general supports the view that people ‘evaluate’ their potential actions, and balance between reasons to approach and reasons to avoid – a universal mental behaviour phenomenon. At the same time, such mental processes consider contextual factors (as well as individual characteristics and values) – as argued in Chapter 2 and Chapter 4, and illustrated in Figure 9. Since most participants face conflict between approach and avoidance, it is important to deal with issues of avoidance to enhance contribution, especially given that most volunteering activities can be described by lack of commitment. This argument is consistent with Bourdieu (1984) who argues that people face opposition in all life situations between the immediate and the preferred. Actions are not mechanical responses, but rather aspects of *habitus*, where traditions and beliefs shape both individual and collective responses (Bourdieu 1998). If contribution, as a preferred action, is not hindered by different reasons, it can be immediate. These immediate actions of individuals to contribute to OCER thus become a collective outcome, where such a collective behaviour is seen as cultural (Hara, Shachaf & Hew 2010; Pfeil, Zaphiris & Ang 2006).

A close look into Table 32 might explain why there is a contribution gap (see Table 23) between Arabic Wikibooks and English Wikibooks. Indian participants who answered the English survey read and contribute to English Wikibooks. This suggests that number of modules itself does not provide a strong evidence of motivation; but rather it is most important to understand why people contribute and do not contribute to OER. When a specific focus is given to those who answered the English survey (both Anglo individuals and Indian individuals), analysis shows that they are motivated by the value

of information sharing, learning/understanding, the value of helping others and enjoyment (Metzer & Hanna 2011). A point that should be made here is that without enjoyment and learning from contribution, individuals would not attempt to help others by sharing information with them. Thus, it is a matter of mutual benefit with a condition that enjoyment should exist.

Findings reported in Table 32 show that Arabic participants (~91%) face conflict between reasons for contribution and non-contribution more than Anglo participants (~74%) which again suggests the need to understand reasons themselves – and to what extent the level of amotivation affects the level of motivation. Furthermore, such results demonstrate that Arabic participants are more likely to contribute less than Anglo participants due to reasons of amotivation. This also suggests that enhancing contribution requires more attention to reasons for not participating in OCLA rather than only focusing on stimulating individuals for different reasons for contribution.

Results reported in Table 33 show that most users (those who read only) and *producers* (those who read and write) of OER Wikibooks are mid-age adults (18-34), from secondary or university education. This should not be interpreted as a bias but rather it is due to the nature of OER – most consumers and *producers* are students and self-learners. Since Wikibooks is more a learning venue, it is perhaps not surprising to find most users and *producers* are students and self-learners. However, the number of users and producers participating in Wikibooks compared to other OER providers, as demonstrated in the OER content analysis (Table 18), suggests that students and learners prefer more open content learning activities than being restricted from any active participation in learning contents. Furthermore, this result suggests that Wikibooks has been used by university students either for self-learning, or because it has been suggested by their university instructors. This suggestion is supported by Sajjapanroj *et al.* (2007) who make a distinction between experts (self-learners) and novices (class students).

The finding that most users and contributors to OER Wikibooks are male is not surprising. This suggests that OER participation is more likely to be described as ‘gendered’ – a matter that is consistent with OSS (Hertel, Niedner & Herrmann 2003; Lakhani & Wolf 2005a) and OCW (Nov 2007a) participation. This might be explained by the ‘double shift’ that most female undertake (Cohen & Kennedy 2007), while males tend to have more free time, and are thus able to contribute programming in OSS (Görling 2007; Robles, Gonzalez-Barahona & Michlmayr 2005; Stallman 1999). In other words, similar to the context of the open content webpages of Wikipedia (Nov 2007a) and open source software (Rosenzweig 2006) which are dominated by males (see also Shachaf *et al.* 2006), the online questionnaire study finds a gender imbalance.

The dominance of males in Wikibooks is consistent with Bloomfield and Kennedy’s (2006) argument that gender is the strongest factor influencing the use of time. Male usually have more free time than women, regardless of their marital and employment status (Bloomfield & Kennedy 2006). There are two possible explanations for the male-dominance. Firstly, it appears large percentages of contributors possess computer and information science backgrounds – as can be understood from Table 42. Electrical and mechanical engineering, and information engineering are usually dominated by males in societies which place pressures on both males and females for (gendered) educational expectations (Etzkowitz & Kemelgor 2001). Secondly, there are additional complexities in the social role of female, since most women have to work double-shifts: their regular working hours are joined by another shift of home duties (Cohen & Kennedy 2007). This suggests that females may not have as much time to contribute online to open content spaces. Although it is not surprising to find that most contributors to OER are males, there is a need for further research to explore why females are not participating actively in OCLA by directly asking them for their reasons for non-contribution.

None of the literature in the area of open source software, open content webpages, or open educational resources has used the education system (public or private) as an indicator for economic status as one dimension of socioeconomic factors (Hollingshead 1975). Although it was expected that most contributors would come from private

education, which provides a higher quality in general than public education (Jimenez & Lockheed 1995), the results show that 74% of research participants were educated in public schools. There are two possible reasons for such a finding: 1) economic pressures motivate students and learners to go to less expensive venues to access knowledge; and/or 2) private schools offer their students more access to OCLA than public schools. However, since the content analysis of OER websites (Table 18) shows that NFP OER allows more participation in learning content than institutional OER, it would seem that the first of these explanations is more likely.

The socio-economic factor as indicated by the school system (public/private) demonstrates that the main consumers and *producers* of OER are those who received/receiving public education – a result that suggests not only economic pressures (Greco 2005, p. 45) promote the use of OER, but also that the education system itself can promote the use of OER as a means towards achieving equity and education, as suggested by UNESCO (2011). This can be achieved by allowing updatable sources of information and enabling learners, students and teachers to be engaged in learning and teaching activities (Augar, Raitman & Zhou 2004; Butcher & Taylor 2008; Chen & Cannon 2006; Ferriter 2009; Kidd *et al.* 2009b; O'Shea, Baker & Kidd 2008; O'Shea *et al.* 2007; Parker & Chao 2007; Peterson 2009; Reinhold 2006; Shih, Tseng & Yang 2008; Trentin 2009; Wheeler & Wheeler 2009; Wheeler, Yeomans & Wheeler 2008; Xiao *et al.* 2007a). This finding is consistent with Pohjola (2003b) who argues that it is not only income that influences the adoption of ICT. Education plays a significant role in adopting and implementing new technologies. Since it is argued that the “net generation” prefer more active participation in learning content, the trend of institutional OCER will increase, and perhaps the current participation in NFP OCER will decrease. However, time and future research will help to reveal whether such a claim is supported.

The questionnaire scale has an acceptable reliability ($\alpha = 0.70$). This is demonstrated not only by the internal consistencies of the total scale and/or (minor) subscales (Table 53, Table 54, Table 55, Table 56, Table 57, and Table 59), which are adequate (most of them exceed $\alpha = 0.70$), but also not many items were excluded in factor analysis and

Varimax rotation. The clustered factors explored, agree to the large extent with the ‘universal’ proposed model (Table 7), which is also consistent with motivations for volunteering to OSS, OCW, and OER (Table 16). All of these reasons suggest that this scale is useful in future research – perhaps by extending the research population to include some other cultures, or using it before and after providing tutorials that deal with issues related to lack of confidence and lack of awareness. This model, as appears in the subsequent analyses, involves the self and the others dimensions of OER motivation which helps uncover individualist and collectivist practices in approach and avoidance tendencies.

More specifically, and in relation to the supported ‘universal’ OER motivational model, the results of different runs of Varimax rotation applied to reasons for contribution (Table 53, Table 54, Table 55, Table 56, and Table 57) support the proposed model, and therefore was used to examine cultural differences in motivation. The analysis supports that: 1) intrinsic and extrinsic motivation co-exist; 2) intrinsic motivation involves both enjoyment and integrated values; and 3) extrinsic motivation involves external regulation and ego enhancement (moral rewards)/ guilt reduction (problem solving).

The results of Varimax rotation for reasons for non-contribution (Table 59) do not agree with the proposed model: while the proposed model argues that two factors, unwillingness and inability, as reasons for non-contribution, the results of Varimax rotation demonstrate six factors that generate the best solution. Although such finding differs from the findings reported in the theoretical study, these six factors can logically be clustered into two larger factors: 1) inability which might include lack of confidence, distracting interests and negative views toward wikis; and 2) unwillingness, which can include negative views toward the contextual system, lack of rewards and irrelevant excuses. Exploring such factors helps in designing training programs and tutorials, or even policies, that can deal with different issues that hinder contribution. For example, training programs or tutorials should focus on factors such as ease of participation and the importance of contribution for the self and the community; such programs would address lack of confidence, negative views toward wikis, and the sense of lack of

rewards. These tutorials should also inspire active participation by focusing on solving problems for potential participants and their communities.

Correlations between factors of enjoyment, endorsed values, external regulation, ego enhancement/guilt reduction, inability and unwillingness are very weak – as reported in Table 58. This suggests that these variables are independent from each other, and thus are ready to be examined to explore the contribution of each independent variable to the variance in motivational factors. Motivational factors for contribution and non-contribution to OER are ‘universal dimensions’. But do people differ as their context differs? The following section focuses more on differences in motivation across Arabic, Anglo and Indian cultures.

Differences in motivation across cultures

The analysed data has uncovered the factors affecting motivation in contributors to Wikibooks, and more specifically the similarities and differences between motivational factors, across Anglo, Arabic and Indian cultures. The findings extend on the work of Pfeil, Zaphiris and Ang (2006) who found that there are cultural differences in the patterns of contribution to Wikipedia. To achieve the aim of exploring differences in OER motivation, Table 60 and Table 61 report that there are significant differences in motivation for contribution (approach) and non-contribution (avoidance) to OER Wikibooks.

In regard to reasons for contribution, Arabic participants were higher than Anglo participants in: enjoyment (intrinsic), integrated values (intrinsic), problem solving/ego enhancement (extrinsic), and moral reward/guilt reduction (extrinsic); but there was no significant difference found in regard to external regulation. In collectivist societies, individuals emphasise obligation and others, and they de-emphasise personal choice and

endogenous motivations (Eisenberg & Fabes 1998). Such results are also consistent with motivations to volunteer to RWO across cultures – as presented in Table 15, Table 26, and Table 27. But, the ‘no significant difference’ between Arabic and Anglo participants in external regulation – which is also consistent with motivations to volunteer to RWO across cultures, as presented in Table 27, suggests that both teachers and friends do not play much role in motivating OER Wikibooks users to contribute, and this might also suggest the need to train teachers to engage OER in their learning and teaching practices to promote the use of OER. These findings suggest that motivations that include enjoyment, integrated values, problem solving/ego enhancement, and moral reward/guilt reduction are more powerful in engaging OER producers than any external pressures from teachers or friends. This implies that teachers should not force students to participate, but rather, they should assist and facilitate their contribution; by being inspired themselves they are more likely to then be able to inspire others.

In relation to reasons for non-contribution, Arabic participants were significantly higher than Anglo participants in their negative views toward contextual system (see Table 61), valueless voluntarism and irrelevant excuses, while Anglo participants were higher than Arabic participants in their avoidance because of distracting interests. But, there were no significant differences observed between Arabic and Anglo participants in relation to lack of confidence and negative views toward wikis (see Table 61). Most Arabic countries have not utilised current information and communication technologies as effectively in education²⁰ as in the West (Hamade 2009). Linking these results to reasons for contribution, it is argued that lack of confidence and negative views toward wikis hinder contribution regardless of the culture of a participant. However, barriers to contribution should be addressed for Arabic participants; while OCLA should be made interesting for Anglo participants to enhance their commitment.

²⁰ In relation to using Web 2.0 in social and political activities, Arab countries have demonstrated a very powerful use of this technology in many political protests and social movements in the Middle East have resulted in changes in governments and political leaders across regions.

The use of Web 2.0 technology in education is far behind its other uses in social movements for Arabic countries. This perhaps can be better understood from teachers' encouragement as demonstrated in Table 42: More than ¾ of Anglo participants saw their teachers support the use of ICT in pedagogy, while Arabic participants were as low as 50% saw their teachers did not support the use of ICT. The role of teachers is significant to encourage students to use ICT, and perhaps this explains why the majority of Anglo participants claimed that they self-taught themselves the use of ICT while 78% of Arabic participants stated that they taught themselves how to use ICT. Both Arabic and Anglo participants saw their schools are not equipped enough with ICT facilities – and perhaps this can be explained by that more than 75% received their education in public schools. Regardless of how participants see their teachers and their competency in using ICT, the findings suggest that teachers need adequate training to inspire their students for active participation in OCLA. Furthermore, while there might be actual differences in the level of ICT equipment in schools, access to such resources alone does not address issues impacting on the importance learners/students and teachers place on using OCER. It is evident then that the divide is more likely to be social than digital or economic alone.

The higher level of amotivation for contribution (avoidance) among Arabic participants than Anglo participants (although they are also higher in their motivation for contribution to OER Wikibooks than Anglo participants) may help to explain why there is less contribution in Arabic Wikibooks. However, since writing to Wikibooks is a collaborative work, the OER motivation is then consistent more with collectivist cultures (Arabic culture) than individualist culture (the Anglo culture). Uchida Norasakkunkit and Kitayama (2004, p. 233) have shown that the 'engagement positive' is higher in Japan than the United States, while 'disengagement positive'²¹ is higher in the United States than in Japan. This explains why the percentage of non-contributors among Anglo participants is larger than what is for Arabic participants – as shown in Table 32. Such results suggest that to enhance participation more focus should be given to addressing issues that hinder participation. If these issues are addressed, more OER

²¹ In this research 'disengagement positiveness' is interpreted as engagement negative.

producers would be able to enjoy OCLA and take advantage of these activities either for the self and/or their communities.

Furthermore, it appears that Arabic participants are amotivated primarily due to unwillingness to participate, while Anglo participants appear to be more amotivated due to inability and being distracted by other interests. This suggests that while Arabic participants are others/community focused as providing explanation, when they rate higher some of irrelevant excuses, for their amotivation, Anglo participants are more self-focused. Again, such results suggest that when designing OCLA for individualists, more focus should be given to knowledge and skills that can be gained, while for collectivists, activities should focus on problems in societies that can be resolved. Indeed, problem solving activities build skills, but how designers make objectives clear to potential participants is the key for more engagement. However, future research is required to determine whether such claims are supported. Furthermore, while the empirical results of online questionnaire support approach (intrinsic and extrinsic) motivation and avoidance (unwillingness and inability) motivation, results do not provide evidence that such motivations can be either self-oriented and others-oriented – as argued in Chapter 5 and Chapter 7, and outlined in Table 22 and Table 26. This will be discussed further in the next chapter (Chapter 9).

Furthermore, while it is argued in the literature that self-determination theory (SDT) is Western-based (Markus, Kitayama & Heiman 1996), the findings from this questionnaire study demonstrate the relevance of the theory outside Western societies. This further supports the universal applicability of the adapted model proposed in Chapter 1 – and extends the theory to include motivations that occur within the digital sphere. This is consistent with the views of Chirkov, Ryan and Willness (2005) who suggest that SDT has a universal applicability regardless of cultural orientations. Since the proposed model has been tested and found to be applicable for use beyond Western societies, such a model can aid in exploring individualist and collectivist practices of approach and avoidance tendencies. It is further argued that this model provides the means by which differences in motivation between Arabic and Anglo countries can be revealed, therefore it follows that such a model can also be used to explore differences

in motivation among individuals from different cultural backgrounds. However, future research is required to validate such a claim.

In Chapter 2 and Chapter 7, it was argued that external regulation might correlate positively with power distance – this has not been proven by results of online questionnaire study. The lack of evidence to support this claim might be explained by the political and educational equality and human rights movement – dispositions make Arabic individuals taking ‘open content’ as a sphere for their battles for freedom against high power distance that exists for a long time within their societies. This is also evident in the changes in Power Distance score for Arabic countries from 80 to nearly 55 between 1984 when Hofstede first published his indices for cultural differences (Hofstede 1984) and 1996 when At-Twajiri and Al-Muhaiza published their paper about the Arab Gulf countries (Hofstede 1984).

The change in value scores suggests the need to either re-evaluate the cultural values after more than 25 years to update these indices or as Baskerville (2003) and McSweeney (2002), in their criticism to Hofstede’s theory, suggest that cultural values are ‘immeasurable’. This is why after more than 25 years, Kirkman, Lowe and Gibson (2006) argue that much research remains to be done to select or develop more ‘relevant theories to explain the underlying dynamics of cultural value-outcome linkages’ (Kirkman, Lowe & Gibson 2006, p. 310) – a matter that is also raised in the theoretical study, and highlighted in Chapter 7.

In general, the weak correlations between motivational dimensions and Hofstede’s cultural dimensions are consistent with what Callahan (2005) has found. These, following Callahan’s (2005) findings, suggest that culture is not the only factor that impact upon OER users. The findings from this online questionnaire study also indicate that factors of contribution to Wikibooks, (excluding enjoyment), to some extent, agree with Hofstede’s dimensions of cultural values – although correlations with Hofstede indices suggest there are changes in scores due to the dynamic nature of culture, it can

be argued that shifts in indices have occurred since 1984 when Hofstede first published his indices. Furthermore, studies that examine cultural differences face issues of subjectivity (Boesch 2008). Going back to what Bourdieu himself considered *habitus* as a means of explaining ‘subjectivity’ within the subject-object dualism, this suggests that motivation as an object that is assessed, is also subjective. These objective social forces can be personally negotiated within a network of interactions between individuals, where the individual and the surrounding others are impacting upon each other. It is a dynamic process of values exchange. So, it is not unusual to find weak correlations between cultural values and factors of motivation. More specifically, it appears from Table 58 that enjoyment has very low positive/negative correlation ($\sim \pm 0.185$) with any of Hofstede’s dimensions. This finding suggests that enjoyment is a universal motivation, and an ultimate end of motivation – the intrinsic motivation as originally being argued in SDT. To make this clearer, enjoyment is a universal component of motivation; and it is not accurate to link such a motivation with specific cultural values. Since contribution to OER needs commitment from OER producers, these producers, it could be argued, should enjoy OCLA regardless of their cultures.

While it may be argued that enjoyment is universal, there are also differences in the ‘meaning’ of enjoyment. Kitayama and Markus (2000) argue that individuals in European-American cultures believe that happiness is attained by personal striving (or personal achievement), while in East Asia cultures, happiness is considered as the self in relationship with others. However, the weak correlations with cultural values also suggest that cultural orientation is involved: for example, while individualists seek independent practices for enjoyment, collectivists seek some sort of group practices for enjoyment. However, this claim has not been supported by the findings from this online questionnaire study. Similarly, since the cultural values of each research participant were not assessed, further research is needed to explore meanings of enjoyment gained through participation in OCLA.

The findings also show that ‘integrated values’ correlate negatively with individualism (see Table 58). A close look into the items which constitute this dimension shows that

these items are more collective values (such as care for disadvantaged people, and the belief that information should be free for all), although this dimension also involves the independent values of the desire to learn.

It was expected that items that make up the external regulation factor would correlate positively with power distance. However, the results (see Table 58) show that although there is no correlation between external regulation and power distance, external regulation correlates positively with uncertainty avoidance. This finding suggests that people who have high uncertainty avoidance prefer being instructed both formally/direct (through teachers) and informally/indirect (through friends). This finding is further supported by the high positive correlation between power distance and uncertainty avoidance as argued by Hofstede. As discussed above, external regulation is the least motivational factor regardless of the culture of participants; it differs among individuals from different cultures. More specifically, the vertical practices of instruction from teachers to students and the horizontal practices among groups of friends/learners/students provide evidence of power distance. Examination of such practices can be helpful in dealing with issues of uncertainty. Instructions and peer assistance are useful within collectivist Arabic societies where instructions and networking are expected and acceptable.

The problem solving factor correlates negatively with masculinity (see Table 58) – or positively with femininity, so that people of feminine values tend to solve problems to enhance the quality of life for themselves and for the benefits for others – this finding is consistent with Vunderink and Hofstede (1998, p. 144). Volunteering can provide a means by which individuals can use their ‘free time’ productively, and at the same time, ‘help others’. So, it is a matter of dual benefit. However, the ways in which individuals choose to use their ‘free time’ is also influenced by culture – north-south dimension. According to Converse (1972): people in developed countries are more likely to spend their free time undertaking productive activities such as reading and volunteering, while individuals from developing countries may be more inclined to spend their free time engaged in more relaxing activities.

Hofstede (2001) has argued that in what he terms ‘feminine cultures’, individuals seek quality of life, and this explains why those who are living in developed countries tend to volunteer (Converse 1972). Although it might then be expected that the findings from this online questionnaire study would show that the value of helping others would be higher for Anglo participants, the results reveal that Arabic participants were motivated more by such values (see Table 60). Such results can perhaps be explained by the impact of recent employment trends under late neo-capitalism: time-use has become ‘extremely intensive’ (Kellerman 1989); and under post-industrialism, new technologies may influence us to spend less time in unpaid work (Gershuny 2003, p. 136).

Arabic participants are more motivated to solve their problems (including the need to publish) than Anglo participants (see Table 60). Usually there are some difficulties in publishing ‘internationally’ in minor languages because publishers consider publications for minor-language readers will not yield sufficient profit (Evans & Del-Pizzo 1998); and this might explain why Arabic participants see OER as an opportunity to publish their ideas in their language – especially since they perceive English as part of a colonial past (Abu-Libdah 1996). This suggests that if Arabic individuals are incentivised by informing them that their contributions are their way to publishing their work, more active participation can be achieved.

Finally, while external rewards relate positively with power distance (see Table 58), it relates negatively with individualism. A close look into items that make up this factor (see Table 57), which involves the care for others (which is collectivist value) and expressing opinion (may be seen as an objection to power distance especially in the era of human rights and equality). This finding may help to explain why there is a positive correlation between power distance and freedom/democracy of information, and also between power distance and expressing personal opinion: in high power distance cultures, more individuals are likely to take open content as an opportunity to increase democracy, as is the case here with contributors from Arabic-speaking countries.

In general, among these different correlations, reported in Table 58, only individualism and power distance have strong correlations with human motivation. This finding suggests that these two dimensions are more concrete than the other two dimensions of masculinity and uncertainty avoidance. This finding is further supported by the strong negative relationship between individualism and power distance, and also supported by dimensions explored by Triandis, in which individualism-collectivism is concerned with the level of independence, while the horizontal-vertical dimension concerned with the level of equality.

Such findings suggest the need for further attention to Triandis's (1995, 2001) dimensions since it would appear that they may be useful than Hofstede's (2009; 2001) dimensions in reflecting cultural value orientations. Regardless of arguments about the level of consistency between such findings and previous research in relation to Triandis's (1995, 2001) and/or Hofstede's (2009; 2001) theorisations, other researchers (Kirkman, Lowe & Gibson 2006; Li & Aksoy 2007; Maseland & van Hoorn 2009; Piepenburg 2011; Schimmack, Oishi & Diener 2005; Soh & Leong 2002; Triandis & Gelfand 1998) have highlighted issues relating to the precision of the *operationalisation* of dimensions in cross cultural research. This is perhaps argued to be a research limitation – as outlined in Table 28 in Chapter 7. Considering such a limitation, the two-level comparisons, discussed in Chapter 7 and illustrated in Figure 15, was argued to deal with this limitation. When considering the need for re-evaluation of cultural values, it is important to go beyond quantitative measures. But since media are now more globalised, meanings of different values can be shared. Although such shared meanings may allow more *operationalisation*, comparing descriptive meanings of values across cultures becomes problematic. Within the scope of this research, more descriptive understandings are used to explore cultural differences in OER motivation – as discussed in Chapter 10.

A closer insight: Ranking of reasons for contributions for Anglo and Arabic participants

Although Ryan and Deci (2000b) argue that relatedness and autonomy are basic needs for individuals in all cultures, there is evidence that both autonomy and relatedness vary across individualist and collectivist cultures (Rothbaum & Trommsdorf 2007); and this is why individualist societies prefer goals that provide them with high independence while collectivist societies prefer goals of interdependence or low-independence (Oishi & Diener 2001). If the nature of goals differs across cultures, would OER reasons for participation differ across Arabic collectivist and Anglo individualist cultures?

One of the interesting findings from this online questionnaire study is that there are cultural differences in the importance of 10 motivations for contribution to open educational resources. Table 64 shows that OER motivations across Anglo individualist cultures and Arabic collectivist cultures follow the same patterns, except those related to social factor, which is ranked higher for collectivist society. This finding agrees, to large extent, with volunteer's functions across collectivist HK and individualist USA – illustrated in Table 15. Religious teaching, as a reason for contribution, ranked higher for Arabic participants than Anglo participants (see Table 64). This can be explained by the finding that although the majority of Arabic participants are religious, a large proportion of Anglo participants were unreligious or atheists. This suggests that cultural values are also related to traditional religious values. Considering religious reasons ranked higher for Arabic individuals, this implies that stimulating those individuals with some religious verses would enhance their level of participation. Linking such a result to the topics that Arabic individuals prefer to read and write further supports such an argument. Therefore, the following interviews aim to explore religious orientations for OER participation further.

Hofstede (2001) argues that individuals from industrialised individualist cultures are more self-oriented, while those from traditional collectivist cultures are more community-oriented. Oyserman *et al.* (2002) argue that collectivist individuals are

willing to ‘help’ as a matter of ‘duty’ or ‘obligation’, while Jacobsen (1983) found that in individualist societies, people do value voluntary responsiveness.

This argument suggests that not only religion plays a significant role in traditional cultures, but also religious texts can be used to stimulate people from Arabic culture to contribute – and perhaps this explains why some OER initiatives publish photos of disadvantaged children in the 3rd world (Hanna & Wood 2011), as they want to stimulate competent knowledgeable users from their cultures to write for other disadvantaged people within their culture; perhaps it also explains why some of personal pages of Wikibooks users contain verses from the Quran acknowledging the importance of education and information sharing.

Individual and contextual factors affect OER user motivation

As discussed above, it is evident that there are cultural differences in motivation for contribution to OER Wikibooks. However, does culture alone contribute to such variance in motivation or there are other individual and contextual factors? As argued in Chapter 2 and Chapter 7, factors which impact upon OER motivation, as illustrated in Figure 16, include demographic factors (gender, age, and education level), evident in the motivation for internet use for instance (Teo 2001); socioeconomic factors (such as occupation and economic status); and school culture (which can be expanded to include the education system in general) (Maehr & Fyans 1989).

In general, there are active categories within each of these demographic factors that seem to be consistent with previous research. More specifically, most users/*producers* of OER are in their middle age (18-34 years old). This is consistent with previous research focusing on contribution to OSS, OCW, and OER (Lakhani & Wolf 2005a; Nov 2007a; OERCommons 2010j; Sajjapanroj *et al.* 2007). However, at the same time,

there are no significant differences across cultural groups – suggesting that other factors, apart from age, play a role in motivation.

Although women have a long track record in voluntarism (Calasanti & Slevin 2001, p.137), the findings from this online questionnaire study show that males are the dominant contributors to OER Wikibooks – a finding that is consistent with previous research into motivation for contribution to OSS, OCW, and OER (Lakhani & Wolf 2005a; Nov 2007a; Sajjapanroj *et al.* 2007). However, gender distribution does not appear to differ significantly across cultures – suggesting that other factors, apart from gender, play a role in motivation. Gender affects goal orientation: males tend to have self-oriented goals, while female have community-oriented goals (Itakura 2001). However, since the online questionnaire study's sample is male-dominant, it is not possible to draw any conclusions based on gender from this online questionnaire study. Future research into 'gendered motivations' in OER participation might shed further light on the relationship between gender and contribution to OER. More specifically, it is important to explore why females are less likely to participate in OER compared to males. Considering that females are not active *producers* in NFP OER, would it be participation of female in institutional OER as low as NFP OER? Future research is needed to explore these research questions further.

Although the majority of users were from public schools, there was no significant association in schooling between education system and the cultural groups, suggesting that economic factor does not differ among cultures studied.

Education level plays a significant role in motivation across cultural groups (Table 41 and Table 62) 46): while the most active participants from the Arabic group received/are currently undertaken university education (60.7%), the active participants from Anglo cultures are distributed across all three levels of pre-university (33.5%), university (38.8), and post-university (25.7). This result suggests that Anglo participants are more aware about OER and its pedagogical benefits than Arabic participants. It also

suggests that to increase contribution and participation in OER, it is feasible to target those who are involved in higher education first. Since educational level is positively correlated with age (cited in Mesch *et al.* 2006), and since most contributors are young (Sajjapanroj *et al.* 2007), this explains why both groups of secondary and trade school, and university and honours levels are higher than for postgraduate diploma and masters, and PhD and post-doctoral participants – reported in Table 41. This observation is further evident from descriptive statistics, reported in Table 42, that show around 60% of Anglo participants are either students or work in the education field, while nearly the same percentage of Arabic participants are neither students nor working in an educational institution. However, although the results obtained by Sajjapanroj *et al.* (2008) suggest that contributors are ‘educationally-oriented individuals’ who have received a higher education, the online questionnaire study reverses this finding: a large percentage of readers (and writers to) Wikibooks are neither students nor working in academia. Although such results suggest that OCLA are more likely to be successful in higher education than primary education, future research should uncover why students/learners in primary education are not very active in OER contribution, and whether OCER would be successful in their learning activities or not.

Descriptive statistics, reported in Table 42, also show that while nearly half of Arabic participants reported that their teachers encouraged them to use ICT in their learning practices, more than $\frac{3}{4}$ of the Anglo participants reported that their teachers encouraged them to use ICT in their learning. Although this might be seen within the resistance to adopting and using computer and information technologies in these traditional cultures (Castells 1996; Cook 2008), possible explanations might be that there are differences in the level of encouragement teachers give to the use of ICT in pedagogical practices, or that some schools are not adequately equipped with ICT facilities. Furthermore, and as discussed above, since students report that their teachers do not encourage participation in OCER, it would appear that there is a social divide – teachers might be able to use ICT, but at the same time they are not willing to use OER. Teachers thus may need further training to enhance their motivation to use and encourage others in the use of OER.

The findings from this study show that nearly half of the Arabic participants and Anglo participants regard their schools as being equipped with ICT facilities. This may be because participants in the online questionnaire are those who ‘achieved’ that level of awareness of OER. But within that educational system, teachers play a significant role in developing the lifelong learning skills – by transforming passive receivers of educational knowledge to active creators or ‘*produsers*’ of content in a ‘*continuing process*’ (Bruns 2008). Such ‘*knowledge-in-action*’ (Richards 2009) empowers internet users to share information and experience, reshaping it into more useful forms that meet with their needs.

The majority of Anglo participants (~ 92%) reported that they are ICT self-learners, while 78% of the Arabic participants reported that they are ICT self-learners (Table 42). These findings suggest that the capacity to use ICT is influenced by self-determined training motivation (Techatassanasoontorn & Tanvisuth 2008). The positive correlation between teacher encouragement of the use of ICT and the level of ICT equipment at schools, as reported in Table 40, suggests that the level of ICT equipment is vital in learning and teaching practices, but most important that teachers are skilled enough to use ICT in their teaching and encourage their students to use ICT in their learning practices. It is critical these days when the net generation is more ICT savvy than their teachers, but if teachers are skilled enough, they can direct their students to use the ICT in the right manageable way.

This raises a problem for developing countries, where teachers are not skilled in using ICT, and so less likely to develop an enthusiasm for it among their students. The International Bank for Reconstruction and Development (World Bank), stated in a report (MENA Development Report 2008) that to reform education in the Middle East, internet connectivity has to enter schools and training is needed for teachers in implementing new teaching techniques and improving IT skills. These goals focus on issues of the ‘digital divide’ that hinder individuals in developing countries in accessing the recent advances.

It is important to go beyond ‘digital divide’ as economic/infrastructure barriers (Al Darrab 2005; Cuneo 2002; Pick & Azari 2008), to seek for more ‘digital opportunities’ (Selwyn, Gorard & Williams 2001) that allow more ‘openness’ to education. To claim that such ‘openness’ can be achieved, the whole system needs to be evaluated and developed: user needs, teachers skills, curriculum and education materials, and physical resources (Lane 2009), but above all, the willingness of governmental/institutional policy makers to understand the dynamics of OER users: those who prefer OCER rather than OAER (Hanna & Metzger 2011a; Hanna & Wood 2011).

Hamdy (2007) reports that Egypt plans to train teachers to acquire the ICDL (International Computer Driver’s Licence) within eight years, and also to train teachers to use ICT in preparing and conducting their lessons. This indicates that the current state of teachers’ IT skills is lacking. This shortfall will continue for a quite long time. As Hamade (2009) argues, the main challenges in adopting and using ICT in Arab countries relate to the lack of technological skills needed to benefit from ICT and the migration of skilled ICT professionals from developing to developed countries. Hamade (2009) points out that ICT policy regulators need to consider the provision of training for unskilled people to satisfy their technical needs. ICT training in countries such as the United Arab Emirates, Saudi Arabia, or Egypt seems to be irrationally planned (Hamade 2009): it has been causing surpluses in some skills, while other ICT skills remain undersupplied; Even ICT teacher training may not meet school needs – this explains why teachers in Arabic countries are less likely to encourage their students to use ICT in learning activities, as reported in Table 42. Rational planning for ICT training should involve not only the required technical skills, but should also be part of a whole system that enables effective use of educational technologies: OCLA should be designed within the curriculum including addressing individual and cultural differences; teachers should be aware of benefits of OCLA for their teaching practice and for their students, and an adequate level of infrastructure and computer laboratories is required.

ICT training may not be beneficial unless all the components of the educational system are developed (Lane 2009). Training without equipped computer laboratories at schools (and computers at home), with internet connections along with curriculum that is well-developed to engage the use of ICT in learning and teaching activities, still may not achieve the goals of highly-developed educational processes and systems. Issues such as interoperability and pedagogical support in designing education settings, as well as understanding learning activity management systems, may need to be considered when designing learning objects (Harper *et al.* 2005).

Results, revealed from this online questionnaire study, also show that the percentage of teachers who encourage the use of ICT in private schools is higher than those who work in public schools. This may be because, as discussed above, private schools are more likely to engage ICT in education than public schools, because they are aware of the professional advantage that they offer their graduates. As Jimenez and Lockheed (1995) conclude, private schools in developing countries, as well as in developed countries, are more efficient than public schools in adopting and using resources and providing competitive advantage.

The multilingualism of OER enables their users to be involved in OER participation. OER users can contribute to OER in their native languages. This claim is supported by results obtained from the online questionnaire study, that regardless of the language of instruction, OER users are more likely to write in their native language – as reported in Table 35. The majority of Anglo participants went to English schools, and thus write to OER Wikibooks in English, while Arabic participants (~ 56 enrolled in Arabic schools while ~ 37 enrolled in English schools) prefer more (~72%) to write to OER in Arabic Wikibooks. This finding can be explained by a number of factors:

- Arabic participants prefer to write in Arabic as Arabic has a significant meaning to them as it is the language of Quran – where Arabic has its ‘personal relevance’ to Muslims (Ibrahim & Allam 2006);
- Arabic participants prefer to write in social and human science subjects where the use of native language is more meaningful;
- Arabic participants prefer to write in social and human science subjects including literature, media, politics, religion, and history – see Table 36, and these subjects are usually taught in native languages; and
- since religion reshapes history, culture and language itself, there is likely to be an interconnection between religion and other social sciences (especially politics, religion and history) with the language of contribution.

While it may appear that there is a contradiction between enrolling in English schools as a preference for English language, and writing in Arabic as a preference towards the language of Quran, there is indeed no contradiction here. Parents pursue English education for their children, seeking quality education, so the choice of education is made by parents, whereas students are able to make their own decisions regarding whether to write in Arabic. In addition to these factors, Arabic OER users have something in common with Arabic internet users: Arabic internet users prefer Arabic content when they search (Ayna.com 2006; Hover 2006, 2007). The preference to write in Arabic may derive from the preference to read in Arabic, even when subjects have scientific terminologies that cannot be discussed in languages other than English (see for example Za'Rour & Nashif 1977). For example, the Islamic Medicine School in Syria teaches their subjects in Arabic (Kaadan 2002; Matthews & Akrawi 1949). Perhaps such language preference makes Arabic *producers* not very active in natural science compared to Anglo participants – see Table 36 and Table 37.

Arabic participants who have engineering, IT or health science backgrounds can easily participate in English since these sciences are being taught in English. On the other hand, Anglo participants seem to show preferences to different subjects both in natural science and human science (except what is related to religion – as nearly 50% of the Anglo sample is non-religious or atheist). These results suggest that OCLA and OCER

can be used by engineering students regardless of their cultures. Furthermore, OCER can be used with Anglo students/learners across different disciplines, while it suggests that OCER will be used more effectively with Arabic students enrolling in social science subjects. Current research explores voluntary participation in OCER; however, further research is required to examine the impact of use of OCER by students across different disciplinary backgrounds.

Overall, regardless of language preference, subject preference can be seen as culturally influenced. So, if OER are implemented in education, subject preferences should be considered; and at the same time the matter of choice should also be considered. The orientation towards the provision of choice differs across cultures (Iyengar & Lepper 1999). Having the freedom to write in a specific subject ensures that people are engaged in activities they enjoy, as people aspire to engage in more interesting activities rather than trying to enjoy the activities they are engaged in (Bateman & Crant 2003).

Religion and politics intersect. Contribution in the field of politics is relatively high from contributors from Arabic countries – see Table 36. This is because there are a number of different ‘hot’ issues occurring across the Middle East regions including the conflict between Israel and Palestine, the U.S military presence in Iraq, the US-led War on Terrorism, social movements, Iran nuclear program, liberalisation versus Islamic fundamentalism, and battles to establish democratised states (al-Mubarak *et al.* 2005; Bayat 2011; Carr *et al.* 2011; Fattah & Fierke 2009; Haass & Indyk 2009; Halliday 2003; Harb 2011; Khondker 2011; Maroya 2004; Ottaway & Hamzawy 2011; Owais 2011; Schiff 2006; Shapiro 2004; Waterbury 2001). It is always about because minimal information and/or many faces for facts cause debates (Caplan 1999). Are some Arabic participants already fundamentalist, or aiming to spread their ideologies among other OER users? Future research, using content analysis of OCER can provide answers.

Among the ‘many’ factors studied in this online questionnaire study, only a few factors have been shown to have contributed to motivation. These factors include: culture, age, education level, ICT self-learning, ICT teacher encouragement, language of instruction, and religion – as illustrated in Table 62 and Table 63. From the holistic view, culture and/or religious affiliation play a significant role in motivation for contribution / non-contribution to OER Wikibooks (see Table 62 and Table 63). Furthermore, while it appears that ICT teacher encouragement plays a significant role in motivation for contribution to open educational resources, both education-related occupation and ICT-equipped schools play a role in reasons for non-contribution to OER. Although there is not much control over education-related occupation, the level of ICT equipment at schools can be enhanced. Along with other procedures discussed above, more participation in OCLA can be achieved.

The findings indicate that there are no significant differences between the cultural groups in lack of confidence and the negative views toward wikis (see Table 61), and at the same time, teachers play a significant role in motivating students (see Table 62). Such findings suggest that teachers, regardless of contextual factors including culture and school ICT equipment, should be trained to use ICT and have the awareness of OER and its benefits, to be able to encourage their students to use ICT in their learning beyond ‘formal’ curriculum – even the schools are not adequately ICT equipped. This would allow students to enhance their confidence, not only in ‘learning technologies’, but also ‘learning with technologies’ – especially since OER users regard their teachers as encouraging the ICT use, even though they recognise that their schools are not well equipped with ICT facilities (see Table 42).

To conclude, the results of data analyses, reported and discussed in this chapter, reveal that both approach and avoidance motivation may co-exist. Some contributors answered both subscales, while others answered either of the two subscales. These results are consistent with the proposed model discussed in Chapter 1 (see also Table 7): approach-avoidance ranges on a continuum from pure approach to pure avoidance, with some dual approach-avoidance – the duality exists mainly within extrinsic motivation.

Moreover, consistent with Covington and Müeller's (2001b) insights, the results also indicate that both intrinsic and extrinsic motivation may co-exist.

The results suggest, to some extent, that autonomous motivation is more intrinsic, while controlled motivation is more extrinsic. While intrinsic motivation reflects approach motives only, extrinsic motivation reflects the cognitive conflict between desired and undesired issues: the outcome of this conflict is the making of a decision to contribute reflecting the desired over the undesired. This result, to some extent, is consistent with regulatory styles and goal orientations proposed by Koestner and Losier (2004) and Van Yperen (2006): while individuals face conflict between approach and avoidance in external and introjected regulations, they nevertheless approach their goals in search of excitement and identified values.

Although the empirical findings regarding amotivation (see Table 59) failed to demonstrate the theoretical model's two proposed dimensions (inability and negative beliefs) as demonstrated in Table 7, the revealed six sub-factors (Table 59) can be 'logically' situated in these proposed dimensions. Both distracting interests and lack of confidence can be considered as inability due to social responsibilities and/or lack of knowledge, while negative views toward contextual systems, negative views on volunteering, negative views on wikis and irrelevant excuses can be classified as negative beliefs, whether relating to the task itself (volunteering) or the process (contributing). However, this dimensionality of amotivation is consistent with the need to go beyond the one-dimension model (Frederick 2009; Legault, Green-Demers & Pelletier 2006).

It must be mentioned here that the means of factors for the total sample (including Arabic, English and Indian participants) must be interpreted with caution, considering the substantial difference between the number of participants from each culture. Such difference suggests that the participants from English nations may bias the results in the total sample. This adds weight to the case for including the Indian sample as part of the Arabic sample to reduce such a bias.

Practically, and to achieve sustainable open educational resources, designers of OER initiatives need to understand that users will not participate in their content without those users gaining more in terms of reward (e.g. in *understanding, enhancement, social networking, enjoyment* etc.) than the effort expended. Recruitment and maintaining volunteers are essential for sustainability. Since the psychological processes that lead to burnout are similar among paid workers and volunteers (Elshaug & Metzger 2001; Lewig *et al.* 2007) additional factors such as intrinsic motivation should be of particular importance, in order to recruit more contributors.

OER should therefore support more interactive means of communication between users, incorporate some interactive learning games as well as make the wiki tools easier, and allow low-cost access to information. Some statements such as ‘write what you know’, ‘enhance your understanding by writing’ and/or ‘wiki is like word processing’ may deal with the lack of confidence. The need for marketing and building awareness through word of mouth and greater product (or service) knowledge (Krishnamurthy 2005) can promote more traffic and thus more contribution.

This chapter shows that there are cultural differences in motivation and factors that contribute to different types of motivation both individual differences (including age, gender, education level, and socio-economic status), and contextual factors (including culture and education system). However, the reasons that such differences occurred and whether there are unique factors that linked to a specific culture have not been investigated. Such questions will be answered in Chapter 10, which discusses possible explanation for differences reported in the web-based questionnaire.

The results reported and discussed in this chapter did not touch on the self-oriented or others-oriented reasons for contribution or the self-focused or others/community-focused of reasons for non-contribution which are argued to reflect self versus others orientation of human motivation (Table 7), in which such orientation is argued to be correlated with individualism versus collectivism. In other words, at this stage, there are no data to support the collective perspective (others-oriented) and individualistic perspective (self-oriented) of factors found in this online questionnaire study. Furthermore, although distinctions between self-oriented and others-oriented motivations to volunteer can be made and linked to individualism (as illustrated in Table 26), such distinctions are subjective and theoretical – not based on primary data. Future research may explore cultural values in an attempt to link these primary data to motivations for participation in OER, but perhaps conducting such research on individuals engaging in institutional OCLA.

Such lack of empirical evidence leads to the need to collect further data. Chapter 9 provides evidence for whether the content of each factor tends to be more self-oriented or others-oriented (not only for motivations to contribute to OER, but also for motivations not to contribute to OER). For example, in the theoretical study, values might have both self-oriented and others-oriented goals (see Table 22). The understanding of items found in integrated values seems to be more others-oriented than self-oriented, which suggests that collectivistic Arabic participants are more motivated by collective goals than Anglo participants. However, further evidence is required to support such claims. More specifically, longitudinal studies may address such a research problem: a control group and experiential group should be recruited to examine the effect of changes in different motivational factors on actual participation in OCLA from individuals from individualist and collectivist cultures.

As discussed in this chapter, user motivation for contribution and non-contribution to OER follows the universal framework of human motivation adapted and proposed in this research. Motivations for contribution to OER are – to large extent – consistent with motivations for contribution to OSS, OCW and RWO – see Table 16. As collectivist cultures are more oriented to social reasons for voluntarism in RWO – see Table 15 and

Table 26, they too might be oriented by collectivist values outlined in religion when they contribute to OER. As collectivist Arabic cultures are traditional, they focus more on traditional science including religion, history, and other social and human science; on the other hand, the modern Anglo cultures give enough attention to natural science – science that focuses on ‘future’, but do not ignore social and human science – especially what related to religions (see Table 36 and Table 37).

The education system (curriculum, ICT equipment and teacher education) is very significant in developing lifelong learning skills – and this can be strengthened by using OER in learning and teaching practices. Those current students will then be able to engage in OER for their lifelong learning that goes beyond ‘formal’ education. In other words, the role of school or university in directing their students towards the use of ICT does not automatically make those students expert in its use. Rather the educational institutions encourage them and enlighten their path. Those students, in time, integrate lifelong learning through ‘learning how to learn’.

Educational systems need to initiate steps to engage OER in their pedagogy, not only open access educational resources, but also open content educational resources. The comparative study of OER reported in Chapter 5 (see Table 18) suggests slow steps in engaging open ‘content’ educational resources, but also the importance to understand the net generation needs especially what are relating to taking the control in learning experience (Hanna & Wood 2011) – a claim that appears to be supported by results of this online questionnaire.

Finally, further empirical research may be needed to explore the application of culture-specific preference in design and implementation of OER in learning and teaching activities. More research is also needed to explore factors affecting intrinsic and extrinsic motivation before integrating OER into formal educational settings.

Chapter 9

Non-Wikibookian views on Wikibookians' reasons for contribution and non-contribution

How one individual perceives another may be influenced by how he sees himself... We may assess others in part in terms of how much they resemble, or differ from, our views of ourselves, picking out dimensions that are salient in our own self-images by which to assess others.

(Hinde 1997, p. 228).

The findings of responses to the online questionnaire which explored why Wikibookians contribute to Wikibooks, indicate some degree of consistency with the types of motivations described in the theoretical model presented in Chapter 1 – a model (see Table 7) that integrates Self-Determination Theory (SDT) and Goal-Valence Theory (GVT). However, the results need further analysis.

First, the classification of motivations as either *intrinsic* or *extrinsic* does not align precisely in either category with the rational thinking respondents are held to use in deciding where their best advantage lies. In other words, while Varimax rotations demonstrate apparently that intrinsic and extrinsic dimensions of reasons for contribution, these rotations did not demonstrate self-oriented and others-oriented reasons for contribution.

Second, the reasons for non-contribution (amotivation) do not reflect issues related to the *self* or the *other*, (including the system and the community). In other words, while the Varimax rotations reveal six factors impacting upon Wikibookians and hindering them from contribution, results do not show whether these factors are seen as internal barriers (self-focused) or external challenges related to others and/or system barriers. The analysis needs to shift from the ‘universal’ distinction to ‘cultural’ awareness about motivations.

As argued in Chapter 5 (see Table 21) and Chapter 7 (see Table 26), motivations can be regarded as self-oriented or others-oriented. This view is argued to demonstrate the cultural orientation of OER motivation: the individualist people are argued to be more self-oriented, while the collectivist people are argued to be more others-oriented. To further examine the model proposed in Chapter 1, and outlined in Table 7, this additional study was undertaken.

This additional study uses the same scale items used in the online questionnaire reported in Chapter 8. However, the ‘answer choices’ to each scale item available to a research participant in this F2F questionnaire differ from the online questionnaire: A participant was asked to identify whether a reason for contribution/non-contribution (a scale item) is regarded as: 1) self-oriented motivation/self-focused amotivation, 2) others-oriented motivation/eco-focused amotivation, or 3) an ambiguous reason orientation.

To address these issues, data were planned to be collected from non-Wikibookians, via a face-to-face (F2F) questionnaire, to determine whether non-Wikibookians believe that contribution to Wikibooks benefits the contributor or their community. Questions also included whether reasons for non-contribution relate to personal issues (such as the inability to use wikis) or contextual problems (such as lack of access to the internet).

The participants for F2F questionnaire study were drawn from the two populations identified in the research literature: those from *collectivist* nations and those from *individualist* nations, to test for cultural differences in contribution to open educational resources such as Wikibooks.

As discussed in Chapter 7, this questionnaire collected responses from participants in the central business district (CBD) sites in Adelaide, the capital of South Australia. The CBD has places of attraction (such as Rundle Mall, the SA Art Gallery, and the SA Museum in central Adelaide), which made it possible to collect data from tourists of different nationalities, international students, as well as Australian citizens. Such a population allowed the sample to include respondents from collectivist and individualist cultures. The selection of participants was based on their racial appearance. As discussed in Chapter 7, the matter of ‘selectivity’ based on racial appearance can be considered one of the limitations in this F2F questionnaire study (Peterson 2000). However, there was no other way to determine the participant cultures other than their racial appearance because there is no way to collect such data in the home country of the participants. Despite this limitation, the direct short-answer questions included in the questionnaire helped produce a large and positive statistical effect for reliability (Peterson 2000; Saris & Gallhofer 2007) as reported in this chapter.

Participants

Participants (N=64) to the questionnaire were from both individualist and collectivist nations, 32: 32. Nationalities (or more accurately mother tongues) of participants differed as illustrated in Table 65.

Table 65: Percentages of respondents to face-to-face questionnaire from Collectivist and Individualist cultures

Culture	Country	Frequency	Percent
Collectivist	Afghanistan	1	3.1
	Egypt	5	15.6
	India	9	28.1
	Iraq	2	6.3
	Kuwait	2	6.3
	Libya	1	3.1
	Pakistan	2	6.3
	Palestine	1	3.1
	Saudi Arabia	4	12.5
	Singapore	1	3.1
	Sri Lanka	1	3.1
	UAE	2	6.3
	Oman	1	3.1
	Total (N _c)	32	100.0
Individualist	Australia	11	34.4
	Austria	1	3.1
	France	2	6.3
	Germany	4	12.5
	Holland	1	3.1
	Ireland	3	9.4
	Israel	1	3.1
	UK	6	18.8
	USA	3	9.4
	Total (N _i)	32	100.0
Total (N)	64	64	100.0

The sample size of 32 from each culture is sufficient to undertake a binomial test, which is used to evaluate how well sample proportions fit a hypothesis about the full population's proportions (Bryman & Cramer 2005; Huck 2009).

Non-Wikibookian opinions on Wikibookian self-oriented and others-oriented reasons for contribution

Binomial and Chi² tests were conducted, to test whether a motivational reason is regarded as self-oriented or others-oriented – see Table 22 in Chapter 5. The 'I do not know' answers were treated as missing.

Table 66: The non-Wikibookian opinions about Wikibookian reasons for contribution, as either self-oriented or others-oriented

Item	Category		Binomial Test		Chi-square test	
	Orientation	N	Observed Probability	<i>p</i>	Chi ²	<i>p</i>
I want to have fun.	Self-oriented Others-oriented Total	63 1 64	0.984 0.02 1.00	 < 0.001	 60.06	 < 0.001
My friends do so.	Self-oriented Others-oriented Total	25 39 64	0.39 0.61 1.00	 0.10	 3.06	 0.08
Poor people can use these free books.	Self-oriented Others-oriented Total	17 46 63	0.27 0.73 1.00	 < 0.001	 13.35	 < 0.001
My teacher asked me to do so.	Self-oriented Others-oriented Total	25 32 57	0.44 0.56 1.00	 0.43	 0.86	 0.35
I believe that information should be free.	Self-oriented Others-oriented Total	41 19 60	0.68 0.32 1.00	 0.01	 8.07	 0.01
My religious teaching asks me to help others.	Self-oriented Others-oriented Total	18 43 61	0.30 0.71 1.00	 0.00	 10.25	 0.00
Others do not have the expert knowledge that I have.	Self-oriented Others-oriented Total	26 27 53	0.49 0.51 1.00	 1.00	 0.02	 0.89
I cannot find other places to publish my work	Self-oriented Others-oriented Total	45 15 60	0.75 0.25 1.00	 < 0.001	 15.00	 < 0.001
I'm lonely and have free time	Self-oriented Others-oriented Total	57 6 63	0.91 0.10 1.00	 < 0.001	 41.29	 < 0.001
I want to express my personal opinions.	Self-oriented Others-oriented Total	55 9 64	0.86 0.14 1.00	 < 0.001	 33.06	 < 0.001
Logical and grammatical errors have to be corrected.	Self-oriented Others-oriented Total	19 38 57	0.33 0.67 1.00	 0.02	 6.33	 0.01
There is a lack of information resources in my language.	Self-oriented Others-oriented Total	26 26 52	0.50 0.50 1.00	 1.00	 0.00	 1.00
I contribute because I want to learn.	Self-oriented Others-oriented Total	58 4 62	0.94 0.07 1.00	 < 0.001	 47.03	 < 0.001

The results of the binomial test and χ^2 test, as shown in Table 66, reveal the following:

- 1) The outcomes of the binomial test and χ^2 test are very close to each other, and demonstrate identical results for significance; and such results are consistent with statistical analysis theory which says that $\chi^2 = Z^2$.
- 2) The reasons for Wikibookian contribution that reflect an orientation towards the self, according to the non-Wikibookian opinions, are:
 - I want to have fun.
 - I believe that information should be free.
 - I cannot find other places to publish my work.
 - I'm lonely and have free time.
 - I want to express my personal opinions.
 - I contribute because I want to learn.
- 3) The reasons for Wikibookian contribution that reflect an orientation towards the other, according to non-Wikibookian opinions, are:
 - Poor people can use these free books.
 - My religious teaching asks me to help others.
 - Logical and grammatical errors have to be corrected.
- 4) The reasons for Wikibookian contributions that do not reflect significant orientation, according to non-Wikibookian opinions, are:
 - My friends do so.
 - My teacher asked me to do so.
 - Others do not have the expert knowledge that I have.
 - There is a lack of information resources in my language.

The results of binomial test reveal that self-oriented reasons for contribution are argued to include motivations relating to mutual benefit and motivations suggesting concern for solving personal problems, while others-oriented reasons for contribution include motivations relating to content and motivations relating to people. Reasons that appeared to be ambiguous relate to social issues or to issues relating to information sharing.

Non-Wikibookian opinions about Wikibookian self-focused and eco-focused reasons for non-contribution

Binomial and Chi² tests were conducted to test whether an amotivational reason is regarded as self-focused or others/community-focused. The ‘I do not know’ answers were treated as missing. It was argued in Chapter 1 (see Table 7) that inability would reflect issues related to the self while unwillingness would reflect issues related to others/system, or what can be called eco.

Table 67: The non-Wikibookian opinions about Wikibookian reasons for non-contribution, as either self-focused or others/community-focused

Item	Category		Binomial Test		Chi-square test	
	Orientation	N	Observed Probability	<i>p</i>	Chi ²	<i>p</i>
No financial reward.	Self-focused	43	0.70			
	Eco-focused	18	0.30			
	Total	61	1.00	.002	10.25	< 0.001
I can't use wiki.	Self-focused	51	0.84			
	Eco-focused	10	0.16			
	Total	61	1.00	< 0.001	27.56	< 0.001
This is an un-helpful website.	Self-focused	31	0.54			
	Eco-focused	26	0.46			
	Total	57	1.00	.597	0.44	0.51
Our educational system (institution) does not (or cannot) adopt this technology as a part of the learning process.	Self-focused	15	0.25			
	Eco-focused	46	0.75			
	Total	61	1.00	< 0.001	15.75	< 0.001
I don't have a knowledge base in any suitable topic.	Self-focused	51	0.84			
	Eco-focused	10	0.16			
	Total	61	1.00	< 0.001	27.56	< 0.001
Contribution is useless unless others know of this website.	Self-focused	14	0.23			
	Eco-focused	47	0.77			
	Total	61	1.00	< 0.001	17.85	< 0.001
Our society does not value voluntary work.	Self-focused	15	0.25			
	Eco-focused	46	0.75			
	Total	61	1.00	< 0.001	15.75	< 0.001

I prefer reading to writing.	Self-focused	60	0.94			
	Eco-focused	4	0.06			
	Total	64	1.00	.000	49.00	< 0.001
There is no clear structure for textbooks.	Self-focused	25	0.44			
	Eco-focused	32	0.56			
	Total	57	1.00	.427	0.86	0.35
I have other hobbies and interests that take up my time rather than contributing to wiki.	Self-focused	51	0.80			
	Eco-focused	13	0.20			
	Total	64	1.00	< 0.001	22.56	< 0.001
I prefer socialising with family and friends rather than sitting on the computer to contribute.	Self-focused	45	0.71			
	Eco-focused	18	0.29			
	Total	63	1.00	.001	11.57	< 0.001
Others do not have internet access or do not know of this website.	Self-focused	7	0.11			
	Eco-focused	54	0.89			
	Total	61	1.00	< 0.001	36.21	< 0.001
I do not feel confident.	Self-focused	58	0.91			
	Eco-focused	6	0.09			
	Total	64	1.00	< 0.001	42.25	< 0.001
I prefer to write in my own language.	Self-focused	57	0.90			
	Eco-focused	6	0.10			
	Total	63	1.00	< 0.001	41.29	< 0.001
As this is voluntary work, orders to contribute are not acceptable to me.	Self-focused	47	0.80			
	Eco-focused	12	0.20			
	Total	59	1.00	< 0.001	20.76	< 0.001
It is not my job to write textbooks.	Self-focused	56	0.89			
	Eco-focused	7	0.11			
	Total	63	1.00	< 0.001	38.11	< 0.001

The results of the binomial test and χ^2 test, as shown in Table 67, reveal the following:

- 1) The outcomes of the binomial test and χ^2 test are very close to each other, and demonstrate identical results for significance; and such results are consistent with statistical analysis theory which says that $\chi^2 = Z^2$.
- 2) The reasons for Wikibookian non-contribution that focus on the self, according to non-Wikibookians are:
 - No financial rewards.

- I can't use wiki.
 - I don't have a knowledge base in any suitable topic.
 - I prefer reading to writing.
 - I have other hobbies and interests that take up my time rather than contributing to wiki.
 - I prefer socialising with family and friends rather than sitting at the computer to contribute.
 - I do not feel confident.
 - I prefer to write in my own language.
 - As this is voluntary work, orders to contribute are not acceptable to me.
 - It is not my job to write textbooks.
- 3) The reasons for Wikibookian non-contribution that focus on the other, the community and the system, according to non-Wikibookian opinions, are:
- Our educational system (institution) does not (or cannot) adopt this technology as a part of the learning process.
 - Contribution is useless unless others know of this website.
 - Our society does not value voluntary work.
 - Others do not have internet access or do not know of this website.
- 4) Reasons for non-contribution that do not reflect significant focus, according to non-Wikibookian, are:
- This is an un-helpful website.
 - There is no clear structure for textbooks.

The results of binomial tests reveal that self-focused reasons for non-contribution are argued to include issues of selfishness, lack of confidence, and other interests that distract people from contribution, while eco-focused reasons for non-contribution include motivations relating to the system, or to people around. Reasons that appeared to be ambiguous relate to Wikibooks website itself.

The results of these data analyses, as shown in Table 66 and Table 67, do not, however, provide sufficient depth of understanding of the motivations of Wikibookians. To achieve such deeper understanding, further analyses were conducted – as reported below. Based on binomial test results, reported in Table 66 and Table 67, re-analysing data obtained by online questionnaire was conducted. The self and others orientations

are culturally based; so comparisons between studies cultures are conducted (see Table 68 and Table 69 below) to explore differences established between Anglo, Arabic and Indian cultures. However, the discussion of the analysis of results focuses only on the Anglo and Arabic culture. Results relating to Indian participants are open for other researchers to evaluate, since the contrast is established in the two major sample groups.

Table 68: Wikibookians' self-oriented and others-oriented reasons for contribution

Approach orientation	Culture	Subscale Reliability & Descriptive Statistics				ANOVA		Tukey HSD Multiple Comparisons			
		N=231	α	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>	I Culture	J Culture	<i>M(I) – M(J)</i>	<i>p</i>
Approach Self-Oriented (6 items)	Arabic	86	0.61	3.77	0.58	13.76	<0.001	Arabic	Anglo	0.41	<0.001
	Anglo	129		3.36	0.54			Anglo	Indian	-0.24	0.26
	Indian	16		3.59	0.63			Indian	Arabic	-0.17	0.50
Approach Others-Oriented (3 items)	Arabic	86	0.18	4.00	0.66	16.21	<0.001	Arabic	Anglo	0.56	<0.001
	Anglo	129		3.44	0.69			Anglo	Indian	-0.10	0.86
	Indian	16		3.54	1.01			Indian	Arabic	-0.46	0.05
Approach Ambiguous (4 items)	Arabic	86	0.48	3.00	0.76	21.14	<0.001	Arabic	Anglo	0.62	<0.001
	Anglo	129		2.38	0.63			Anglo	Indian	-0.12	0.80
	Indian	16		2.50	0.77			Indian	Arabic	-0.50	0.02

Table 69: Wikibookians' self-focused and eco-oriented reasons for non-contribution

Avoidance orientation	Culture	Subscale Reliability & Descriptive Statistics				ANOVA		Tukey HSD Multiple Comparisons			
		N=244	α	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>	I Culture	J Culture	<i>M(I) – M(J)</i>	<i>p</i>
Avoidance Self-focused (10 items)	Arabic	80	0.75	3.30	0.72	5.64	<0.001	Arabic	Anglo	-0.04	0.91
	Anglo	148		3.34	0.62			Anglo	Indian	-0.54	<0.001
	Indian	16		3.88	0.48			Indian	Arabic	0.58	<0.001
Avoidance Eco-focused (4 items)	Arabic	80	0.70	3.35	0.83	5.51	0.01	Arabic	Anglo	-0.39	0.00
	Anglo	148		3.74	0.86			Anglo	Indian	0.02	1.00
	Indian	16		3.72	0.81			Indian	Arabic	0.37	0.25
Avoidance Ambiguous (2 items)	Arabic	80	0.51	3.64	0.78	3.57	0.03	Arabic	Anglo	-0.22	0.11
	Anglo	148		3.87	0.84			Anglo	Indian	-0.29	0.36
	Indian	16		4.16	0.63			Indian	Arabic	0.51	0.05

Results, reported in Table 68 and Table 69, reveal that:

- 1) For approach orientations, only self-oriented reasons for contribution has an acceptable reliability.
- 2) For avoidance orientation, reasons for non-contribution, whether self-focused or eco-focused have shown acceptable reliability.
- 3) While participants from Arabic countries were significantly higher than participants from Arabic countries for self-oriented reasons due to personal reasons such as solving problems, participants from Arabic countries were significantly higher than Anglo participants in their eco-focused reasons due to issues related to their contextual system.

Discussion

As discussed in Chapter 3 and Chapter 7, volunteering can be questioned in regard to rational decision-making, although they weigh benefits for the self more than benefits for others. But rationality itself is contextual too (Arrow 1986) – and the decision to volunteer is no exception. Motivation to volunteer is thus deeply affected by values present in the socio-cultural context in which it operates.

Although there is common agreement in motivation-to-volunteer research that a volunteer tends to weight the desire for help motivations (Shye 2010), volunteers benefit in their own right from volunteering more than they aim to benefit others. Although Clary *et al.* (1998b) found the primary functions of volunteering to be values, career, understanding, enhancement, social, and protective, five of these six reasons ensure some kind of self-benefit. Even those who contribute to OSS, OER, OCW show more motivational orientations toward the self than the others/community (see Table 16).

Quantitative analysis of the web-based questionnaire data reveals that motivation clusters into patterns that reflect intrinsic and extrinsic motivation as well as reasons for avoidance, and that to a large extent, these patterns reflect the theoretical model discussed in Chapter 1. However, although these reasons for contribution, and non-contribution, cluster in such ways, it is not clear whether these reasons reflect whether OER *producers* gaining benefits from their contribution, or they value benefits for their communities regardless of benefits they might gain for themselves. Would Anglo individualists are more self-oriented while Arabic collectivists more others-oriented? Responses of Wikibooks users to the online questionnaire, more specifically the scale, were reanalysed, considering the binomial test results, reported in Table 66 and Table 67, obtained by data collected via the face-to-face questionnaire.

Both information sharing factors and the social orientation factor for contribution are ambiguous. This result suggests that any encouragement of teachers and friends to share information is part of an internalisation process. At some stage, this can be considered extrinsic, until individuals feel the enjoyment and satisfaction of contribution as integrated values. Furthermore, this result suggests that encouragement from teachers is not received as external regulation when collaborators (students and self-learners) find the process of contribution useful, even though teachers and friends can play a significant role as external regulators (see Table 57). Furthermore, non-Wikibookians were unable to classify ‘My friends do so’ and ‘My teacher asked me to do so’ either as self-oriented or others-oriented. This suggests that both teachers and friends can play a significant role as external regulators and use their power to direct others, or they can encourage others to contribute by creating the opportunity for ego-enhancement (or guilt reduction) as a kind of introjected regulation.

While the item ‘Logical or grammatical error has to be corrected’ disappeared from emerged factors during conducting Factor Analysis of the online questionnaire responses (see Table 53), this item was considered others-oriented by non-

Wikibookians (see Table 66). This suggests that those actually involved in correcting grammatical errors or spelling mistakes do so to ensure that others can read quality content.

The endorsed values seen in the factor analysis of the online questionnaire data include self-oriented reasons (such as ‘I believe information should be free’; and ‘I contribute because I want to learn’) and others-oriented reasons (‘Poor people can use free books’). Similarly moral rewards can include self-oriented goals (‘I want to express my personal opinion’) and others-oriented goals (‘My religious teaching asks me to help others’). This result suggests that a contributor undergoes many mental processes to evaluate how the outcomes of his/her behaviour benefit himself or herself first, before benefiting others. This also suggests that the rational thinking process not only includes oneself, but also consideration of others. Such a finding is consistent with the rationality of volunteering to produce open source software, open content webpages, and open educational resources, as discussed in Chapter 3 and Chapter 4 (see Table 16).

Problem solving goals (which include ‘I cannot find other places to publish my work’; and ‘I’m lonely and have free time’) were seen as self-oriented goals. This suggests that the concept of a ‘problem’ is more related to oneself rather than feeling the problems of others as one’s own. The problem solving factor appears in the data as a reliable factor, among other factors of reasons, for contribution. This result suggests that contributors are motivated more by goals that benefit themselves, and that once individuals have adequate levels of digital literacy, they are proactive and use the technology to solve their own problems. This result is consistent with what has been discussed in Chapter 3.

The subscale reliabilities vary. While approach self-oriented subscale has an acceptable reliability ($\alpha = 0.61$), the others-oriented subscale reliability was not acceptable ($\alpha = 0.18$), while both avoidance self-focused and eco-focused subscales had acceptable

reliabilities ($\alpha = 0.75$ and $\alpha = 0.70$ respectively). This result suggests that contribution holds benefits for individuals who contribute to Wikibooks, who seek to solve their personal problems rather than commit to helping others/community – a reason that usually expressed by volunteers (Shye 2010). Arabic individuals were shown to be motivated to contribute more by their feelings of loneliness, and through the aspiration to publish, more than Anglo Wikibookians. This result also suggests that international publishing in the Arabic language is difficult, and thus many Arabs use Wikibooks to publish, compared to Native English speakers, who, perhaps, find many other means to publish their work since English is the dominant language for international publishing. Thus, to market and promote contribution, OER initiatives and teachers may need to stress the benefits and usefulness of contribution for oneself.

One questionnaire item disappeared from the factor analysis of Wikibookian responses to the online questionnaire ('There is no clear structure for textbooks'). This appeared ambiguous to non-Wikibookians. This result suggests that the structure of textbooks in Wikibooks does not prevent Wikibookians from contribution and also non-Wikibookians do not see that this issue should prevent people from contribution.

Most of the factors that contribute to avoidance (see Table 67) were considered self-focused in the views of non-Wikibookians. These factors include Lack of confidence ('I don't have a knowledge base in any suitable topic', 'I prefer reading to writing' and 'I do not feel confident'); Distracting interests ('I have other hobbies and interests that take up my time rather than contributing to wiki' and 'I prefer socialising with family and friends rather than sitting on the computer to contribute'); and Lack of reward for oneself ('No financial reward', 'As this is voluntary work, orders to contribute are not acceptable to me' and 'It is not my job to write textbooks').

This result suggests that reasons for non-contribution are related to oneself rather than to issues related to the context or eco-system ('Our society does not value voluntary work' and 'Our educational system (institution) does not (or cannot) adopt this technology as a part of the learning process'). This result also suggests that developing the individual's skills to use the computer and interact with learning technologies may play an important role in increasing contribution to Wikibooks. Since non-Wikibookians saw that most reasons for non-contribution are more self-focused, this suggests an evaluation process that promotes the self more than the other. But, what actually hinder Wikibookians from contribution are issues related to their context, and these factors are higher for Arabic participants than Anglo participants. Wikibookians and non-Wikibookians appeared to agree that if an individual does not benefit from contribution, they do not contribute. If benefits from other activities exceed benefits that might be gained from contribution, they go with such activities rather than contributing.

Arabic Wikibookians were more amotivated than Anglo Wikibookians, due to issues related to their context (eco-focused), while Anglo individuals were amotivated more than Arabic Wikibookians due to issues related to the self (self-focused) such as self-centeredness and other interests. This result suggests that Arabic Wikibookians find that their contexts hold aspects that do not encourage them to contribute, while Anglo Wikibookians, centred on individualism, appear to prefer their personal interests over contribution to Wikibooks.

While there were no significant differences between Anglo and Arabic Wikibookians in regard to their lack of confidence (self-focus), there were significant differences between Anglo and Arabic Wikibookians in self-centredness (self-focus) and their other interests (self-focus) and issues related to their system (eco-focused). In other words, Arabic Wikibookians were significantly higher than Anglo Wikibookians in relation to self-centeredness (self-focus) as a reason for non-contribution, while Anglo Wikibookians scored higher than Arabic Wikibookians in regard to other interests (self-focus) that distract them from contribution. Arabic Wikibookians scored higher than Anglo Wikibookians in not-contributing to Wikibooks because of issues related to the system (eco-focused).

These results indicate that Anglo individuals have more options to spend their free time than Arabic individuals. This might be due to higher living status. For example, while both Arabic and Anglo individuals can spend time online contributing to Wikibooks (or any other online activities), Anglo individuals have more options for cinemas, clubs, and sports which may be out-of-reach for many Arabic individuals due to lower standards of living. Context is an issue for Arabic individuals and hinders them from contributing to Wikibooks. Such contextual concerns (education system and society) may promote contribution and online activities if education systems and the whole society are supportive of such activities. Examples of these issues may include internet access, digital literacy, teachers that are ICT trained and skilled, curriculum that supports collaborative learning activities, and schools well equipped with PCs.

To conclude, an evaluation process (of benefits a person might get from their volunteering against the time and effort they spend and the benefits others might get) plays a significant role in motivating Wikibookians to contribute to Wikibooks. Wikibookians tend to contribute more to solve their personal problems rather than any for any helping goals (whether helping others or developing and sharing content with others). However, these mental processes of evaluation of benefits from OER participation are also affected by the culture of those Wikibookians. More precisely, people in Arabic culture face challenges in getting their work published, as well as limited options for leisure time. Limited digital literacy and infrastructure also hinder Arabic individuals from contributing. Focusing on the benefits of writing to open educational resources is likely to help promote contribution. Enhancing the readiness to contribute is essential to promoting contribution, and issues affecting user confidence appear to be central.

As discussed in the theoretical study, and re-emphasised again in Chapter 7, the results of online questionnaire data analysis demonstrated that motivation at the ‘universal’ level follows the proposed adapted universal OER motivation model. Factors such as

culture, religion, teacher encouragement and levels of ICT in school affect OER motivation. Although OER motivation is cultural – in which there are differences in intrinsic/extrinsic motivation, and inability and unwillingness amotivation, results did not show whether each of these items is self-oriented or others/eco-oriented – which suggests that its meaning truly differs from one culture to another. This is why there was a need to conduct a F2F questionnaire, and apply the results to online questionnaire data.

Although the online questionnaire was an appropriate method to collect data about OER users, their education level and field, education system, values/goals that motivate them to contribute and/or reasons they find do not motivate them, it still remains unknown what make such differences of motivation across cultures studied differ. Interviews may help deepen the understandings of how values/actions are reshaped by socio-cultural contexts, including values of culture, how individuals see themselves and their surrounding others, and the system and its objects including schools and teachers. Interviews help draw a picture of social reality of OER users, both readers and *producers*. With such understandings of OER user social realities, it becomes possible to see cultural differences within the ‘dynamic’ nature of contexts and values. Understanding the ‘collective’ realities that cluster ‘individual’ reality within a specific group will help in promoting the use OER in different contexts – only if exploring opportunities and challenges are highlighted – as discussed in the next chapter.

Chapter 10

Online semi-structured interview analyses: Voices of Wikibookians

It will be argued that statistical associations and statistical models can never be a sufficient basis for establishing causality and that there is an increasing awareness of the need for theory to explain and underpin the results of quantitative analyses

(Elliott 2006, p. 97).

Without any presentation of the existing knowledge about the topic of an investigation, it is difficult for both researcher and reader to ascertain whether the knowledge obtained by the interviews is new, and thus what the scientific contribution of the study is

(Kvale 1996, p. 95).

In the preceding chapters, a number of reasons for contribution and non-contribution have been identified – see especially Chapter 7. On the one hand, according to the theoretical model outlined in Chapter 2 (see Table 7), the reasons for contribution and non-contribution can be classified according to intrinsic-extrinsic and approach-avoidance dimensions. The results of quantitative data analysis reveal that the patterns of distribution of these motivations, to a large extent, are consistent with the proposed theoretical model. The quantitative results also suggest that these motivation factors vary across Anglo, Arabic and Indian cultures.

On the one hand, Arabic users who contribute to Wikibooks were found to be more intrinsically motivated than Anglo users (in relation to both enjoyment and integrated values), and also more extrinsically motivated, due to factors relating to ego-enhancement (both problem solving and moral rewards). Differences in relation to extrinsic external regulation factor were not found to be significantly different, however, between Anglo, Arabic and Indian cultures.

At the same time, Arabic users overall appear to be more highly unmotivated (either reducing their contribution efforts or not contributing at all) than Anglo users. They hold negative views towards the social or contextual system, putting less value on volunteering. Some do not write to Wikibooks because they prefer to use their native language, because they see others do not have internet connection, or do not know the Wikibooks website. Anglo users who report as highly amotivated, explain this through distraction (family/friends gathering and their hobbies and interests), more than Arabic users. There were no significant differences identified across the three cultural groups in relation to their levels of confidence and/or their negative views toward wikis. This suggests that all individuals (regardless of their culture) reduce or avoid contributing due to inability to use wikis, or lack of confidence in their knowledge and writing skills.

While teachers played a significant role in helping users interact with ICT for learning, results also suggest that a user's education field and occupation, as well as the level of ICT equipment in the schools in which they are educated, contribute to their levels of amotivation.

Since individuals are interacting within their socio-cultural contexts and their actions and values are reshaped and filtered by *habitus*, traditions, and beliefs, consistent with socially collective responses (Bourdieu 1984), understanding Wikibookian beliefs about Wikibooks and their context is essential to understanding contributors' motivations.

As discussed in Chapter 8, Wikibooks users and their demographics, interests and values, education field, and occupation are part of a whole system, where culture, including religion and educational system, play an important role in building a foundation for user orientation toward/against contributing to Wikibooks. Cultures, and the many variant social and sub-cultural groups within a given culture, display widely diverse attributes, values and behaviours, as influences shift and recombine within their experience. The categories used within cross-cultural studies in particular – including Hofstede's structuring of cultural values, central to current research, produces a set of descriptors that should not be regarded as absolute or permanent, since cultures change. Not only the dynamic nature of cultures makes 'fixed' Hofstede's values model not very adequate to examine cultural differences in OER motivation, but also values are immeasurable.

However, Hofstede's values model provides a 'temporary' methodological tool, which can be used to link 'measured' motivations (reported in Chapter 8 and Chapter 9) with 'measured' cultural values. Research based on such categories of cultural values, including current research, must remain aware of such limitations. Here for instance, although several reasons for contributing and not-contributing to Wikibooks were

identified within existing theorisations, these reasons cannot fully explain why particular social groups volunteer to contribute to open textbooks – especially given the ‘subjectivity’ that occurred while interpreting volunteer motivations within broad cultural value orientations, as outlined in Table 28 in Chapter 7. Overall, the online and F2F questionnaires were limited in terms of touching on a range of factors that impact OER user motivation.

Motivation is multi-leveled and complex. Shye (2010) highlights methodological difficulties in conducting motivation-to-volunteer research projects. A response by a volunteer to a question such as ‘why did you volunteer?’ (Shye 2010, p. 185) rarely includes all the motivating factors. Shye (2010) argues that a questionnaire response does not necessarily provide a full measure of a volunteer’s motivation. Replies to such a question reveal the possible presence of a ‘*social desirability problem*’ (Shye 2010, p. 186) where a volunteer tends to feel compelled to report altruistic motivations.

To avoid these methodological issues, Shye (2010) recommends a method that can ensure that all the motives can be presented. By asking volunteers why, in their view, people volunteer, it becomes possible to compare volunteers and non-volunteers. Shye’s (2010) results revealed differences, but overall responses proved quite close. Given Shye’s (2010) findings, online interviews were used to help assess motivation for contribution and non-contribution to OER. In these interviews, research participants were asked to express the reasons for volunteering (or not volunteering), as a means of understanding their explicit self-reported reasons. Research participants were also asked their opinions about others’ reasons for volunteering, so that a clearer picture could be drawn.

There is a need to understand in more detail user experiences with using wikis and Wikibooks, as well as perceptions of others’ reasons for contributing – all related to how participants view their culture and context. How do Wikibookians feel about promoting contribution and the need for Wikibooks development? Understanding user experiences and motivations in relation to Wikibooks use is imperative in promoting

future uses of open educational resources through designing OER that match with user motivations according to the cultural preferences of specific target populations. Wikibookian thoughts about promotion ideas and development needs will help address any difficulties in OER use in curricula and in locating appropriate marketing strategies. Such understandings help harness the dependency on OER by learners, students, teachers, and lecturers. How then can information be generated with enough detail to capture motivation at such depth? Semi-structured interviews allow participants to express themselves in their own words and explore issues in greater depth, within a limited time frame (Bernard 2000).

The interviewees sample

As discussed in Chapter 7, the purpose of interviews is to examine and report OER user experiences with wikis and Wikibooks, as well as their perceptions about themselves, others surrounding them and their contexts. Pseudonyms were used to represent interviewees' gender and culture. Demographic data, including country, age, education, religion (when applicable), and occupation, of these interviewees are illustrated in Table 70.

Table 70: Interviewees' demographics and their Wikibooks involvement

Culture (N= 23)	Pseudonym	Age	Gender	Education	Country	Occupation	Religion	Wikibooks' involvement
Anglo (N _{EN} = 11)	Adrian	25	Male	B.Sc. Information Technology + Administrative Assistant	USA	Part time IT Assistant	Christian	Writer Administrator
	David	40	Male	American Law degree	USA	Lawyer	Non-practicing Christian	Writer
	Clinton	59	Male	Bachelor of Biology	USA	Retired physician's assistant and medical sonographer		Writer
	Douglass	56	Male	Applied Associate of Science degree	USA, lives now in Romania	Business man		Writer
	Nikos	21	Male	Did not complete a University degree	Greece	Labour Jobs		Writer
	Mark	31	Male	Maths & Computer Science	USA but grew up in UK	University student	Ecumenical (Christian denomination)	Writer
	Philip	36	Male	MSCA Certificate and self-taught	New Zealand	Code manager	No religion	Writer
	Ronald	23	Male	NAIT college	Canada		No religion	Reader but he does write to other wikis
	Roy	22	Male	Psychology	Canada	University Student	No religion	Writer (was) Administrator
	Steve	49	Male	B.Sc. Engineering	USA	Full time job	No religion	Writer
	Susan	51	Female	B.Sc.	British woman who lives in Morocco	Freelance Technical Writer		Writer

Arabic (N _{AR} = 9)	Abdul ²²	35	Male	Secondary education	Algeria	Accountant	Islam	Reader
	Ahmed	27	Male	American Board in Internal Medicine (Master)	Saudi Arabia, lives in USA	Physician	Islam	Writer
	Ali	40	Male		Egypt	Supervisor of English language for secondary schools	Islam	Reader
	Aziz	16	Male	2 nd year in secondary school (year 11)	Oman	Student	Islam	Reader but he did write to Wikipedia
	Bilal	23	Male	Bachelor of education technology	Egypt	Volunteer in an Islamic preacher web	Islam	Reader but he writes to Wikipedia
	Chaaban	26	Male	Bachelor of engineering	Syria	Unemployed	Islam	Writer when he was a student
	Essam	24	Male	Bachelor of arts (history)	Egypt	Unemployed	Islam	Reader but he writes to many open content websites
	Faraj	20	Male	Bachelor of computer engineering	Iraq	Unemployed	Islam	Reader
	Omar	31	Male	Bachelor of arts (Arabic)	Egypt	Arabic teacher	Islam	Writer
Indian (N _{IN} =3)	Abha	26	Male	Engineering	India	Electrical engineer		Reader
	Das	29	Male	Master of Computer Science	India	Employed		Reader
	Raj	18	Male	Studying for Bachelor of technology	India	Student		Reader

²² The interview with Abdul began in English, but Abdul was not very competent in English; so the interview was conducted in French, using Google Translate, alongside English.

The majority of interviews were conducted from home because of the time differences. Interviews were conducted using Trillian Software and in the form of text-based chat. Although interviews were semi-structured, an interview guide was used to keep interviews on track (see Appendix I for the interview guide). After the interviews, transcripts were edited and refined (see snapshots on interviews in Appendix I), and consistent codes of identified aspects, themes, and concepts (data units) were applied to the text being analysed (Rubin & Rubin 2006). It should be noted that interview topics are not identical, since as Rubin and Rubin (2006) argue, interview analysis is an ongoing process. Questions may be modified in following interviews.

All interview data units were reanalysed a number of times to grasp consistent themes and descriptions (Rubin & Rubin 2006). Some interviews were shorter than others because of issues including slow internet connection, a participant was not from the studied cultures, or a participant not being an active Wikibooks contributor. There was one participant who tended to respond only with short answers. By sorting and grouping data units, systematic similarities and differences of aspects, themes, and concepts can be reached (Rubin & Rubin 2006). Such themes and concepts were both directly and indirectly revealed in this analysis (see snapshots on interviews analysis in Appendix I).

User experiences with wikis and Wikibooks

In this section, contributors' emotional responses and any difficulties encountered with Wikibooks are reported. The ways in which users engaged in wikis in general, and in Wikibooks activities in particular are also reported. A number of codes were introduced, after the first reading of transcripts to categorise the data units:

Wikipedia: this code is used to report when contributors know about Wikibooks from their visits to Wikipedia.

Technical native: this code is used when the contributor is confident with technology and comfortable with wikis.

Learning: this code is used to report the need of contributors to learn and get in-depth information.

Activities: this code shows when respondents report early activities with Wikibooks and how they engaged with wikis.

Passive help: is used to report users who seek help from Wikibooks administrators and ask for answers to their technical problems.

Proactive help: is used to report when users do their own research and spend the time and effort to teach themselves to use wikis.

Unusual is a code used when participants report unusual and surprising reasons for their engagement with wikis and Wikibooks.

Table 71 illustrates the experience of Wikibooks' contributors represented by names (sorted by culture) and in their own words.

Table 71: Users' experience with wikis and Wikibooks

Codes	Contributors and their voices
Wikipedia	Ahmed learnt about wikis from surfing the internet about 2007. Abdul likes to read Wikipedia. Das uses Indian Wikipedia on a regular basis to get information. Abha likes both Wikipedia and Wikibooks, but he likes Wikipedia more. Abha knew about and used Wikipedia when he was in university in his 7th semester, as he used some input from it for his project about a 'Current Transformer'. David's first experience with wikis was in 2005 with Wikipedia. Mark started to know Wikibooks after his contribution to Wikipedia. Philip felt he had enough experience with Wikipedia. Ronald's first experience with wikis was reading Wikipedia. Roy started in 2005 with Wikipedia, but he did not enjoy it.
Technical native	Das studied Master of Computer Sciences. Mark studied Maths and Computer Sciences. Philip has no problem with dealing with Wikibooks because he felt he had enough experience with Wikipedia. Moreover, he volunteers with JavaScript and PHP in SitePoint.com. Roy is generally quite comfortable with computers because of the programming courses he studied. Steve studied Bachelor of engineering. Adrian studied Bachelor of information technology.
Learning	Mark goes to Wikibooks because he wants to know in-depth information about a topic or subjects that are off-topic at Wikipedia. Ronald finds wikipages are '<i>un-ambiguous</i>' and give him enough information for '<i>un-googleable</i>' terms. Adrian was looking for learning resources for his certification. Abha sees that Wikibooks and Wikipedia serve him quite well; and he often checks Wikibooks to read about electronics and electrical materials. Raj's professor at university suggested he read about LATEX from Wikibooks to learn more about it.
Activities	Philip started with correcting mistakes, then making content in-line with Wikibooks general guidelines; and then contributions were extended when and where needed. Adrian was looking for learning resources for his certification and he found some ways to improve these information technology subjects based on his previous knowledge, and then he extended his efforts to the rest of the site. Clinton stated using Wikibooks a year ago as a baseline reference for history research. Ronald has edited both table of contents and article structures: he edited ToC when he saw the content is better served under new subheadings; and he restructured articles when he found them poorly written. Roy's major activity with Wikibooks is organisational work in restructuring tables of contents. Steve accidentally started contributing when he faced grammatical errors or incomplete texts (especially texts he likes); and the table of contents was also an issue for him and required improvement.
Passive help	Ahmed when he began contributing faced some troubles, some of these troubles were solved by talking to admin people. Ronald found that when there was no help, this caused him stress (implicit). Susan spent effort and time to teach herself to use wikis; she did seek help from Wikibooks administrators. Adrian found that wiki syntax is difficult to learn, however, he overcame this problem by examining existing wiki pages to see how others did things and by reading help documentation on the MediaWiki.org website. Adrian commented that Wikibooks has a manual called "Using Wikibooks"

	that provides information on the processes used at the Wikibooks website. Clinton asked for help from Wikibooks administrators and they responded promptly.
Proactive help	Ahmed when he began contributing faced some troubles, some of these troubles were hopeless cases (indicates the efforts he made). Mark sees formatting in Wikibooks as very basic, but is contributing (indicates how he can deal with the problem). Steve faced some technical difficulties at the beginning but with the help section and trial and error he got familiarised with wiki culture and his skills improved. Roy when he faces a doubt about content, does further research to improve the way information is presented. Susan taught herself how to use and write in wikis by reading the guidance in Wikibooks only when she got a paid job as manual technical writer; she also used trial and error techniques, and has checked other wiki books to see how they are developed.
Unusual	Philip likes to watch the development in Wikibooks. Ronald uses a personal wiki to keep information he might need later.

The implications of those Wikibookians' voices, listed in Table 71, can be summarised as follows:

- All research participants knew about Wikibooks from the more popular Wikipedia; this could help promote other projects including Wikibooks. For example, instead of the static Wikipedia logo only on the main page of different language versions, there could be a dynamic linkable advertisement for other projects close by the logo.
- Although the interviewees studied computer courses at some stage, experience with wikis is quite similar to word processing software, especially after the introduction of What You See Is What You Get (WYSIWYG) features.
- Wikibooks receives more appreciation than Wikipedia since it provides more in-depth information which is not easy to find in search engines.
- Contributors are mainly concerned with quality rather than quantity when they are less confident or less experienced with wikis. For example, most participants started contributing with simple activities such as correcting spelling mistakes and grammatical errors. Once they became more confident, they started to add more content and restructure the texts' table of contents.
- Whether users are new to wikis or experienced users, Wiki WYSIWYG editor would help both quality and quantity of contribution.
- It is recommended that Wikibooks' administrators watch the talk and discussion pages to know the difficulties that users might have, and this helpful information could be integrated into help modules and FAQs pages. Integration videos (for editing content, restructuring ToC and creating new books/chapters) in help modules

would be very useful, especially for beginners. It seems that help information does not cover everything that people need. This is why more time seems to be spent in trial and error activities. The help documentation should be sufficient, available and accessible inside the site and not on an external site.

- Since Wikibooks' administrators seem to be the last resort for contributors, they should be accessible and their responses should be available within a reasonable time frame. It is recommended that administrators and support people keep track of different inquiries (list of inquiries and problems) to be addressed in the help.
- Help should be in different languages, but the list of inquiries and problems that administrators keep should be in one language (English) for easy development and maintenance.
- Although trial and error techniques are good for learning, contributors to Wikibooks (considering their time is somehow limited) may not be patient enough to grasp all the skills quickly, and thus they might leave. Therefore, and as discussed above, it is recommended that the help module is developed clearly and well organised, with video clips incorporated with search-ability features (different keywords are recommended for integration).

Wikibookian perceptions about their culture

This section reports, in more narrative ways, on how the interviewees see their culture and community. Narrative study clearly focuses on the content of the interview; on *what* is said rather than *how* it is said (Elliott 2006). The analysis of narrative materials emphasises evaluative dimensions of narrative evidence: how the interview participants made sense of those experiences that require detailed contextualised description (Elliott 2006). It must be stressed that 'there is no single narrative method, but rather a multitude of different ways in which researchers can engage with the narrative properties of their data' (Elliott 2006, p. 37). Interview texts were classified into categories for the analysis, according to codes developed from first reading of the interview conversations – as discussed in Chapter 7.

Due to the limited information provided by the three participants from India, this section reports only on Anglo and Arabic interviewees' perceptions about their cultures.

Anglo interviewees and their culture

Western culture is 'liberal in the European sense' (interviewee Roy). It promotes 'the free culture movement that stems directly from classical liberal theory' (Roy). So, 'sharing amongst community members is important as part of liberal Western culture' (Roy). This is why 'community is very important' (Roy).

However, not all Western people see Western culture as positive in the ways Roy explains. Aspects of Western culture can also be seen as negative, as Mark argues: 'Its [Western culture] degree of capitalism and related mass media' make people seek 'entertainment rather than more philosophical goals' (interviewee Mark). This culture that 'originally developed in Europe spread to much of the world' (Mark). This is why the 'Far Western culture'²³ does not encourage [contribution]' (Mark). However, 'it encourages other things, so people might not often think about [how] contributing to open content benefit[s] them' (Mark). Not all people spend their time achieving beneficial and socially altruistic goals: Adrian 'often [has] free time' and he enjoys 'being productive with [contributing rather] than wasting it playing games all the time like some of [his] peers in school' (interviewee Adrian). Peers, even more, may discourage contribution. For example, people around Philip 'cautioned [him] against doing too much too soon' (interviewee Philip).

Western culture's spread around the world through mass media, including the internet, renders the conceptualisation of Western culture unclear. New media industries have restructured cultural identities; and now there is an interplay between globalisation and localisation, which makes the maintenance of national identities difficult and transitional (Morley & Robins 2005). Such dynamic cultural flows cause a plurality of cultures within boundaries of national identities (Gupta & Ferguson 1992). The industrial production of culture (and entertainment) led to new forms of cultural difference and new imagined spaces which bound the sense of locality (Morley & Robins 2005). For example, Philip wondered 'what Western culture is about other than

²³ The expression of the 'Far Western culture' used by Mark is interpreted, in the flow of the conversation, as an advanced capitalist society.

the language' (Philip). He explained that what causes the unclear definition and values of Western culture is the high level of individualism. 'I spend a lot of my time on [the] computer, which is something that would happen, and has happened, regardless of which country I was in. I cannot think of a single thing that would qualify for [Western culture] in my life style' (Philip).

Globalisation has resulted in increased levels of mobility, causing not only unclear definitions of Western culture, with many Western countries open for immigrants and international workers and students, but also mixing of cultural values at the national level. For example, in New Zealand where Maori 'are trying desperately to hang on to their culture' (Philip), Philip feels that he has begun 'to realise that [he does] not [have] a culture of [his] own' other than 'the enjoyment of Vegemite' (Philip). Globalisation not only impacts upon the sense of locality, but is also 'associated with new dynamics of re-localisation... it is a matter of inserting a multiplicity of localities into the overall picture of a new global system' (Morley & Robins 2005, p. 116).

Adrian, for instance, explained his American culture as 'largely a mixture of other cultures from around the world as a result of people's immigration here and bringing their cultural heritage with them' (Adrian). For example, Douglass sees himself as 'native born American' but from a family of 'two native tribes, Irish and Scottish' (interviewee Douglass). This is why Adrian sees that 'the combination of all of those [immigrants] has produced a unique result' (Adrian). He explained that 'American culture, *per se*, continues to evolve' (Adrian). However, 'it is very hard to pin it down to a specific definition other than to say that is free-form [continually evolving²⁴] and not easily defined' (Adrian). Its colonised history characterises American culture as a 'culture of accommodation' (interviewee Clinton). Clinton explained that 'everything is judged in relative terms' which, according to him, is 'a recipe for underachievement' (Clinton). Clinton considered that 'this accommodation at any price will only produce more people who will "get-by" with minimal efforts' (Clinton). He compared himself years ago, when he was a physician's assistant, with the new generation: 'for years, I helped train other medical professionals. I found that, as time went by, more and more students were satisfied with "just getting by" rather than excelling' (Clinton). Clinton wondered 'if [individuals] are going to do something, why [they] do not strive to be the

²⁴ According to Adrian 'free-form' means 'continually evolving'.

best?’ (Clinton). But Clinton considers that he has an old-fashioned type of personality, which according to him is about ‘trying to be the best’ (Clinton). However, he stressed that this personality character ‘served [him] well’ and made him ‘the best physician’s assistant that ever came along’ (Clinton).

It seems that the “getting-by” principle is active not only in the USA where Clinton lives, but exists in other countries too. This principle affects individuals’ curiosity not to learn more, and even produces a tendency not to be honest when sharing/conveying information. For example, in discussing his own wiki interests, Douglass pointed out that ‘most people that write about [the] history of [the] Cougar as far as Western Canada, Washington, and Oregon [have] actually never been there’ (Douglass). Douglass, who grew up in Oregon, continued to say that ‘I have personally seen many animals that people, from the cities, think ... either do not live there, or are extinct’ (Douglass). Together, these recurrent comments on the levels of commitment and direct expertise in online information sharing, suggest a wiki-activist population which views itself as more expert, more committed, and more concerned about proficiency and standards than the norm.

These comments on lack of curiosity in the USA are reinforced by a European respondent, who claimed that the young adults in Greece are not curious to learn. One explained that ‘knowledge in Greece is not that much appreciated’ (Nikos). Education is given less credit in Greece and is not taken seriously by all Greeks (Nikos). Unawareness of the potential for online informal delivery of ‘philosophical and beneficial goals’ (Mark), is reflected in comments that users focus on entertainment such as playing games (Adrian), while ‘most teenagers care [only for] their life-style and their work/job (Nikos). Europeans and the US respondents thus positioned themselves as directed towards higher cultural values – a predisposition they view as not widely shared within their society.

It can be concluded from the above presentation that Anglo participants value information sharing, and they use their free-time in productive internet activities – as part of their *digital* Western culture. Within the technological dimension of Western culture, it appears that more attention is given to the “expected” *digital* side of human behaviour than the face-to-face side. Within such expectation, Anglo contributors are

not satisfied about non-contributors, and see them as selfish and not willing to learn. This adds to the debate relating to the conflict of interests between the two groups about expectations in regard to the evolution of social behaviour in digital Western culture.

Arabic interviewees and their culture

Ahmed defined his Arabic culture as ‘oriental with wide horizons’ (interviewee Ahmed). Ali described and characterised Arabic culture with three values: ‘1) loyalty and belonging to the nation not to individuals; 2) working for the convenience of others [and] 3) love and tolerance among people [as] the bases of life in the universe’ (interviewee Ali). Ali linked these three cultural values to religion: ‘because these [three values] are the basis of monotheism religions, the best thing is to see [that] people around are happy’ (Ali). He explained that, ‘it is great pleasure to sacrifice for others’ (Ali). Yet, these three values are not enough to explain Arabic culture. Omar explained other positive values in Arabic culture, reclaiming the scholarly philosophies of the Arab Islamic past: ‘we Arabs are first to care about humanity and the freedom of expression’ (Omar).

It appears, however, that Arabs currently are not satisfied about their current social reality compared to the history of Islamic civilisation. Omar dreams that ‘one day we can live in a democratic society’, but ‘we had relinquished freedom. This day must be [brought] back, and we will govern the whole world with peace’ (Omar). This imperialist project, according to Omar, reflects the history of Islamic civilisation.

Arabic interviewees agreed that their nations share a long great history, strongly impacted by religion and especially Islam. For example, Faraj stressed the diversity of his history, noting that ‘Iraqi civilisation is a great civilisation and branching’ (Faraj). He listed the great achievements of the past: ‘Babylonian civilisation, Assyrian civilisation, and Islamic civilisation’ (Faraj). These civilisations have each had a significant impact upon communities of people in Iraq (Faraj). For instance, ‘Islamic civilisation has been affected by the Muslims; and Assyrian civilisation has impacted Assyrian Christians’ (Faraj).

Similarly, ‘Egypt has a great history and a nice culture because there were ancient Egyptian civilisation and Islamic civilisation’ (interviewee Essam). Oman, too, has a

great history and the '*Khasab Castle*' is seen as a monument to its civilisation (interviewee Aziz). Despite this pride in their ancient civilisations, Arab world respondents (such as interviewees Abdul, Aziz, Essam, Faraj and Omar) considered their current social circumstances as different in terms of human rights, education, and politics, and especially as these factors relate to religion.

In regard to politics, Omar is 'unsatisfied about corruption and control that are undertaken by the government over citizens' (Omar). Moreover, Omar is not satisfied with what he sees as one current element, that 'the USA dominates the whole world using lies about terrorism, which is attached to Islam, while Islam seeks for peace and security for humans' (Omar). Abdul also commented that 'Algerian culture suffers from significant deterioration in front of secularism; and all that is left of it is just a lie on TV' (interviewee Abdul). Similarly, Omar sees that 'the Arabic culture does not exist anymore in Egypt' (Omar) which strongly indicates a sense of cultural decline, and global powerfulness. Many complain about 'American' cultural imperialism which they view as caused by the standardisation of world culture through American media, food and clothes, even to the extent of aligning these with the notions of democratisation and freedom (Cowen 2002). These factors impact upon the incentive to contribute to the maintenance of cultural knowledge and information use, as offered through Wikibooks, as an attempt to preserve cultural identity.

Some Arab/Islamic respondents were quite explicit in their assessment of how important it is for the Arab world or Islamic cultures to reclaim their heritage. In regard to education, Omar argued that 'school textbooks become very far from our principles and cultural values' (Omar). He believes that the current education system has an 'empty curriculum' (Omar). He stressed that more attention needs to be given to education and research (Omar), to rebuild an Islamic curriculum. Others suggest that contemporary education in Arab countries is contributing to widespread negative attitudes toward learning. This indicated that the 'getting-by' attitude from the US and Europeans respondents also exists in the Arab world. Both Bilal and Omar have pointed out that many people are not especially interested in online activities involving reading and writing (interviewees Bilal; Omar).

In regard to human rights, some participants argued that people in the Arab world dream of living in democratic societies (Omar) where people can enjoy freedom of expression (Omar). Even the education system in Arab regions provides many examples of an inadequate focus on human rights and human rights education. For instance, teachers are not permitted to discuss their cultural values with their students (Omar). Teachers are not permitted to discuss with students ‘how to seek [their own] rights and how [they] maintain [their] respect’ (Omar).

In Saudi Arabia, ‘many websites are blocked by the government’ (Omar). This is one reason why ‘people feel deprivation’ (Omar). Similarly, although all schools and universities in Algeria are equipped with PCs, ‘they are not connected to the internet’ (Abdul). Cultural development that has the capacity to access new ideas, and to consider these within the local context, is thus blocked, to the detriment of human creativity, self-expression, and spiritual strength.

Despite all of these issues in Arabic regions, some Arabic users of Wikibooks have decided to contribute to content. For example, Essam recognises the ‘many problems in his country and the Arab world’ (Essam), yet asserted that ‘by writing, [he] is trying to play a role, and may be [able to] help some people’ (Essam). To this extent, Arab world respondents see themselves as cultural agents of new knowledge, and social leaders for their regions.

It can be concluded that Arabic participants see their cultures as superior as based on religious principles of Islam. The digital technology is only a tool to disseminate such a view and ideology. Therefore, information sharing is a defensive action, rather than a protection gained by learning. They consider that Western-biased global media pose a threat to their culture and religion. Even the education system is seen as globalised and erodes their beliefs in their unique superiority. The hidden debate between contributors and non-contributors is more related to issues of digital illiteracy and the social divide within digital literacy than the level of expectations.

Wikibooks users: approach and avoidance

Users' reasons for contributing to Wikibooks (approach)

The first reading of the interview texts identified possible codes that can be used to cluster the interviewees' reasons for Wikibooks contribution. However, each code addresses an interviewee's personal reasons for contribution, and this in turn reflects their personality, values and way of thinking. The codes that were used are arranged alphabetically as follows:

- 1) Career;
- 2) Community support;
- 3) Discussion;
- 4) Enhancement;
- 5) Enjoyment;
- 6) Financial gain;
- 7) Helping the disadvantaged;
- 8) Helping others to learn (information sharing);
- 9) Increasing quality of information;
- 10) Lack of resources;
- 11) Learning;
- 12) Obligation;
- 13) Publishing;
- 14) Recognition;
- 15) Request;
- 16) Solving problems;
- 17) Use of spare time;
- 18) Value of freedom;
- 19) Value of knowledge;
- 20) Value of volunteerism; and
- 21) Writing skills.

In the second stage of the interview analyses, each sentence in the conversation has been qualitatively analysed and interpreted against these codes. Then, the frequency of codes was quantitatively analysed to assess the relative ratios of contributors' reasons

for contribution, whether implicit in their unconscious selves or clearly expressed; to draw a clear overall picture of the psychology of volunteering in open educational resources.

Given the doubt about quantification and statistical measuring of cultural values, as well as doubt arising from the limited number of responses, the interviews study did not using these Hofstede's indices, but rather exploring the cultural differences in patterns of contribution to Wikibooks, using the values that people admire within each of Hofstede's national cultural dimensions. This interviews study thus re-uses Hofstede's concepts, as well as the results of other researchers such as Marcus and Gould (2000); Callahan (2005); Pfeil, Zaphiris and Ang (2006); and Dormann and Chisalita (2002), to help categorise and manage the cultural 'values' reported by interviewees as evident in Wikibooks contribution.

Appendix I illustrates how interviewees' reasons for contribution (explicit or implicit) were coded and collated against the 21 codes outlined above. When it comes to considering the comparisons of each reason of contribution between the two cultures (Anglo and Arabic), there is no suitable statistical test (for example, χ^2 is not appropriate since observations are not all identical) to conduct the comparison. Instead, percentages of response frequency have been calculated for each culture. These percentages are used for crude comparisons, with only larger differences in percentages considered. Such coding does produce some interesting insights into Wikibooks contribution.

Table 72 shows that the interview participants, who are contributing to Wikibooks are motivated by intrinsic motives. However, the rewards that individuals get from contribution are much higher than intrinsic motives.

Table 72: Percentages of reasons for contribution to Wikibooks for Anglo and Arabic interviewees

Motivations	Frequencies (Freq.) and percentages (%) ¹						Relative percentages ²
	Arabic		Anglo		Indian		
	Freq.	%	Freq.	%	Freq.	%	%
Career	5	4.67	6	3.13	1	20.00	3.90
Community support	3	2.80	5	2.60	0	0.00	2.70
Discussion	1	0.93	8	4.17	0	0.00	2.55
Rewards and financial gains	4	3.74	3	1.56	0	0.00	2.65
Enhancement	8	7.48	18	9.38	0	0.00	8.43
Enjoyment	5	4.67	13	6.77	0	0.00	5.72
Help disadvantaged	2	1.87	7	3.65	0	0.00	2.76
Help others to learn (information sharing)	19	17.76	31	16.15	2	40.00	16.95
Increasing the quality	4	3.74	2	1.04	1	20.00	2.39
Lack of resources	4	3.74	3	1.56	0	0.00	2.65
Learning	2	1.87	16	8.33	0	0.00	5.10
Obligation	17	15.89	6	3.13	0	0.00	9.51
Publishing	0	0.00	5	2.60	0	0.00	1.30
Recognition	4	3.74	15	7.81	1	20.00	5.78
Request	0	0.00	4	2.08	0	0.00	1.04
Problem solving	10	9.35	7	3.65	0	0.00	6.50
Use of spare time	2	1.87	7	3.65	0	0.00	2.76
Value of freedom	4	3.74	10	5.21	0	0.00	4.47
Value of knowledge	7	6.54	15	7.81	0	0.00	7.18
Value of voluntarism	3	2.80	1	0.52	0	0.00	1.66
Writing skills	3	2.80	10	5.21	0	0.00	4.01
Total	107	100.00	192	100.00	5	100.00	100.00

1 Frequencies (Freq.) and percentages (%): Percentages were calculated based on the total frequencies of each cultural group.

2 Since participants from the Indian culture were very small in number compared with participants from Arabic and Anglo cultures, their responses were excluded from the calculation of Relative Percentages. Relative Percentage was calculated from the percentages of Arabic and Anglo cultures combined.

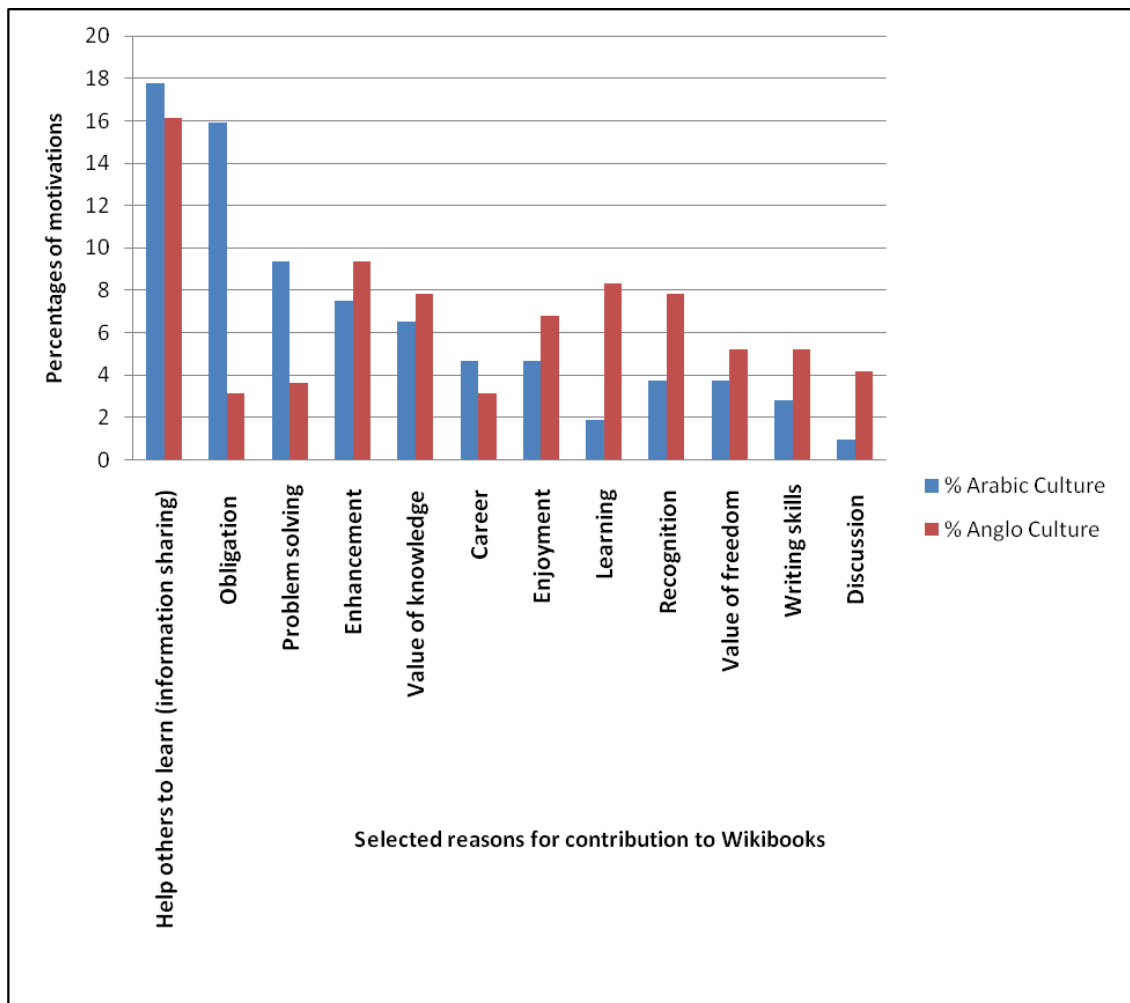


Figure 21: Percentages of significant reasons for contribution to Wikibooks for both Anglo and Arabic interviewees.

While volunteering is a personal act, where each volunteer has to weigh the costs and benefits of participating, many studies have found that the main reason for volunteering is the desire to help others (altruistic motivation) (Hustinx *et al.* 2010b). But this focus on the value of helping others differs across cultures (Iguisi 2009). The main motivation in OER participation is information sharing and helping others to learn. But it is also clear that Wikibooks users would not contribute if contribution did not benefit them. Enhancement, enjoyment, learning, recognition, and developing career opportunities are among the benefits Wikibooks users get from their contribution. Indeed, volunteers (such as Wikibooks contributors) prefer activities that ensure benefits for themselves, and these benefits do not agree with personality related motives (Houle, Sagarin & Kaplan 2005). Such motivations differ however across both Arabic and Anglo cultures – as they are illustrated in Figure 21.

The 20 reasons, as presented in Table 73, for contributing to Wikibooks (excluding information sharing²⁵) can be classified into intrinsic²⁶ and extrinsic²⁷ motivations as follows:

Table 73: Percentages of revealed categories of intrinsic and extrinsic reasons for contribution to Wikibooks for Anglo and Arabic interviewees

Motivation	Arabic culture		Anglo Culture	
	Intrinsic	Extrinsic	Intrinsic	Extrinsic
Community support	2.80		2.60	
Discussion	0.93		4.17	
Enjoyment	4.67		6.77	
Help disadvantaged	1.87		3.65	
Learning	1.87		8.33	
Use space time	1.87		3.65	
Value of freedom	3.74		5.21	
Value of knowledge	6.54		7.81	
Value of volunteering	2.80		0.52	
Writing skills	2.80		5.21	
Career		4.67		3.13
Enhancement		7.48		9.38
Increasing the quality		3.74		1.04
Lack of resources		3.74		1.56
Obligation		15.89		3.13
Publishing		0.00		2.60
Recognition		3.74		7.81
Request		0.00		2.08
Rewards and financial gains		3.74		1.56
Problem solving		9.35		3.65
Total	29.89	52.35	47.92	35.94

Percentages in this table are originally presented in Table 72. Percentages of information sharing were excluded from the presentation in this table. The intrinsic and extrinsic reasons for contribution are presented alphabetically.

As is apparent from this categorisation analysis, as presented in Table 73, intrinsic reasons for contributing to Wikibooks for Anglo individuals were higher than those for

²⁵ This exclusion does not impact upon the result since response rates are, to large extent, equal for both Anglo and Arabic cultures.

²⁶ Intrinsic motivations are defined here as reasons that involve the sense of enjoyment, curiosity, and integrated values.

²⁷ Extrinsic motivations are defined here as reasons that involve the sense of obligation, benefits, and external rewards.

Arabic individuals, while extrinsic reasons for contributing to Wikibooks for those from Arabic cultures were higher than for those of Anglo cultures.

Users' reasons for not contributing to Wikibooks (avoidance and effort reduction)

The coding strategy employed to analyse interviews involved two stages: initial coding (through an initial and broad reading of transcripts to search for any concrete themes that could be related to the theoretical study) and focused coding (when initial codes accumulate, the themes are articulated and shape focus codes) (Lofland & Lofland 1995). The first read through the interview texts helped identify the codes used to categorise and cluster the interviewees' reasons (explicit and/or implicit) for non-contribution. Codes identified are arranged alphabetically as follows:

- 1) Amount of effort needed;
- 2) Effort considered useless (knowledge is unappreciated);
- 3) Entrance barriers;
- 4) Lack of confidence;
- 5) No financial rewards;
- 6) Other interests;
- 7) Poor quality content;
- 8) Responsibilities and time constraints;
- 9) Selfishness and free-riding²⁸;
- 10) Technical difficulties (no technical help); and
- 11) Valueless efforts.

The second read through (focused coding) helped to analyse interview responses against the identified codes to cluster dominant responses into significant categories as they appear in Table 74.

²⁸ Free-riding is a situation where users do not contribute to open source/content projects and do not share its proceeds with other projects' contributors; and they use the open source/content solely for their personal appropriation (Nov & Kuk 2008; von Hippel & von Krogh 2003).

Table 74: Percentages of reasons for non-contribution (or effort reduction) to Wikibooks for Anglo and Arabic interviewees

Amotivations	Frequencies (Freq.) and percentages (%) ¹						Relative percentages ²
	Arabic		Anglo		Indian		
	Freq.	%	Freq.	%	Freq.	%	%
Amount of efforts needed (and laziness)	5	9.80	4	12.12	1	5.56	10.96
Efforts considered useless (knowledge is unappreciated)	0	0.00	4	12.12	0	0.00	6.06
Entrance barriers	0	0.00	1	3.03	0	0.00	1.52
Lack of awareness	2	3.92	0	0.00	0	0.00	1.96
Lack of confidence (including lack of knowledge)	5	9.80	8	24.24	4	22.22	17.02
No financial rewards	1	1.96	1	3.03	1	5.56	2.50
Other interests	13	25.49	2	6.06	1	5.56	15.78
Poor quality content	2	3.92	1	3.03	1	5.56	3.48
Vandalism and openness	1	1.96	0	0.00	0	0.00	0.98
Responsibilities and time constraints	9	17.65	3	9.09	1	5.56	13.37
Selfishness and free riding	7	13.73	0	0.00	7	38.89	6.86
Technical difficulties (no technical help)	6	11.76	8	24.24	2	11.11	18.00
Valueless efforts	0	0.00	1	3.03	0	0.00	1.52
Total	51	100.00	33	100.00	18	100.00	100.00

1 Frequencies (Freq.) and percentages (%): Percentages were calculated based on the total frequencies of each cultural group.

2 Since participants from the Indian culture were very small in number compared with participants from Arabic and Anglo cultures, their responses were excluded from the calculation of Relative Percentages. Relative Percentage was calculated from the percentages of Arabic and Anglo cultures combined.

It appears in Table 74 that participants who are not contributing to Wikibooks lack confidence, but also encounter technical difficulties, especially when they have no source of help or support. Although the lack of confidence seems to be unmanaged, causes for lack of confidence include technical issues. Thus when these technical issues are addressed, confidence might increase. The following Figure 22 shows percentages of significant reasons for non-contribution to Wikibooks (or effort reduction) for both Anglo and Arabic interviewees.

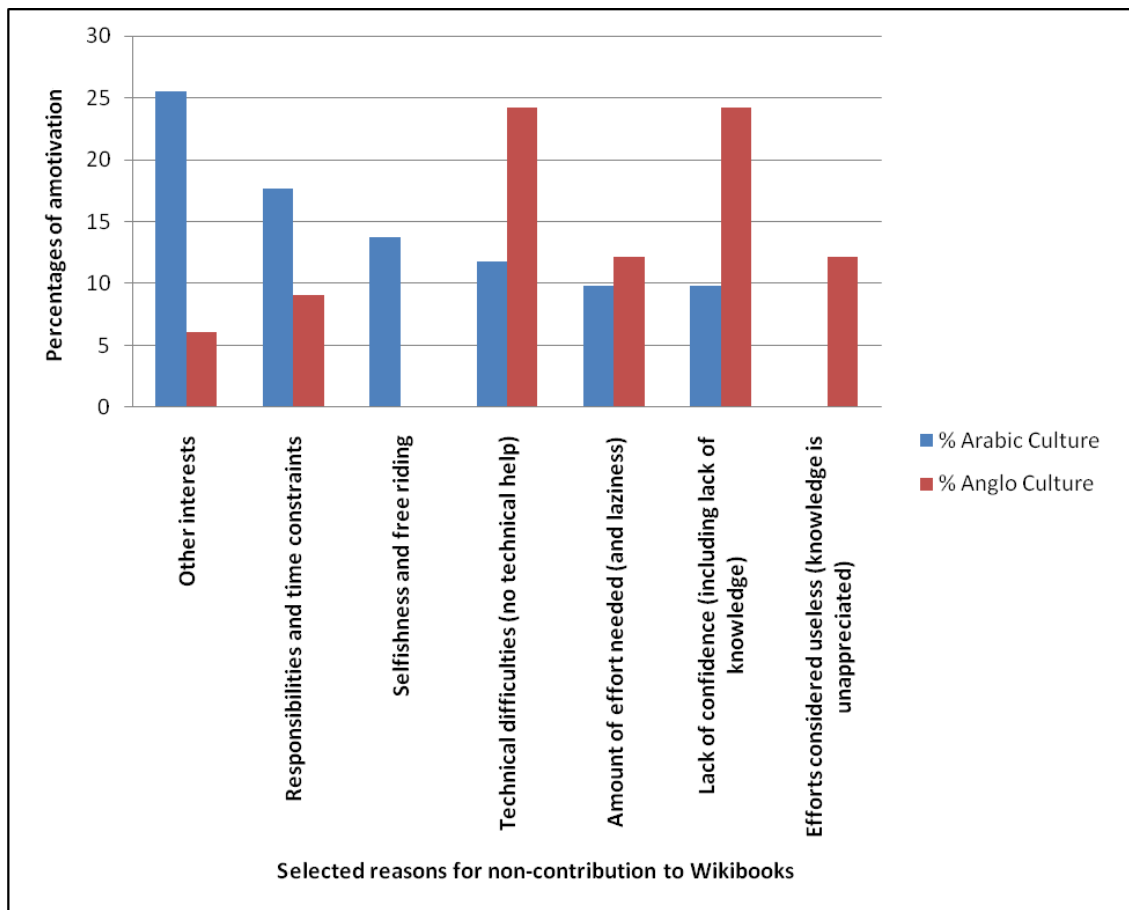


Figure 22: Percentages of significant reasons for non-contribution to Wikibooks (or effort reduction) for both Anglo and Arabic interviewees.

As it appears in Figure 22, while Anglo interviewees do not contribute due to lack of knowledge and technical difficulties, Arabic interviewees are interrupted by other interests and social responsibilities. An interesting result is that while Anglo interviewees did now show evidence of free-riding, Arabic interviewees did now express any ‘unappreciation’ of knowledge.

Interviewees’ views about others

In the previous section, interviewees were asked about their experience with wikis, and their emotional involvement and attitudes towards Wikibooks. The interviewees’ explicit comments and implicit motivations identify their reasons for contributing and not contributing to Wikibooks. Story-based measures of implicit motives have greater validity, however, in understanding behaviour than self-reported motives recorded in questionnaires as explicit goals, because self-attributed motives do not direct or select

behaviour (McClelland, Koestner & Weinberger 1989). But both implicit motives and self-attributed motives are important for psychological understanding (McClelland, Koestner & Weinberger 1989). Further, the self-representation can differ across cultures (Markus & Kitayama 1991). How an individual sees the self and sees others is culturally founded, so that quantification of self-reporting may be ‘finding’ incommensurable categories.

This section reports how interviewees saw others’ reasons for contributing and/or not contributing to Wikibooks. Assessing both interviewees’ reasons for contribution and how they see others’ reasons for contribution helps compare their self-concept and their perception of others (Markus, Smith & Moreland 1985). This too can be different across cultures (Campbell *et al.* 1996) in regard to engagement with Wikibooks.

Interviewees’ views about others and their engagement in Wikibooks

The first read of the interview texts helped to identify possible codes to be used to link the interviewees’ perception of others’ reasons for contribution. The codes are

- 1) Help others to learn (information sharing);
- 2) Value of knowledge;
- 3) Enhancement;
- 4) Learning;
- 5) Publishing;
- 6) Recognition;
- 7) Business collaboration;
- 8) Financial reward;
- 9) Enjoyment;
- 10) Increasing the quality of knowledge;
- 11) Discussion;
- 12) To display expertise.

In the second stage of interview analyses, each sentence in the conversation is qualitatively analysed and interpreted against the meaning codes. Then, the frequency of

meaning codes is quantitatively analysed to assess the shared perception of other contributors among interviewees, to draw a clear picture about the psychology of volunteering in open educational resources. Table 75 shows how interviewees saw others' reasons for contribution:

Table 75: Percentages of interviewees' perception of others' reasons for contributing to Wikibooks

Motivations	Frequencies (Freq.) and percentages (%) ¹				Relative percentages ²
	Arabic		Anglo		
	Freq.	%	Freq.	%	
Help others to learn (information sharing)	2	20.00	10	24.39	22.20
Value of knowledge	1	10.00	1	2.44	6.22
Enhancement	1	10.00	3	7.32	8.66
Learning	4	40.00	9	21.95	30.98
Publishing	1	10.00	1	2.44	6.22
Recognition	1	10.00	4	9.76	9.88
(Business) collaboration	0	0.00	2	4.88	2.44
Financial reward	0	0.00	1	2.44	1.22
Enjoyment	0	0.00	3	7.32	3.66
Increasing the quality	0	0.00	3	7.32	3.66
Discussion	0	0.00	2	4.88	2.44
Demonstrate expertise	0	0.00	2	4.88	2.44
Total	10	100.00	41	100.00	100.00

1 Frequencies (Freq.) and percentages (%): Percentages were calculated based on the total frequencies of each cultural group.

2 Since participants from the Indian culture were very small in number compared with participants from Arabic and Anglo cultures, their responses were excluded from the calculation of Relative Percentages. Relative Percentage was calculated from the percentages of Arabic and Anglo cultures combined.

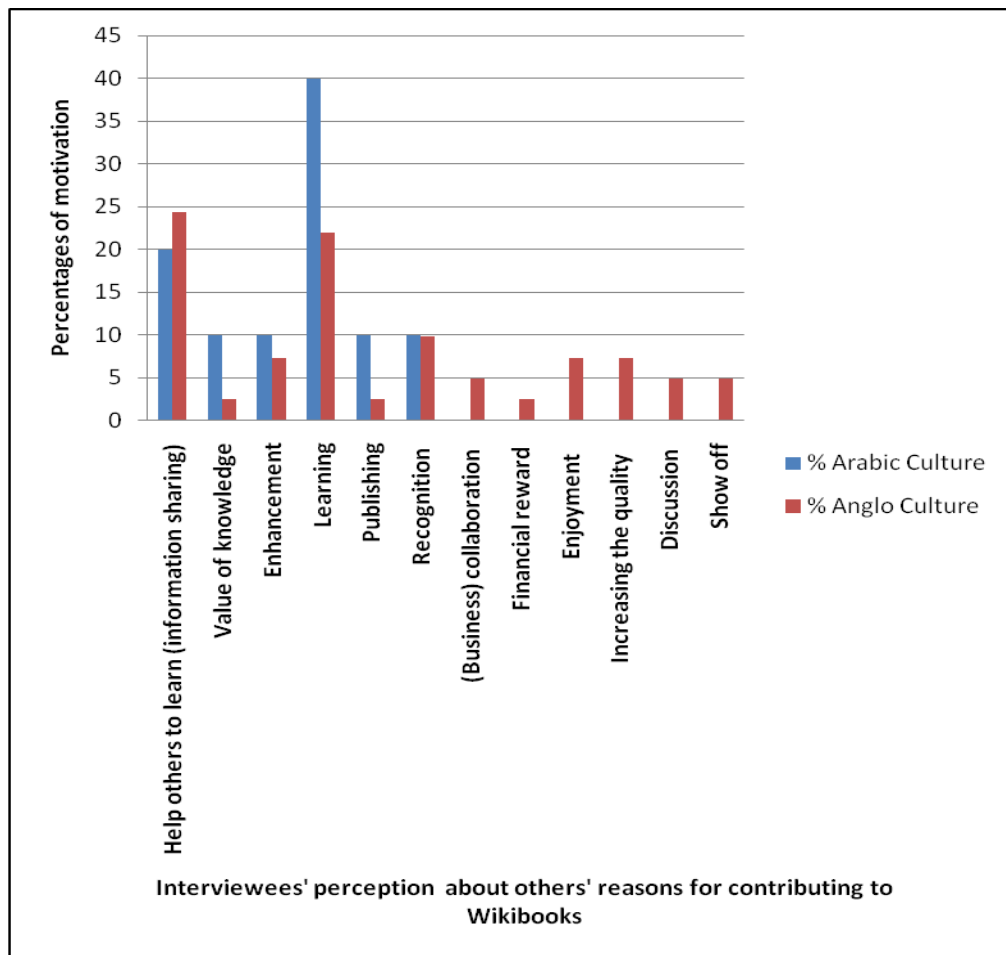


Figure 23: Percentages of significant reasons for contribution to Wikibooks according to interviewees' perception about others

As illustrated in Table 75 and Figure 23, among different reasons of contribution, interviewees saw that other Wikibookians contribute mainly because they would like to learn. While Anglo interviewees saw other Anglo Wikibookians contribute because value information sharing and Arabic interviewees saw Arabic Wikibookians like more recognition.

Interviewees' views about others and their avoidance and engagement-reduction with Wikibooks

As above, in this section, the results of interviews analysis are presented. The results of how interviewees see others' reasons for avoiding or reducing their contributions are shown in Table 76.

Table 76: Percentages of interviewees' perception of others' reasons for not contributing to Wikibooks

Amotivations	Frequencies (Freq.) and percentages (%) ¹						Relative percentages ²
	Arabic		Anglo		Indian		
	Freq.	%	Freq.	%	Freq.	%	
Feeling of demand (amount of effort needed)	2	4.65	3	4.29	0	0.00	4.47
Lack of writing skills	3	6.98	5	7.14	0	0.00	7.06
Lack of technical skills	3	6.98	7	10.00	0	0.00	8.49
Selfishness and free riding	1	2.33	5	7.14	1	16.67	4.73
Lack of awareness	8	18.60	13	18.57	0	0.00	18.59
Vandalism	2	4.65	2	2.86	0	0.00	3.75
Copy left	1	2.33	3	4.29	0	0.00	3.31
Lack of recognition	1	2.33	0	0.00	1	16.67	1.16
Effort is useless	1	2.33	2	2.86	0	0.00	2.59
Lack of valuing knowledge and information sharing	6	13.95	8	11.43	1	16.67	12.69
Lack of valuing voluntarism	0	0.00	5	7.14	0	0.00	3.57
No reward	0	0.00	5	7.14	0	0.00	3.57
Lack of confidence	1	2.33	5	7.14	1	16.67	4.73
Poor quality	3	6.98	1	1.43	0	0.00	4.20
Time constraint	1	2.33	3	4.29	1	16.67	3.31
Other interests	2	4.65	0	0.00	0	0.00	2.33
Other barriers (including laziness)	4	9.30	3	4.29	1	16.67	6.79
Infrastructure and digital barriers	4	9.30	0	0.00	0	0.00	4.65
Total	43	100.00	70	100.00	6	100.00	100.00

1 Frequencies (Freq.) and percentages (%): Percentages were calculated based on the total frequencies of each cultural group.

2 Since participants from the Indian culture were very small in number compared with participants from Arabic and Anglo cultures, their responses were excluded from the calculation of Relative Percentages. Relative Percentage was calculated from the percentages of Arabic and Anglo cultures combined.

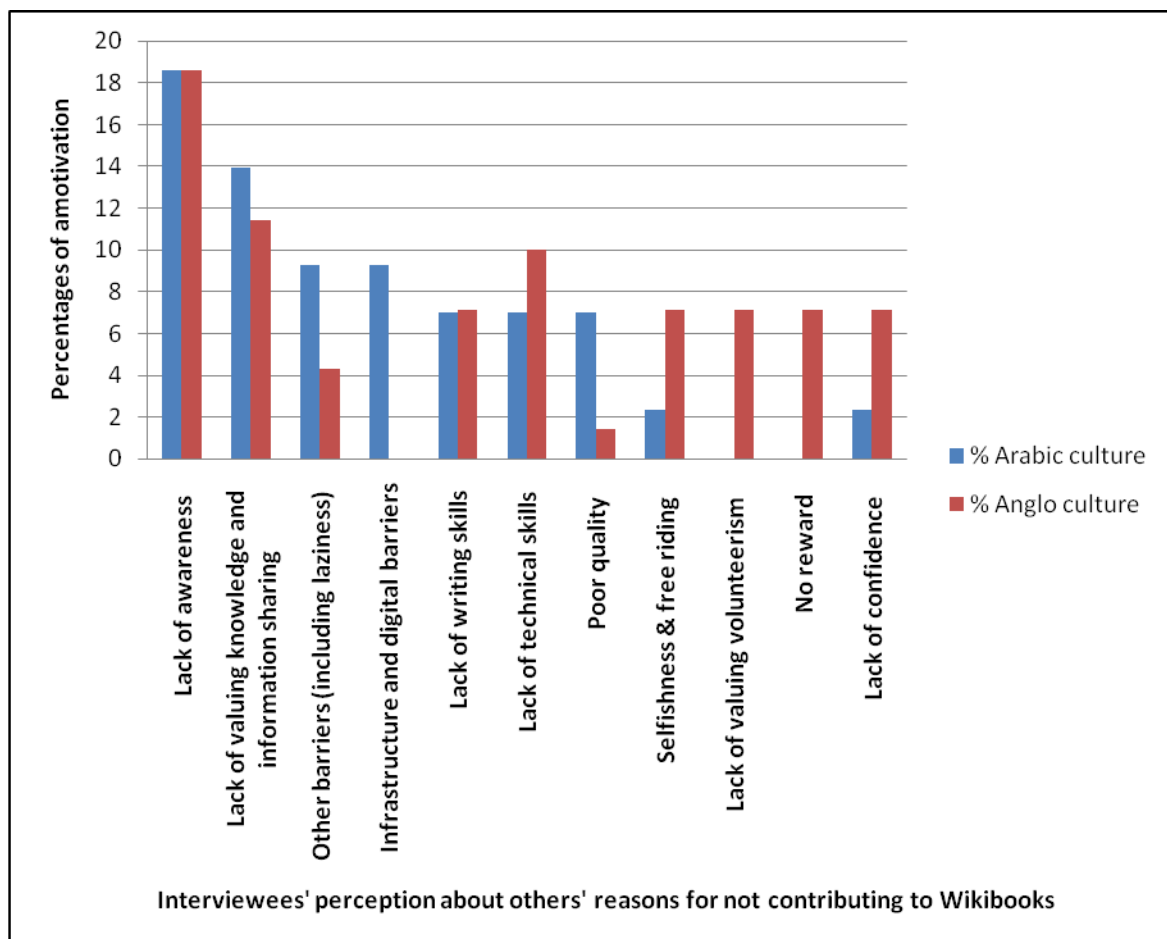


Figure 24: Percentages of significant reasons for non-contribution to Wikibooks (or effort reduction) according to interviewees' perception about others

To summarise the significant reasons for contribution (approach) and reasons for non-contribution / effort reduction (avoidance), reported in detail in Table 72, Table 74, Table 75 and Table 76, Table 77 illustrates these reasons, giving the *crude* percentages for each of these significant reasons:

Table 77: Highest percentages of reasons for contribution (approach) and non-contribution (avoidance) to Wikibooks according to interviewees' perception of themselves and others

Approach motivations							
Arabic interviewees				Anglo interviewees			
Their motivations		Their perception of others' motivation		Their motivations		Their perception of others' motivation	
Information sharing	17.67	Learning	40.00	Information sharing	16.15	Information sharing	24.39
Obligation	15.89	Information sharing	20.00	Learning (including writing skills)	13.53	Learning	21.95
Problem solving	09.35	Recognition	10.00	Enhancement	09.38	Recognition (includes displaying expertise)	14.64
Enhancement	07.48	Enhancement	10.00	Recognition	07.81	Enhancement	10.00
Value of knowledge	06.54	Value of knowledge	10.00	Enjoyment	06.77	Enjoyment	07.32
		Publishing	10.00			Increasing the quality	07.32

Avoidance motivation							
Arabic interviewees				Anglo interviewees			
Their motivations		Their perception of others' motivation		Their motivations		Their perception of others' motivation	
Other interests	25.49	Lack of awareness	18.60	Lack of confidence	24.24	Lack of awareness	18.57
Responsibilities and time constraints	17.65	Lack of value knowledge and information sharing	13.93	Technical difficulties	24.24	Lack of value of knowledge and information sharing	11.43
Selfishness and free-riding	13.73	Infrastructure and technical barriers	09.30	Effort considered useless	12.12	Lack of technical skills	10.00
Technical difficulties	11.76	Other barriers (including laziness)	09.30	Responsibilities and time constraints	09.09	Lack of confidence	07.14
Lack of confidence (including lack of knowledge)	09.80	Lack of writing skills	06.98	Other interests	06.06	Lack of writing skills	07.14
		Lack of technical skills	06.98			Lack of commitment to value of volunteering	07.14
		Poor quality	06.98			No rewards	07.14

A close inspection of Table 77 indicates that comparison between how interviewees see their motivation reasons (approach), or amotivation reasons (avoidance), and how they see others' reasons for approach and avoidance do not reveal much difference. While information sharing was acknowledged as a reason for contribution for Arabic and Anglo Wikibookians, Arabic Wikibookians showed obligation as a reason for their contribution to Wikibooks, and Anglo participants show the desire for learning as a reason for contribution. As discussed in a preceding section, this suggests that while Anglo contributors share information as a protective behaviour, Arabic contributors share their information as a defensive behaviour. While lack of awareness appeared to be a reason for both Arabic participants and Anglo participants that hinder people from contribution, Arabic participants have other interests and social responsibilities, and Anglo participants do not contribute when they lack knowledge or facing technical difficulties.

Subject preference among Wikibookians

Reasons for contributing and non-contributing identified through interview analysis show different rankings for contributing and not-contributing to Wikibooks for the two samples (Anglo group and Arabic group). There is, for instance, a clear cultural orientation in topics that Wikibookians prefer to read and/or write about.

Subject preference among Anglo Wikibookians

Among Wikibooks users from Anglo cultures, most users read and write about topics relating to their own interests and their educational background. However, hard sciences are dominant. Information technology subjects have the first level of preference (interviewees Adrian, Philip, Ronald, Roy, Steve, Susan). However, Anglo users have a wider range of reading/writing interests than Arabic users. They read and/or write about history and culture (Clinton; Mark); fiction (interviewee Steve); maths (Mark); languages (Mark); religion (Mark); cooking (interviewee Susan); water safety (Roy) and first aid and hearing science (Roy); while others make minor contributions and do proof-reading on different topics (interviewee David; Nikos). Not only do Anglo users cover different subjects of interest, but some of them have several different subjects.

Subject preference among Arabic Wikibookians

Wikibooks users from Arabic culture predominantly read and/or write about the history of civilisation (Abdul, Aziz, Bilal, Faraj, Omar); and even when they read and/or write in other fields, these mainly relate to social sciences. Such fields include religion (Essam; Omar), education (Ali; Omar), and politics (Essam; Omar). A few contribute to hard sciences, including health sciences (Ahmed) and communication engineering (interviewee Chaaban). It appears that Arab users see a role in Wikibooks authoring for fostering the preservation of cultural knowledge, rather than for following up issues of direct personal interest.

As demonstrated above, there are cultural differences in topic preference. While Anglo participants prefer a wide range of topics, their education impacts upon their preference, especially those studying hard sciences, Arabic contributors prefer social sciences, regardless of their educational background.

Voices of Wikibookians seeking Wikibooks development and promotion

Reasons for contributing and not contributing can be identified through interview analysis. Suggestions for promoting Wikibooks and developing its technical features cannot be separated from users' reasons for contributing and not-contributing to Wikibooks, since these are motivating factors for many active contributors. Although Table 71 presents some recommendations that could help address technical problems, this section highlights the technical problems that users report and their suggested solutions. Other issues include a lack of awareness of Wikibooks as a problem that can result in lack of contribution. Users also suggested different ways to socially promote Wikibooks itself and user contribution to Wikibooks.

To increase contribution to Wikibooks website, and indeed to any other open educational resources, more attention must be given to users' motivation for contributing to Wikibooks. Although the first motivation to write to Wikibooks appears

to be simply sharing information with others and helping others to learn, users also want to benefit from their efforts and time in contributing. Enhancement, recognition, problem solving, developing writing skills and maximising their career opportunities are all important factors. Although some report feelings of obligation towards their community, this obligation can also be driven by the desire to solve social issues. Moreover, neither the desire to obtain information freedom nor the desire for knowledge is meaningful without the desire to learn and/or share information with others. Reasons for contributing to Wikibooks can be reduced to learning (including developing writing skills), sharing information (whether due to the desire to help others to learn, feelings of obligation to solve societal problems, or valuing freedom of information and knowledge); solving personal problems (such as loneliness or building a career future), and finally enhancing feelings of pride and achievement.

Messages promoting contribution in Wikibooks' home pages and advertisements need to address these reasons for contributing to Wikibooks, but should also address the cultural orientation of topic preferences, and the ranking of these reasons for each culture.

For English version of Wikibooks, messages could be:

Be proactive and learn by sharing knowledge

Maximise your understanding by sharing knowledge

Your contributions will get you recognised

Enjoy your free time in useful discussions with others.

There is no need for any of these messages to stress a specific subject, since Anglo participants are motivated by their personal interests, so that there is wide variation in topic choice.

Unlike Anglo users, motivated by enhancement, learning and recognition, Arabic individuals report being motivated more by the feeling of obligation towards their community and culture, and to solve societal problems. Perhaps this is why most Arabic interviewees, whether readers or writers to Wikibooks are interested in the history of

civilisation and religion, seeking clues to solve the many problems in their everyday reality. Most Arabic participants consider Islam (the dominant religion) part of the state; and consider that when they were socially and politically ruled by Islam, they had a powerful civilisation. Even those who read and/or write about education, politics, and human rights, reflect on Islamic and Arabic values.

Therefore, to persuade Arab people to contribute, advertisements should address both social obligation and cultural problem-solving within the fields of their preference. These messages include:

Your contribution supports the human right to education

Your contribution makes education better

Knowledge is the core of civilisation

With science and knowledge, we can advance our Arab communities

Although the interviewees mention that sharing information and helping others to learn is the main reason motivating them to contribute to OER, it appears that learning itself is not one of their main reasons for contribution. However, interviewees from both Arabic culture and Anglo culture agree that others (from their own culture) may contribute because they want to learn, to help others to learn, to enhance their ego, and to get recognition. Therefore, messages to potential users should also address the rewards they might obtain from contribution (learning new knowledge, ego-enhancement, and recognition) when they contribute to OER. Thus, messages could offer the following:

Learn new knowledge and skills by sharing information

The knowledge you contribute helps others to learn

You cannot be recognised as a professional writer without sharing your writing.

Knowing what motivates individuals may lead to higher contribution, but understanding the barriers and issues that hinder contribution or reduce contributors' efforts may also help in maximising contribution. Interview analysis reveals that both technical difficulties and lack of confidence have great impact upon user motivation, reducing or even blocking their contributions. Other significant reasons for non-contribution may exist beyond the domain of OER projects: while some users have personal leisure and interests that distract them from contribution, others have business and social responsibilities.

While other interests and social responsibilities were more significant barriers than technical difficulties and lack of confidence among Arabic interviewees, lack of confidence and technical difficulties were higher than responsibilities and other interests with Anglo interviewees. But, both Arab and Anglo interviewees mention that laziness contributes to their lack of interest in contributing to OER. Moreover, both Arab and Anglo interviewees stress that both lack of awareness and lack of commitment to values of knowledge and information sharing are the highest factors in non-contribution of others within their societies. Individuals from both Arab and Anglo cultures argue that lack of writing skills may also hinder others within their societies from contribution.

Arabic interviewees point out that other people within their societies may not contribute, due to technical barriers relating to digital infrastructure, equipment, or negative social norms and access restrictions within their societies and schools. Anglo interviewees point out that in their societies, members may not contribute because of their personal lack of technical skills (which may include writing skills, as discussed earlier in this chapter).

It can be concluded that lack of awareness, technical difficulties/skills/barriers, lack of confidence, and failure to value knowledge contribute to amotivation and a reduction in contributions to Wikibooks. Both lack of confidence and failure to value knowledge can be considered factors in the lack of awareness, as discussed in the following section. Thus, this section focuses on both lack of awareness and technical difficulties revealed

by interviewees. To attend to these more complex views, this section moves away from data categorisation, to interpret the cultural features influencing motivation.

Lack of awareness and building awareness

In Anglo regions

The significant players in motivating users of open educational resources are schools and teachers within schools: engaging students in open content has positive impact upon students and develops their lifelong learning skills. For example, in the interview online Adrian mentions that ‘Although they haven't used wikis as part of our learning or teaching activities, one of the classes [he] had in the past had [them] use blogger [sic] to share our different reviews of science fiction movies’ (Adrian). The ‘classes, that have made use of Wikibooks, have usually done so without any problems’ (Adrian). In his experience ‘most contributors to Wikibooks are students who are writing on material that they are currently learning in school’ (Adrian).

The use of wikis and Wikibooks has great benefits for a range of people:

- ‘It improves my ability to interact with others’ (Adrian).
- ‘I also gain skill in writing through being critiqued and corrected by other editors’ (Steve).
- ‘I personally find the information in them [wikis] useful, especially because many of the terms used in my field are "unGooglable" and wiki disambiguation pages help to give me enough contexts to get more information’ (Ronald).
- ‘I do enjoy it. As to what sort, friendly arguments with other writers, at the social level, but I suspect that a lot of them want to show off ("Look what I know! & Look how well I can write!")’ (Steve).
- ‘Contributing to Wikibooks is a lot easier than writing for an academic journal’ (Roy).

- 'I've learned a lot about how to structure textbooks, and how to write for a specific audience more effectively' (Roy).
- 'It is actually a good learning tool for me as a writer' (Roy).
- 'Being social with other contributors, gaining respect in the community, creating something useful for other people' (Roy).
- 'I feel great to be able to contribute. You know, helping others gain usefulness by getting to a similar level of understanding' (Philip).
- 'I do enjoy discussing with others about issues relating to contributions. Sometimes the details about certain techniques can become quite tricky, and it's great to be able to come to a common consensus regarding misunderstood issues' (Philip).
- 'What I'm looking for is achievement' (Philip).
- 'I've learned a lot about how to structure textbooks, and how to write for a specific audience more effectively'... 'Textbooks are educational, and have quite a different style of writing. I suppose I must have learned something, since I'm being considered for a job as a technical writer' (Roy).

But those who contribute to Wikibooks are also aware that their contributions are helpful for others, and contribute to helping their understanding and solving their problems:

- 'I would think financially disadvantaged students might [take advantage of Wikibooks] at this point, simply because the project has not fully matured and might not be seen as reliable by everyone out there. However, I'd like to think that anyone who has become frustrated by the high cost of textbooks would be interested in Wikibooks' (Adrian).
- 'Poor people can use Wikibooks resources as long as they have access to them and are curious about the subject' (Ronald).
- 'I think the creation of free curriculum for the future is critical' (David).
- 'The *'free knowledge'* dimension of things is why I care. Information should be free' (David).

- ‘A child in a country which has limited resources should be allowed and empowered to learn maths, geography, and languages. Nothing should prevent a child from drinking from the fountain of knowledge’ (David).
- ‘Knowledge should always be free as well as a continuous collaboration of different ways of thinking, different minds. It should also be able to evolve rapidly’ (Nikos).
- ‘I believe projects such as Wikimedia Foundation even if they eventually cease to exist will always have a strong impact on the Earth people's way of thinking. Looking forward to the next generation of the Net ☺ May Knowledge always be free!’ (Nikos).
- ‘Sharing information is a very important aspect these days’ (Clinton).
- ‘I think my views, [the basis of contribution] would be humanitarian and philosophical, the "knowledge should be free" argument’ (Clinton).
- ‘Helping others gain usefulness by getting to a similar level of understanding’ (Philip).
- ‘The thing about Wikibooks is that it is free to its users. Giving freely, as they are, the contributors are more likely to give it a decent job’ (Steve).
- If it was a case of paying users to contribute to Wikibooks ‘paying for contributions would tend to attract that level of contributors to the project. As such, I feel that paying contributors both makes the generation of content more expensive, and cheapens the end result, at the same time’ (Steve).
- ‘I also hope it helps education’ (Mark).
- ‘People contribute to Wikibooks because they want to keep articles they are interested in, accurate’ (Mark).
- ‘I hope one day most textbooks in schools are copy-lefted’ (Mark).
- ‘By collaborating with each other, we can create a lot of great things’ (Roy).

There are advantages of Open Educational Resources in general, and Wikibooks in particular. These advantages include rewards for those who contribute to the content, and for the community, which becomes more knowledgeable and enjoys free access to knowledge. Therefore, when designing any open content learning activities OCLA, consideration should be given to the playfulness of learning activities, as well as the sense of reward that any participant may get. However, while not all individuals know

about open educational resources, others simply do not support them. Schools in particular seem to have a lack of understanding of the usefulness of this wiki tool for collaboration and information sharing:

- ‘University professors can make students produce work on Wikibooks as projects for their own [use,] instead of worthless papers in drawers’ (David).
- ‘Editorship can be increased through university advocacy of improving texts. Students who are doing ‘term papers’ and ‘projects’, if they can do that on Wikibooks, would be marvellous. Look at what MIT (*Massachusetts Institute of Technology*) has done with sharing its curriculum’ (David).
- ‘Education students in university in particular; you develop curriculum projects for a grad student. Why not sharing them or revising them? The wiki way works. University professors need to get up to speed’ (David).
- ‘School districts have to spend a lot of dollars to buy books each year, under long term contracts that are hard to break, because they have been approved for curriculum. That is the big challenge and barrier for Wikibooks adoption by schools’ (David).
- ‘As a faculty brat, I’m all in favour of helping out students’ (Steve).
- ‘I’m simply hoping that more universities see open texts as a reasonable source of textbooks that students don’t have to pay huge prices for. Textbook prices are plain ridiculous’ (Steve).
- ‘Simply, more university professors have to become aware that they exist, and that they are generally of decent quality. A good start is the professors that actually have their classes write the textbook as they proceed through the year...’ (Steve).

It appears that wikis have benefits beyond learning purposes. Although Adrian argues that software developers do not take advantage of wikis in ‘technical documentation and tutorials for end users’ (Adrian), Susan works for a software company that ‘wanted to make their software guide easily available and updatable’ (Susan) through Wikibooks. They let users of software update the manual, and her role is to edit their contributions,

and to update it with information that responds to the frequently asked questions she receives as email-support person. She then creates a new PDF version of the manual.

There are some problems relating to awareness about Wikibooks. These problems require more ‘awareness programs’ by WMF, to let people know about Wikibooks, its objectives, benefits from sharing information, and some of rules of wiki functionality. Interviewees suggested some of the key practices that WMF in particular and Wikibooks in specific can adopt to promote their website and contribute to its content.

- ‘Sometimes there is a confusion between Wikibooks and Wikiversity, in that occasionally something that would be good at Wikiversity ends up at Wikibooks instead’ (Adrian).
- ‘We sometimes have problems with people "owning" books and not wanting others to edit them considerably, as they feel like they were the author and produced a masterpiece that should continue to stand for all time. That position is not in alignment with the wiki concept where collaboration and contribution by more than one person [are] allowed and made possible’ ... ‘Some people have asked us for ways to protect pages such that nobody but them can make changes, not understanding that such protection is not technically possible with the way the software is designed’ (Adrian).
- ‘I think there is also an organization maybe affiliated with *Wikimedia* that prints Wikibooks (*lack of awareness that Wikibooks is a WMF project*) (Mark).

Although some interviewees provide evidence that there is lack of awareness about Wikibooks as a WMF project and in relation to its objectives, other mention ways to develop awareness about wikis for learning purposes and Wikibooks, which would lead to greater traffic for Wikibooks, and perhaps more contribution.

- ‘I would like to see greater visibility of links to Wikibooks on related Wikipedia pages. Greater success within the entire Wikimedia family could be had if the Foundation used the success of Wikipedia to its advantage in promoting the other projects’ (Adrian).
- ‘When I give speeches about it, I feature the work done on Wikibooks as a

cornerstone of the future of Wikimedia Foundation projects' (David).

- 'Wikimedia Foundation needs to be a stronger leader in pushing educational initiatives for text creation and sharing' (David).
- 'I had no trouble with using the wiki on Wikibooks. There has been lots of experience with Wikipedia and other community contributions before Wikibooks' (Philip).
- 'Wikibooks is not well-known. I find it incredibly frustrating that the Wikimedia Foundation doesn't really promote or focus on the project more' (Roy).
- 'People like to have self-gratification; and the lower profile of Wikibooks as compared to Wikipedia makes some think few will see what they contribute, so they don't bother. There is also a smaller project-wide community, so people might not feel like part of a larger whole working toward a unified goal, like at Wikipedia where the whole project is one encyclopaedia' (Adrian).
- 'I started at Wikipedia, but I didn't enjoy that very much, and then I found Wikibooks. So it is really because Wikipedia was successful, I guess' (Roy).
- 'More attention and interfacing with the 'mainstream' educational universe' (David).
- 'I hope that [Wikibooks] will have much better name recognition and popularity, especially in universities, in the Western world' (Roy).
- 'We can encourage others by mentioning/explaining the value of cooperation and by mentioning the Wikibooks site to them. Also one could mention a book that might interest someone' (Mark).
- 'With a place like Wikibooks, it comes down to how the community feel about things, which commonly allows and accepts things of a lower standard' (Philip).
- 'Greater awareness of the project, and perhaps an outreach to the academic community, perhaps in an editorial role' (Clinton).
- 'Many instructors will not accept [Wikibooks] because it isn't peer-reviewed. If there were more involvement from the academic community I feel that would change some opinions' (Clinton).

As reported above, while some participants only identified issues that demonstrate their lack of awareness, others were able to provide solutions, from their point of view, to deal with these issues. However, addressing those issues is a problem in itself. For example, to outreach OCER to the academic community, awareness programs should

address the usefulness of these OCER for the academic themselves, before they are able to be convinced enough to inspire their students, or even to take part in the peer-review process.

In Arab regions

Arabic Wikibooks 'is still quite young' compared to the successful Wikipedia (Ahmed). Wikibooks is 'very poor and needs a lot of work which one man cannot do' (Ahmed). This suggests, as Ali argues, that not many users know about Wikibooks. Thus, 'advertisements and creating the awareness are needed' (Ali) since 'publicity is magic' (Ahmed). This publicity 'can be done through small workshops in universities, for example, along with some media coverage' (Ahmed). It also 'can be done through the promotion of the site in newspapers, magazines and television and through the Internet' (interviewee Faraj). Faraj also suggests that publicity 'can be through notifying friends and relatives about this site or through the distribution of leaflets in the streets' (Faraj).

Questions such as 'Can I write what I want on Wikibooks?' (Ali), 'I saw "*Edit*" at the end of any subject. But I want to write a new subject. But, how can I do that?' (Ali), and 'It is difficult to find out how and where to start writing' (Aziz) show that misunderstanding is common when it comes to contribution to Wikibooks. Such problems indicate that there is a need to create awareness about how and what to write. But before creating such awareness, there is a need to create public awareness. Moreover, these questions indicate that users may not have accessed and read the help documentation, whether this is because they do not know that there is a help function they can use, or because they find it difficult to read and understand.

It appears that Arabic participants write to Wikibooks mostly about subjects relating to the history of their civilisations, Islam, human rights, and politics. They feel obligated towards their society and the world, and seek to provide accurate and complete information about these topics to advance their communities (Ahmed, Abdul, Ali, Aziz, Essam, Faraj, and Omar). Examples include the following:

- ‘I feel obliged to write [about] infectious diseases’ (Ahmed).
- ‘Algerian culture suffers from a significant deterioration in front of secularisation, and all what is left of it is just a lie on TV’... Abdul ‘will write about Algeria’s history in Arabic without lies (the real history) because history is the record for humanity’ (Abdul).
- Aziz contributes because he found some articles with information which was incorrect or incomplete. He wants people to know the correct and complete information; and then believes that God will reward him because he wants good for people.
- Essam decided to write because he sees many problems in Egypt and other Arab countries, so by writing he is trying to play a role in helping people by encouraging them to think clearly, so they can solve their problems and have a better life.
- If Faraj contributes, he will write about the history of the Prophet Muhammad, because he wants to defeat silence [over] ‘the Prophet of mercy and love’.
- Omar writes (in Arabic) about Islam to correct what he sees as inaccuracies in the West’s view and their misunderstanding of Islam: Islam he regards as a religion promoting peace for all.
- Omar writes about education because he believes that education is the foundation of civilisation, and with education humans can avoid ignorance, and violence.

Despite the range of topics behind contribution, there appears to be widespread confusion between Wikipedia articles and Wikibooks texts. For example, Faraj considers that Wikibooks and Wikipedia ‘are the same’ (Faraj). Aziz, too, wonders ‘are

there any differences between Wikipedia and Wikibooks?’ (Aziz). Both Ahmed and Bilal extensively write for Wikipedia.

Some Arabic users are not aware of the nature of open content. Ahmed reports that ‘[he] personally know[s] many authors, who want to publish their work, but don't want their texts to be edited by some irresponsible users’. Furthermore, others have mentioned to him that they are not satisfied because ‘they are not having credit for their work’ (Ahmed); and hence Ahmed suggests that a new policy be introduced into Wikibooks that allows users to add PDF files of their books. This suggests a lack of awareness about the nature of collaborative activities in Wikibooks. When attempting to understand such evidence of lack of awareness, it can be argued that the educational system contributes to such an issue, as reported below.

Education systems and schools play a significant role in easing access to open educational materials. For example, Ali mentions that his school does not support the use of ICT and wikis in learning and teaching activities (Ali). Moreover, ‘wikis are being used in teachers’ training programs with Intel but they do not go into the depth of it’ (Ali). Thus Ali suggests that ‘expanding these sessions will be useful. Adding this subject “wiki” in teachers’ training will [act as a] support’ (Ali). This suggests that even with the implementation of procedures to deal with lack of awareness, such procedures are not sufficient to inspire teachers by letting them know about the benefits of wikis in their educational practice.

Contributors appear to believe that once teachers are trained to use wikis, and have the chance to encourage their students to contribute to open educational resources, providing schools/homes are equipped with PCs and connected to the internet, students will contribute. For example, Ahmed (anecdotally) thinks that ‘many university students are willing to work with it if they know how; and I think this is the case for many people. Having their name as contributors (without having it copyrighted for them) will encourage many writers to publish their books as open resources’ (Ahmed). This also

suggests that both recognition and publishing would motivate students to write for OER. Writing for Wikibooks and discussing topics allow students to ‘learn and gain more experience’ (Chaaban). This suggests that participants in Wikibooks, or perhaps any OCLA, want to be rewarded for their efforts; and such rewards vary just as individuals vary. These rewards include not only the sense of learning, but also opportunities for peer recognition and international publishing. Therefore, in creating awareness and publicity for these kinds of projects, providers should give attention to benefits that individuals would gain from their contributions.

Technical difficulties and technical solutions

In Anglo regions

Technical issues play a significant role in contribution to Wikibooks. Adrian, a Wikibooks’ administrator, mentions that ‘most problems [he] received were technical’ (Adrian). He asserts, like any general new Wikibooks user, that the ‘syntax used in a wiki to produce formatted output can be difficult to learn. It’s almost like trying to learn HTML for creating webpages’ (Adrian). As Mark points out, ‘there are a lot of things you can do in a word processor and not in HTML or WTML, which [are] not easy for newcomers to administer’ (Mark). Mark stresses that ‘there should be a word-processor type of interface for editing/making the books’ (Mark).

Moreover, ‘WYSIWYG [What You See Is What You Get] tends to become What You Want is What You Do Not Get easily’ (Ronald). Ronald also suggests that editing tools are primitive and do not satisfy users. Although ‘the wiki editor has been somewhat improved’ (Steve) and is ‘intuitive and easy to use’ (Clinton), there are still people who ‘hope [to] have better editing tools that are focused on editing textbooks’ (Roy). It is believed that ‘WYSIWYG is coming for MediaWiki ... [which] should be the mantra’ (David), as part of the Wikipedia Usability project (Roy). However, these editing tools are more suitable for Wikipedia than Wikibooks, which signals the need ‘to work on tools that are specific to Wikibooks and editing textbooks’ (Roy).

Help and assistance in editing are essential, especially for new-comers to Wikibooks. For example, Susan, ‘found it very counter-intuitive’ to find out how Wikibooks works (Susan). For those who ‘are new to Wikibooks and would like assistance in editing’ (Adrian), administrators usually provide help (Adrian, Susan, Philip, Roy). This is why when Clinton ‘asked for technical help, and the reply was relatively prompt and useful’ (Clinton), there was not ‘much trouble’ (Roy).

It appears that Wikibooks users ask for personal assistance from Wikibooks’ administrators because the help documentation section is not easy enough and/or not easily reachable by users. Adrian points out that ‘help pages are a bit out of date’ (Adrian). Perhaps this is why Adrian used help documentation presented by MediaWiki.org. Although there is ‘a book called "*Using Wikibooks*" that provides information on the processes used at the site’ (Adrian), users may not know about it, perhaps because there is no “help” link to this book. Although there are some users who read help documentation to know how to use and write to Wikibooks, other users were proactive and practise contribution by trial-and-error experience, examining how existing pages were written (Adrian).

One of the main technical issues in open content is vandalism (Adrian). Steve argued that ‘the current techniques in Wikibooks, with validated revisions being the immediately visible ones for most users, and the vandal protections in place, seem to cover everything [he] could think of’ (Steve). Philip also argued that ‘Wikibooks can be improved by having some kind of issue tracking system’ (Philip).

Another technical issue is a table of contents (ToC). Users usually care about a ToC (David). Wikibooks needs to have tools to make creating and editing ToC easier (David). For example, Mark sheds light on how ‘some Wikibooks do not let [users] edit the TOC’ (Mark). The interface of English Wikibooks is ‘intuitive’ (Clinton) and ‘one of the best *Wikimedia* ones and it works very well’ (Mark).

What these comments reveal, is a user-base ready to take responsibility for organising, and even developing, its system. This is not however the case for all categories of user. However, it seems that support and help can provide solutions to issues such as lack of confidence to start writing and also issues relating to the writing processes, such as organising ToC or writing to and editing the contents. Such help should be up-to-date and also readable for different users according to their language. Although the language of documentation and help has not been addressed at length in this study, it is argued that any written work should be undertaken in the language of the target audience.

In Arab regions

It appears that contribution to Arabic Wikibooks is minimal not only because of the lack of awareness, reported earlier, but also because of a lack of and/or restriction on internet access, although there is no problem of availability of PCs. Although Essam mentions that he has no technical difficulties, this is not the opinion of others. Abdul suggests that ‘contributions be increased by expanding the internet coverage’ (Abdul). He continues to explain that ‘all schools and universities [in Algeria] are equipped with PCs but they are not connected to the internet’ (Abdul). Similarly in Egypt, ‘most computer labs are not connected to the internet’ (interviewee Omar). This situation is not very different from Saudi Arabia. In Saudi Arabia, ‘students have the PCs that are connected to the internet but they do not allow access to them’ (Omar).

Sometimes the computer laboratory facilitators at schools are part of the problem. Omar, for example, mentions that ‘many PCs at schools [in Egypt] are not being used because lab facilitators do not permit students to use them because these PCs are considered as personal property’ (Omar). Economic barriers also play a significant role in hindering contribution. For example, Omar, as a teacher, stresses that ‘we live in villages [in Egypt] where many do not possess computers’ (Omar).

The table of contents of textbooks in the Wikibooks website ‘do not have good structures that can be used in schools. They need reorganisation’ (Omar). Ahmed explains that structures of contents are ‘more likely to be for extended articles rather than textbooks’ (Ahmed).

It can be concluded then that technical issues are different in Arab regions from those in Anglo regions. Anglo participants seem to be experienced in using wikis and interact with Wikibooks to create and reshape content; these kinds of interaction with wikis have raised issues such as those relating to the ease of use of the Wiki WYSWYG editor. In other words, Anglo participants want their job to be made easier, especially while restructuring content (including ToC). Since they appear to be self-ICT-learners, they find that the help section requires more updating and it needs to be simple. Arabic participants struggle with other technical issues, more related to access restrictions and lack of digital literacy. For instance, although some schools are equipped with PCs, these PCs are not connected to the internet or students are not allowed to use them. Moreover, Arabic participants also claim that many, especially those economically disadvantaged and those who live in villages do not possess computers and thus have no access to OER. Therefore, technical issues relate more to digital infrastructure (which of course leads to degrees of digital illiteracy), for many users in Arab regions. This suggests that although the digital divide may contribute to the lack of contribution from Arabic individuals, issues relating to the social divide, where individuals are able to use computers and have access to the internet, but are not willing to contribute, should also be addressed. Again, programs that focus on dealing with lack of awareness and also providing solutions/tutorials for common technical difficulties, should focus on reasons behind inspiration in contribution to OCLA for different users, and meet their different needs.

Indian Interviewees

There were only three interviewees from India, and interviews with them were not so rich in useful data. These participants ended the interviews quickly, because they had other business. The data from these interviews presents Indian interviewees' experience with wikis and Wikibooks, and is presented in a separate section.

All three Indians interviewed are studying or are graduates from Engineering (interviewee Abha) or Information Technology (interviewees Das; Raj). They are aged between 20 and 30 years. The three Indians use Wikibooks for specific information related to their field of study (Abha, Das, and Raj).

While both Das, who '[has] not come across such situation' (Das), and Abha, who '[has] not thought about [contribution]' (Abha), do not write to Wikibooks because they have discovered the benefits of free-riding. Raj does not write to it because he '[does] not know how to write by [his] own in Wikibooks'. Raj clearly expresses the case of free-riding when he says 'I found the information more than I want. I just copied the information' (interviewee Raj).

Raj also explains that he has 'little knowledge' (Raj). Similarly, Abha, who prefers reading and keeps his writing to himself, argues that 'it is only after a certain amount of reading that one should go to writing' (Abha). Das also holds quite similar reasons when he says 'I have not come across such [a] situation ... Situation of adding some valuable books to Wiki' (Das).

Both the lack of confidence and lack of awareness are issues for Abha. Abha explains that he does not contribute to Wikibooks because he ‘thought that only those with editor's privileges could contribute’ (Abha). The lack of awareness, as Abha argues, also is a factor that results in non-contribution to Wikibooks from Indians. Das explains that Indians do not write to Wikibooks ‘simply because of lack of awareness’ (Das); and people need to know that ‘this website is written collaboratively by volunteers around the world’ (Das). Das suggests that WMF ‘should have a dedicated branch’ in India and ‘pay ... those branch employees’ (Das); and then ‘it will be their responsibility under [WMF] guidance to increase the market capitalization’. In other words, this is seen as a business opportunity – a perspective in line with the ‘business’ commitment which produced low reporting levels to this research project from Indian participants.

In addition to the lack of awareness and lack of confidence, both lethargy and work pressure do not permit Abha to contribute to Wikibooks. Abha believes that people within Indian society do not contribute to Wikibooks because of ‘Work pressure, ignorance, lethargy, and limited internet access’ (Abha).

Both Abha and Raj use the English version of Wikibooks rather than their native languages because they are ‘quite comfortable in English’ (Abha); ‘most of the articles [they] like are in English’ (Abha); and their field is ‘better conveyed in English’ (Abha).

It appears then that the education system and schools ease the way to using ICT in learning practices. Teachers play a significant role in encouraging their students to use technology and online resources in learning. For example, Raj comments that ‘My professor suggested [I] read from Wikibooks to learn more when [I] asked him about LATEX. He asked me to search in Wikibooks’ (Raj). While Raj’s lecturer asked him to read from Wikibooks, it appears that the other Indian participants have no encouragement from their teachers to use ICT in their learning practices.

Regarding the structure of texts in Wikibooks, there is a clear difference between technical subjects and social science subjects. Abha explains that ‘regarding ...

technical topics, I think Wikibooks still has to improve a lot. However, the articles relating to great humanities are usually organized' (Abha).

It can be concluded that Indian participants ($N_{in} = 3$) provide a good example of free riding. None of them contribute to Wikibooks, and they use it only to obtain information. Indian participants appear to have a lack of awareness about not only the potential benefits of contribution, but also the notion and nature of open content. School teachers and university lecturers play a significant role in directing students to use ICT in their learning activities. Teachers and lecturers may be responsible for creating awareness about the nature of open educational resources, the need for collaborative work, and the benefits and advantages of these OER, especially those relating to free sources of educational materials.

Discussion

Simplistic generalisations and popular assumptions about cultural behaviour are mostly inaccurate (McCrae & Terracciano 2006). Current empirical research on such matters operates in the domain of cross-cultural social psychology. This domain is concerned with how culture and mind influence each other (Shweder 1991) in order to bridge macro-level ideology and micro-level experience (Cohen, HoshinoBrowne & Leung 2007). Although cross cultural psychology focuses on differences between cultural groups, it also seeks to identify what are considered psychological universals for people in different cultures (Bond 1988; Lonner & Adamopoulos 1997).

Before stereotyping cultures as either individualistic or collectivist, empirical research seeks to understand users' motivations; in this case, for contribution (or non-contribution) to open educational resources such as Wikibooks, considering dynamic interactions within their socio-cultural contexts. A universalist approach (an etic perspective) to understanding human behaviour and motivation is not enough; and interviews study depends on relativist approaches (an emic perspective) to understand

Wikibooks users' motivations within the complexity of the context of culture. It is impossible to understand an individual's motivation without understanding their context in which they live (Eccles & Wigfield 2002).

In the second part of this chapter, a qualitative analysis of the interviews is reported. This analysis differs from the analysis used in Chapter 8 and Chapter 9 – the questionnaires, where quantitative techniques were used to explore motivation for contributing and not contributing to Wikibooks. This quantitative analysis attempted to uncover motivation for (non-) contribution at the macro level. Hustinx *et al.* (2010b), in their quantitative research, found that motivation to volunteer differs across countries. The results reported in Chapter 8 and Chapter 9 also found that there are statistically significant differences between cultures in relation to measures of motivation to volunteer.

The results of quantitative analysis, undertaken in Chapter 8 and Chapter 9 have revealed that the factors behind motivation are distributed to a large extent, according to the proposed model. The analysis also reveals that there are cultural differences between the three samples in relation to motivation. The results further reveal that teachers play a significant role, impacting upon the past experience of Wikibooks users, creating a readiness to accept and interact with electronic resources and activities in general. The level of ICT equipment in schools for instance contributes to the users' readiness to interact with open learning resources. These results indicate that both cultures and education systems play significant roles in users' orientation to open educational resources in general, and Wikibooks in particular, including the choices of approaching contribution or avoiding it. However, it remains unclear how education systems and cultures (individualist or collectivist values) impact upon motivation. Moreover, the reason such differences occurred also needed to be explored further. For example, while education systems in Anglo countries are more advanced with ICT equipment, more older participants are engaged in Wikibooks than younger participants; and at the same time, younger participants are engaged more in wiki activities than older participants in Arabic countries. This needs further exploration.

Over the last few years, ICT have been used in education (van der Wende & Beerkens 1999; Yu, Yu & Lin 2010). Governments have allocated resources to make ICT accessible for students and staff in educational institutions, and to provide training to teachers in order to engage ICT tools in curriculum to support learning and teaching processes (Loveless & Dore 2002). Teachers are required to moderate student activities and to support their students toward collaboration outside classroom hours (Wheeler, Yeomans & Wheeler 2008).

Wikis facilitate collaboration and information sharing among learners (Bold 2006; Bruns & Humphreys 2005; Mindel & Verma 2006). They help develop writing skills (Kessler 2009; Lee & Bonk 2009; Wheeler & Wheeler 2009), and facilitate interaction (Augar, Raitman & Zhou 2004). Moreover, wikis allows instant revisions and feedback (Borja 2006), support reflective learning (Chen & Cannon 2006), and increase the efficiency of writing documents cooperatively (de Pedro *et al.* 2006a). Wikis also support collaborative storytelling skills (Désilets & Paquet 2005), as well as the positive transfer of information (Elgort 2007), and develop critical thinking skills (Kaufman 2008; Lamb & Johnson 2009). Therefore, more attention should be given to integrating wikis into learning and teaching activities in terms of curriculum design and teacher training. Teachers need to be aware when integrating wikis into learning activities that only a few students tend to contribute most posts to wikis (Meishar-Tal & Gorsky 2010).

Other problems derive from poorly designed curriculum and other issues including: 1) a lack of instructional scaffolding, 2) poor balance between the time cost and the benefits of improved learning and interests, and 3) failure to meet student expectations and their perception of fun (amongst their mates and friends) (Cole 2009). Wiki, as an emergent tool in education practices, may have the same concerns in relation to online education. Such concerns may include lack of pedagogical change, poor technical support, and lack of adequate course preparation (MacDonald *et al.* 2002). Educationists must be clear about the intended outcomes of the technology used and strive to make curricula that do not confuse technological interactivity with interactive learning (Cole 2009).

As online education can bring multiple cultures into one single educational platform (Harasim 2000), wikis can bring different learners from different cultural and ethnic backgrounds to work collaboratively on the same content. Moodle, which stands for Modular Object-Oriented Dynamic Learning Environment, is an open course web-based management system for delivering courses to promote social constructivist learning (Özkan 2010). For example, Moodle has been adopted in different educational institutions, such as the University of South Australia, and has a wiki functionality. Wikis enable students from different cultural backgrounds, especially in multicultural societies such as Australia, to work together to produce group reports. In addition to the benefits of using wikis in learning, as mentioned above, collaboration between students from different cultures is considered an additional benefit as it develops cultural understanding, communication skills, and develops inclusion and trust. Therefore, any open content learning activities theoretically, should consider individual and cultural differences – areas of interests that were further explored in this chapter.

Although there are significant findings from the quantitative analysis of the online questionnaire data, the picture remains unclear. Many respondents to the online questionnaire left the open ended questions unanswered, a common problem in surveys. Although the screen design of the web-based survey was carefully prepared and radio buttons were used instead of drop-down menus (Vicente & Reis 2010), the closed questions were also limited in terms of providing in-depth understanding. It is often argued that ‘statistical associations and statistical models can never be a sufficient basis for establishing causality and there is an increasing awareness of the need for theory to explain and underpin the results of quantitative analyses’ (Elliott 2006, p. 97). To help overcome this, interviews were conducted to explore motivations beyond the pre-identified reasons for contribution and non-contribution. More specifically, reasons for contribution and non-contribution have been identified through the review of literature as well as the content analysis of different OER websites. These reasons, although clustered in factors according to the proposed model to enable a more systematic comparison, were limited in identifying "unique" reasons for contribution and non-

contribution that are perhaps not shared amongst different cultures, and in explaining why such a reason played a significant role in motivation.

Research questions not answered by the results of the online questionnaire include the following:

- 1) Why do Arab individuals in the study appear to be more strongly motivated to contribute than Anglo individuals, while the current ratios of contributions to Wikibooks show that the number of articles (and users) in English Wikibooks are much higher than in Arabic Wikibooks?
- 2) What is the underlying explanation for the non-significant difference between the cultural groups in regard to the category ‘lack of confidence’?
- 3) Why do Arab Wikibookians tend to write in / read subjects related to social sciences more than subjects related to hard sciences while Anglo Wikibookians tend to write in / read subjects related to hard sciences rather than social sciences?
- 4) What may be other reasons for contribution and non-contribution that go beyond the pre-identified scaled online questionnaire items?
- 5) How do Wikibooks users see themselves and their societies?
- 6) How does the real differ from the ideal? In other words, are there any differences between ‘helping and sharing’ goals of contribution and reasons behind Wikibookians that motivate them to contribute?
- 7) How can elements of culture and context impact upon the perception of Wikibooks users about Wikibooks and other individuals in the society?
- 8) Why do Wikibooks users choose to read and write in specific subjects and not in other subjects? Does the context impact upon Wikibooks preferences and user motivation?
- 9) How do Wikibooks users see and report other individuals (whether those who contribute or those who do not contribute to Wikibooks) in their societies?
- 10) How do Wikibooks users see and report the technical aspects and difficulties of wikis and Wikibooks?

11) What do Wikibooks users suggest to increase the traffic and contribution to Wikibooks website?

The interview stage of the study furthers understanding of Wikibooks users' motivation and their perceptions about Wikibooks, individuals within their societies, their culture, and their education system. In addition, the interviews attempted to determine whether Wikibooks users face any technical difficulties, and how Wikibooks can be promoted to other potential users. Thus, and more specifically, the interviews attempt to find deeper and more detailed answers to research questions 1 to 11 above.

As discussed in Chapter 7 and briefly in the beginning of this chapter, the interview texts were subject to coding and categorising of participants' responses to the interview questions. Categorisation enabled some degree of quantification of the qualitative data. The distribution of interviewees' responses across the common categories (codes) is based on interpretation of interviewee statements, classified according to the literature on motivation in OSS, OCW, and OER, and the literature on psychological and sociological backgrounds to human motivation for volunteering in general, and in open educational resources in particular²⁹.

Peer validation helps to check whether interpretation of interview statements (including coding those statements) is consistent or not (Kvale 2007). In such research, if an independent interpreter is used, it is expected that they classify interview statements across the categories identified by the researcher; and then a comparison of categorisations is used to check the reliability of the analysis. Such a technique was not used in this interview study because there are some objections to this process. Different interpreters may find different meanings in the same interview (Kvale 1996). In other words, 'dissimilar interpretations of the same interview passages do occur' (Kvale 1996, p. 120). This objection, however, involves the view that it is possible to find only 'one' true meaning (Kvale 1996). In the post-modern modes of research, methodologists 'allow for a legitimate plurality of interpretations' (Kvale 1996, p. 120). If interpretations are to be accepted at all, then 'it becomes meaningless to pose strict

²⁹ This theoretical review took more than three years of research.

requirements of interpreter consensus' (Kvale 1996, p. 121). As Reis and Judd (2000) argue, interviewers who understand the coding system are in better position to create more meaningful probes. Since interviewers must be ready to acknowledge the limited reliability of semi-structured (and unstructured) interview data (Kaplan & Saccuzzo 2009), the interviews study did not depend on an independent interpreter. The comparative function of the cross-cultural analysis helps demonstrate the validity of coding.

There are, however, problems in relation to the self-selection of interview respondents. Since there is no clear website list for contributors/users to Wikibooks, there is a lack of basic data on the universal population. In other words, the full population of Wikibookians is unknown, and it is difficult to identify whether the current sample represents the population or not. But, since the respondents to the interview, from each culture, whether contributors or non-contributors, were recruited randomly to participate in the interviews, there is a greater chance that they might reflect the general population. Unlike developers of open source software, mainly from Western countries (see for example Lakhani & Wolf 2005a; Luthiger 2005; Robles *et al.* 2001) and mainly male (over 90%), and young (16-25 years old) (Ghosh 2005; Hars & Ou 2001; Hertel, Niedner & Herrmann 2003; Lakhani & Wolf 2005a; Luthiger 2005), so in Wikipedia (Nov 2007a), 45% of Anglo interviewees (5 out of 11 interviewees) were above 40, and 90% were male (10 out of 11).

This suggests that at the time of sampling, contribution to open content was easier than contribution to open source software, especially for people who do not have an information technology background or adequate ICT skills. In contrast, there was no female interviewee from either the Arab or Indian cultures, and all participants were young. This result suggests that there is a gender bias (masculinity) in contribution to open educational resources, especially in the earlier phases of take-up, still in progress in non-Anglo settings. Future research might explore reasons that impact upon female contribution to OCER by questioning females themselves; a question that was unanswered in this study.

The qualitative data analysis for these interviews suggests that culture impacts differently upon the motivation of individuals from different cultures, and this resulted in differences in reasons for their behaviour in contributing (approach) and not-contributing (avoidance) to Wikibooks.

With widespread research into approach and avoidance, this interviews study follows the call from Elliot and Thrash (2010) for more research, using additional methodological approaches, and involving recruitment of participants from different cultures. This interviews study aims to fill this gap in knowledge by using a qualitative approach to addressing approach and avoidance motivations across Anglo and Arabic cultures in relation to volunteering to open educational resources. This helps identify strategies that can aid in the design of tutorials and awareness programs that deal with promoting contribution and solving issues that hinder contribution, each according to the culture of a potential producer.

Research shows that there are obvious similarities between volunteering in physical organisations and volunteering to the Wikibooks website. Clary *et al.* (1998b) identified six volunteering motives: 1) Values; 2) Understanding; 3) Social; 4) Career; 5) Protective; and 6) Enhancement. The results of interviews analysis suggests similarities with Clary *et al.*'s (1998b) classifications of motives: information sharing, value of knowledge and increasing the quality of content (Values); learning and developing writing skills (Understanding); recognition and publishing (Career); enhancement (Enhancement); problem solving (Protective); and obligation (Social).

The largest percentage (as illustrated in Table 77) for both cultures (Anglo and Arabic) was information-sharing values (Values). While Arabic participants appeared to be motivated more by obligation (Social), Anglo participants were motivated more by learning (Understanding), enhancement (Enhancement) and recognition (Career). These results are consistent with Finkelstein's (2010) findings: collectivism has strong positive correlations with the Values and Social motives, while individualism is positively related to Career motives and had significant correlations with Values, Understanding,

and Enhancement motives. The high level of enhancement for both cultures (Anglo and Arabic) can be explained by the view that self-enhancement stems from a universal foundation (Heine 2005); so that even with the variations in self enhancement, it can be suggested that this occurs because of differences in self-representational norms, rather than genuine cultural differences (Hamamura 2008).

In the quantitative study, enjoyment appeared to be higher with Arabic participants in the online questionnaire than Anglo participants, while in the current qualitative study Anglo participants in the online interviews reveal their enjoyment of contribution to Wikibooks, even though this score was very low with Arabic participants. This can perhaps be explained by the suggestion that Westerners tend to express their happiness more than Easterners (Lu & Gilmour 2004). However, it is argued that enjoyment in any activity is a significant factor in sustaining an activity – especially if such an activity occurs on a voluntary basis. Furthermore, OCLA should meet the different needs of participants, and contribute to their personal development. These needs were seen to be different for individuals from different cultural backgrounds.

Inglehart (2003) argues that volunteers in wealthy countries are motivated by secular/rational values, while volunteers in poorer countries are motivated by more traditional values. This may help to explain why Anglo participants were motivated by rational motives such as learning, enhancement, and career while Arab participants reported being motivated by obligation and problem solving motives. While failing to prove that collectivist societies expect to help others, meet the expectations of in-group members, and sacrifice their personal interests for collective interests (Fijneman *et al.* 1996), the interview analysis supports the main arguments of Hofstede (2001) and Triandis (1995, 2001). This suggests that OCLA that are designed for individualist producers should make clear the different benefits that participants may gain from their participation, while for collectivist producers, OCLA should be designed to solve problems related to their communities. Although it can be argued that most OCLA are problem-solving based, the differences in the design of OCLA for each of the cultural groups depends on ways of presenting the rationale of such activities, as discussed below.

Hofstede (2001, p. 385) argues that ‘culture enters the motivation picture’ in the behaviors themselves that differ and in the explanations for behaviors that differ as well, even where behaviors are the same’. Consequently, Pfeil, Zaphiris and Ang (2006) find that the patterns of contribution to Dutch, French, German and Japanese Wikipedia websites differ: for example, they find that the higher the power distance of a country, the fewer delete actions are made; and the higher the individualism of a country, the less likely its people are to add or clarify information. This suggests that OCLA should be designed with more focus on specialised activities, such as clarification, polishing, and contributing new entries; and hence, an individual from a specific culture could choose the activity that best meets their values. However, future research should address such a claim.

It is not only the pattern of contribution that differs across cultures. Motives for contribution differ across cultures too. In the interviews study, Arabic individuals seem to be motivated by obligation more often than Anglo participants. This result is consistent with Hofstede’s position that nations of low individualism, like Arabic nations, are motivated by obligation to the in-group. Like Hofstede (2001), Batson, Ahmad and Tsang (2002) argue that volunteers may be motivated by collectivist motives to increase the welfare of their collective. This collectivism motive is similar to obligation in the current interviews study; a motive which strongly exists in Arab collectivist participants.

On the other hand, those from individualist societies tend to focus on ego, and act to avoid feelings of guilt and anxiety. This explains why participants from Anglo culture appear to focus on activities that enhance their ego. Participants from Anglo culture seem to enjoy wiki authoring more than participants from Arabic culture, and this result is also consistent with Hofstede’s (2001, p. 244) assertion that while individualists are motivated by enjoyment, collectivists are motivated by duty/obligation.

Since learning is seen as the responsibility of individuals in individualist and low power distance cultures (Hofstede 2001, p. 101), participants from Anglo culture seem to be more motivated than individuals from Arabic culture when it comes to online learning.

The value of freedom and the good use of free time are goals for individuals from individualist societies (Hofstede 2001, pp. 214-258) explaining why participants from Anglo culture placed higher percentages on the value of freedom and use of free time than participants from Arabic culture. It can be concluded, as van Emmerik *et al.* (2010) found that culture has moderating effects on societal levels of personality and acquired motives. In other words, people have different cultural paths to approach goals.

Not all of the results from interviews analysis are consistent with Hofstede's theory. Recognition, as a value for individuals from a high masculinity culture (Hofstede 2001) seems to contradict with the results of the interviews study. For example, participants from Arabic nations scored higher than most Anglo Western nations in the MAS dimension), but were lower than Anglo participants in their orientation toward contribution motivated by recognition. However, having found that both Arabic and most of the Anglo nations have high masculinity scores in the MAS dimension, which means that, to some extent, this result does not contradict Hofstede's findings.

The results also contradict Hofstede's (2001, p. 316) ideas that a problem-solving approach is negatively correlated with power distance (the higher the orientation toward problem solving, the lower the power distance). The results of the interviews study suggest that participants from Arabic nations (high power distance) score higher than participants from Anglo nations (low power distance) in problem solving approaches. However, it is also important to highlight that a very large proportion of those directed towards solving problems were dealing with problems in the societies of the participants. This is why individuals from Arabic nations express a commitment to and obligation for solving their society's problems. To some extent, problem solving can be regarded as a component of obligation – a motivational factor largely related to cultural context.

Despite the differences between cultural sources of behaviour, the individual is the final common pathway of those sources. It is significant to consider alternative values as the basis for exploring culture in relation to action, and to give more attention to similarities

that bind people together, rather than focusing only on differences between people and their cultures (Earley 2009).

Mental mechanisms adjust behaviours to accord with the cultures of the individuals concerned (Fiske 2008). The rational choice of a given behaviour depends on mental processes that can be classified into internal and external: for internalists, beliefs, desires, and preferences motivate behaviour, while for externalists, actions can be explained instrumentally (Aguiar & de Francisco 2009), but in either case, behaviour is a result of the interaction between oneself and society (Beck 2000). Participants in the interviews were not only motivated by enjoyment, the value of knowledge, voluntarism, and freedom, or helping others, but also contributed to Wikibooks for personal financial gain, career, enhancement, obligation, and recognition. Such a result is important when designing any OCLA, because it involves an assumption that any activity should suit different producers and meet their unique needs. Again, how such activities are designed and presented remains an area of interest for future research.

New social movements, as in the case of online collaboration on open educational resources, brought collective behaviour to the digital sphere (Melucci 1996) especially after the rise of a global network society (Castells 1996; Giddens 1990). These collective actions have also, however, brought conflict, as new forms of collective actions emerge. As Yang and Lai (2010) comment: there is a need to go beyond understanding the motivations of contributors to Wikipedia from only one cultural domain. These interviews aim to explore motivations for contributions to Wikibooks from two cultural backgrounds: native English speakers, and native Arabic speakers, in recognition of the need to explore motivation from more than one cultural perspective.

Through collaboration and contributing to open content, collectives establish constructive discussions, where learning is not just an individualistic effort any more, and sharing information becomes one of the norms that rule online collaborators. For example, in the discussion pages in Wikipedia (these also exist in Wikibooks), participants use these spaces to evaluate content, or to (dis)agree with other contributors, and so provide explanations of edits they have made (Achterman 2006).

This is a significant learning tool, as many of these Wikibooks contributors enjoy useful discussion about the content needed to achieve in-depth understanding.

Although it is believed that open educational resources can bridge the educational and digital divide, both within national boundaries, and between developed countries and less developed countries, there are some actions needed to reduce the cultural and social digital divide between learners and teachers (Lane 2009). Investment in education in general; and the equality of investment in different fields (social sciences, humanities, education, engineering sciences, and hard sciences) as well as well planned policies to reduce (digital) illiteracy rates in the Middle East and North Africa, are crucial (MENA Development Report 2008). OER, indeed, enable learner-learner interaction, learner-instructor interaction, and learner-content interaction (Hilton III *et al.* 2010). Lane (2009) argues that the attempts of teachers to mediate interactions between students and learning resources, too often ignore the wider social and cultural settings. Analyses of the interviews collected here show that there are minimum requirements to bridge the gap: 1) teachers themselves need to be technologically skilled; 2) teachers need to encourage learners and build their skills for lifelong learning; and 3) the education systems need to be ready for OER by developing appropriate curriculum and equipping schools with computers connected to the internet.

As Szczepanska, Bergquist and Ljungberg (2005) point out, the openness movement incorporates a relatively autonomous network of interactions, and with goal-oriented strategic planning of the collectives, the desired change can happen. However, strategic planning (with an adaptive methodology) must take into consideration the degree to which flexibility of planning is required (Castells 1992). Open, interactive, and learner-centered atmospheres enable students to express their thoughts, feelings and concerns (Chen & Jang 2010). This helps instructors / curriculum designers to understand and assess learners' needs. Although it is argued that both developing and developed countries have reached established positions in ICT policies (Whelan 2008), economic, social and cultural considerations still have to be taken into account (Tondeur, van Braak & Valcke 2007) when planning to integrate wikis into the curriculum. However, the current interview study revealed that the social divide may play more of a role in

hindering contribution than the digital divide. In other words, although many are able to use ICT, few are willing to participate actively in any OCLA. This means that some tutorials or documentation should focus on inspiring potential producers to engage more in OCER, by showing different benefits they would gain from their participation.

Many programmers to OSS believe in the value of software freedom (Stallman 1999). Similarly, many contributors to open educational resources expressed their beliefs and values in relation to freedom of knowledge and education for all, especially those from Anglo culture. While enjoyment was the highest motive for contribution to OSS (Lakhani & Wolf 2005a) and in open content webpages such as Wikipedia (Nov 2007b), which suggests most participants in their research were from developed Western nations, the Anglo participants in the online interviews were highly motivated by enjoyment, even if it did not score as high as enhancement, learning and value of knowledge.

Obligation to contribute to OSS, although not as high as enjoyment (or intellectually stimulation according to Lakhani & Wolf 2005a), was consistent with results revealed from the interview analysis of participants from Anglo culture. In contrast, interview participants from Arabic culture revealed that obligation was the strongest motivator for contribution to Wikibooks, while enjoyment was very much lower. This result is consistent with what Porac and Meindl (1982 cited in Wild & Enzle 2004) have argued that if people feel obliged to do a task, they are less intrinsically motivated than those who are motivated by interest, enjoyment and challenge.

Wikibookians' motivations appear unique. Motivations for participation to open source software and open content are different from each other. Oreg and Nov (2007) in their comparative study between motivations for participating in open source software projects and motivations to write to open content Wikipedia, found that there were differences in their ranking. While reputation building was the least reported in both contexts, self-development was the highest in the OSS context and altruism was the

highest in the Wikipedia context. For combined samples, however, the self-development motives score slightly higher than altruism.

The relative percentages, shown in Table 77, can be classified into their three motives. Similarly, the motivations found can also be classified into the motivations framework established by Wu, Gerlach and Young (2007): they found that participants believed that OSS development is instrumental (extrinsic) in their 1) career advancement; 2) enhancement of human capital; and 3) acquiring specialised software for their personal needs; while their satisfaction was dependent upon motivation to help (intrinsic). Indeed, peer recognition and helping others can play a significant role in motivation of OSS developers (Wu 2007). The extension of motivations framework adds a strength to the motivation theory, as it helps to specifically identify the most significant motivations as: 1) information sharing; 2) obligation; 3) enhancement; 4) value of knowledge; 5) problem solving; 6) enjoyment; 7) recognition; 8) learning; 9) value of freedom; and 10) writing skills. Identifying these different motivations helps promote participation in OCLA by elaborating more on the benefits that individuals may gain from their participation – each according to their needs. Again, designing the activities and messages that involve objectives should help meet the above motivations.

This order of the most significant motivations suggests that teachers may ask students (obligation) to participate (information sharing) in content. Teachers need to demonstrate to students that each individual's knowledge is unique (value of knowledge) because it is constructed according to how an individual sees their world, and how they respond to its problems (problem solving). This will also help develop their skills in understanding knowledge (learning), and improve their communication skills to help convey their knowledge (writing skills). This would also develop their confidence to express freely their thoughts and ideas (value of freedom).

By sharing ideas and discussion with others, individuals become recognised (recognition); and so at last, they enjoy the whole process and develop their lifelong learning skills (enjoyment); and thus might enjoy sharing information out of the class context. Although both recognition and publishing were not of high importance to

interviewees, they indicated strongly that others might contribute because they want to be recognised and to get their work published. This finding is consistent with Markus, Smith and Moreland's (1985) finding that people's perception of themselves varies systematically from their perception of others.

Contribution to OER Wikibooks is 'helping' behaviour. Those who share information with others want others to learn. Results revealed that the motivations of people from Arabic culture seemed to be about being more effective helpers, as they felt obliged to solve the problems of their societies, while the Anglo helpers were more ambitious to gain recognition, knowledge and enjoyment. This finding is consistent with the findings of Barnett and Vitaglione's (1998) research.

Individuals from Anglo culture were more *idiocentric* than people from Arabic culture, consistent with Trafimow, Triandis and Goto's (1991) findings. Participants from Anglo culture contribute to Wikibooks for the purpose of learning, reflecting their independent identities, while participants from Arabic culture are motivated by obligation, which reflects their interdependent selves. This result is also consistent with Markus and Kitayama (1991).

There are psycho-cultural differences between interviewees from Anglo and Arabic culture who reported their motivations. These psycho-cultural differences extend to how individuals see others. It is widely accepted that collectivist thoughts and behaviours are contingent on those of others (because one's own mental self-representation is considered '*interrelated*' with mental representations of other persons), while in contrast, individualist thoughts and behaviours are relatively more independent (because their mental self-representation is '*isolated*' from the mental representations of others). Results of interview analyses revealed however that while Arabic interviewees saw themselves as holding collectivist values (obligation and problem solving), they saw others within their societies as holding more individualistic values (learning, recognition, and publishing). There is however, to a large extent, symmetry between how Anglo interviewees saw their motivations and motivations of other individuals

within their societies (enhancement, learning, recognition, and enjoyment). This finding is also consistent with Satterwhite *et al.* (2000) finding.

This interviews study contributes to the knowledge gap in the application of SDT across cultures. Deci and Ryan (2004, p. 435) have stressed that SDT treats all individuals as the same, regardless of their culture (and age and gender), arguing that ‘individualism does not ensure satisfaction of the need for autonomy, and collectivism does not ensure satisfaction of the need for relatedness’. They further argue that individuals can be autonomous in their enactment of collectivist values, as much as they can be with individualistic values, and they can be satisfied with their relatedness needs, whether they hold individualistic values or collectivist values. This specifically is important to the current research since wiki activities are collective in themselves; and at the same time, enjoyment (or playfulness) is an essential factor in ensuring commitment from participants.

Results of the interviews suggest that there are differences between intrinsic and extrinsic goal orientations however across the Anglo and Arabic cultures. Regardless of these differences, as discussed above, individuals from each culture, to some extent, are motivated by the same goals (but with different weightings). Such multiple reasons for motivation provide power to the process of contribution to OER in general. For example, Lakhani and Wolf (2005a) point out that through the coexistence of different motivations, individuals can be part of content creation, motivated by idiosyncratic reasons. Although they also argue that there is no need for OSS communities to try to match motivations to incentives, cultural differences themselves urge this need, as current research shows, since motivations are different between cultures. The coexistence of motivations further suggests that individuals who are participating in OCLA need to experience enjoyment, meet their personal values, as well as gain benefits from their contribution, regardless of whether there is any external reinforcement for participation. Therefore, while teachers may encourage their students to use OCER, students also need to enjoy wiki activities and gain benefits from their contribution; each has their own values towards themselves and others that differentiate their personal sense of any activity.

Indeed, unless the benefits exceed the cost (in terms of efforts and time), individuals will not contribute. Individuals usually balance the cost (the risk) and the expected values of their behaviours (Atkinson 1957; Atkinson & Raynor 1974). The net benefit from engaging in any activity is 'equal to the immediate payoff (current benefits minus current cost) plus the delayed payoff (delayed benefits minus delayed cost)' (Lerner & Tirole 2005, p. 57); this means that users of OER must have sufficient incentive to innovate. For example, as Ghosh (2005) found, the most important motivation to contribute to open software is to learn and develop new skills, in this case learning and developing writing skills. Similarly, the results from this interviews study suggest that learning and developing new skills are the highest reasons reported by Anglo participants contributing to Wikibooks.

Results also revealed that just as there are paid programmers to OSS (Lakhani & Wolf 2005a), there is a paid contributor (Susan) to Wikibooks, to maintain an updated software manual.

Interviews revealed that there was some evidence that extrinsic rewards may have negative impact on intrinsic motivation. Susan, an interview participant, would stop contribution if the pay stopped, which suggests that she does not enjoy contribution for its own sake. Conversely, Adrian, who enjoys contribution to Wikibooks, reported that he would stop contribution if WMF paid contributors. This finding is consistent with Deci, Koestner and Ryan's (1999a) research that shows that external rewards may minimise intrinsic motivation. However, when a task may be of personal and social importance, a reward when properly used may increase intrinsic motivation (Eisenberger, Pierce & Cameron 1999). Regardless of such a result, there is a coexistence of motivations, which implies that OCLA is useful for different people of different cultural backgrounds.

The return to individuals upon contribution, such as maximising career opportunities, or publishing and recognition as non-financial rewards, may maximise the intrinsic motivation (enjoyment): the higher the level of these non-financial rewards, the higher

the level of enjoyment (at least with participants from Anglo culture) and vice versa (as with participants from Arabic culture). This result is consistent with, to some extent, the findings of Alexy (2009): in most cases of participating in OSS, both monetary and non-monetary incentives can be used to steer voluntary participants' effort, without finding any strong negative effects of monetary rewards on intrinsic motivation. Indeed, the administration of monetary incentives might even have positive side effects. Again, the potential benefits themselves play an important role in motivating producers to contribute to OCER.

Regardless of the cultural differences between perceptions of Arabic and Anglo interviewees in relation to their motivation and the motivations of others, the significant approach motivations were information sharing, learning, enhancement, and recognition. There were also similarities in the significant avoidance (or effort reduction) reasons between Anglo and Arabic interviewees, including technical difficulties, lack of confidence, social responsibilities and time constraints and other interests that distract them from contribution. While Arabic participants place greater weight on other interests, especially social responsibilities and time constraints (issues that can be related to collectivist values and practices), Anglo participants place greater importance on lack of confidence and technical difficulties (issues that can be related to individualist values and practices). This can be seen as explained by the distinction between independent selves and interdependent selves. Easterners tend to see themselves as part of interdependent networks while Westerners see themselves as independent (Markus & Kitayama 1991). Such a result suggests that to avoid lack of interest in OCLA from collectivist individuals, activities should integrate with the social responsibilities of potential producers, while for individualists, activities should be associated with immediate feedback and accessible assistance. However, future research is required to explore such suggestions to enhance contributions from individualist and collectivist producers.

Those interviewees who were recruited in the interview during their visit to Wikibooks website argued that others in their societies do not contribute to Wikibooks because of a

lack of awareness of Wikibooks (the website, its objectives, and the benefits that it may hold for them). They also referred to a lack of technical and writing skills, and lack of commitment to values of knowledge, information sharing, and volunteering. A significant difference between Anglo and Arabic interviewees' opinions about others' avoidance was the view that poor digital infrastructure and other technical barriers hinder Arabic individuals from accessing, and perhaps contributing to Wikibooks. It must be stressed that the nature of technical difficulties and/or barriers, as well as the lack of awareness, is different between Anglo and Arabic interviewees.

Anglo interviewees focused on the benefits of contribution. They also pointed out that individuals in their societies are unaware of benefits such as improving understanding by sharing information, developing writing skills, developing lifelong learning skills, contributing to knowledge, and strengthening the freedom of education and knowledge for all individuals in their societies. Arab interviewees focused on how the Arabic Wikipedia, the Wikibooks website, and similar OER projects, are unknown to most people within their societies. They are not familiar with its processes, texts, or even the differences between Wikipedia and Wikibooks, or that Wikibooks is an open content project so that they can write to its content. The lack of technical skills that Anglo interviewees discussed reflect their sophisticated and in-depth use of Wiki editor tools, seen as much like word processors, while the technical difficulties that Arab interviewees mentioned indicate their lack of awareness. For instance, some Arab interviewees enquired about how and where to edit. It is argued that there is a need to deal with technical difficulties that take the form of lack of knowledge in use of wikis as well as making participation as easy as possible so that producers may enjoy sharing information in order to gain the skills they need.

Bridging the digital divide has two elements: affordability and availability of technologies (Roberts 2010). It appears that there is not much difference in the use of ICT in education for both Arabic countries and low-economic European countries like Greece. Many participants have indicated that the use of ICT in schools and universities is restricted or limited due to unavailability (Abdul, Omar and Nikos). The availability of ICT equipment means ICT skilled teachers are still limited, and not up to an

acceptable level, even with strong attempts to develop strong ICT policies in education (Abouchedid & Eid 2004; Al Darrab 2005; Mentzelou & Drogidis 2010).

There is another interesting and significant difference evident from the findings. While Anglo participants want teachers and instructors to adopt wiki technology in their learning and teaching activities to encourage students to collaborate and participate in collaborative reports, Arabic participants remain dissatisfied because teachers are technically unskilled, and that the education system prohibits the use of ICT in schools and universities. Therefore, for the purpose of creating awareness, the strategy for Anglo individuals needs to be different from those designed for Arabic individuals.

While the strategy for Anglo individuals should focus on opening minds to the potential benefits for teachers, students, learners, schools and the education system as whole, the strategy for Arabic individuals is more about opening a new market for open educational resources. In other words, it requires creating a readiness for the use of OER, through teachers training in different computer skills, educating them in how to integrate ICT into teaching and learning activities. It appears that the net generation does not have any difficulty with using the computer and surfing the internet. However, there is a gap between the net generation and their teachers.

Building on the success of the OSS movement, it is clear that the more a project achieves centrality the higher the level of project development, and the more there are access restrictions, the lower its level of popularity (Wu, Goh & Tang 2007). Therefore, when schools and teachers plan to integrate OER into their curriculum, management of these OER projects should be centralised. However, at the same time, students and learners should not have restrictions on access or on contributing to these projects; especially given that one of the interviewees was unhappy that he had to register to be able to edit. It is also important to embrace communication tools, allow task selection, and increase information visibility and availability (Torkar, Minoves & Garrigós 2011) with such services as wiki guides, objectives, the benefits of contribution, and how to search for content.

Indeed, despite the expansion of computer use and internet coverage in the Arab countries that allow the majority of university students to have daily access to the internet (Abouchedid & Eid 2004), some Arab interviewees in the current research complained that they do not have internet access at their educational institutions.

Learning from the lesson of the creation of OpenCourseWare at MIT (Abelson 2008), this strategic planning should start by assessing the needs of flexible and quality teaching and learning practices. The MIT plan meant establishing a centre for research and technology innovation in education, and was supported with start-up investment funds (Abelson 2008). They offered flexible and customised educational programs, and harnessed the technology to enhance connection between students, staff, alumni, and the community (Abelson 2008). To ensure its sustainability, they added new additional services to attract additional funding and allowed voluntary contributors to their OER content to retain their copyright. The customisation and the flexibility in these educational programs can be seen as driven from the value of individualism (and so the value of low power distance). Individualists are task-oriented, and prefer web content to be customised to their needs. They also like to have user-driven multiple options (Marcus 2005; Marcus & Alexander 2007). It is important to consider cultural values when designing websites (Ahmed, Mouratidis & Preston 2008) for OER. In other words, customisation of OCLA that meet individualist users has the potential to enhance contributions, and thus the sustainability of these OER projects. Furthermore, such activities contribute to skills development of participants.

Customisation and flexibility of choice are, however, not the case for collectivists and high power distance nations. Collectivists prefer prescribed routes and thus official choices, and institution-driven topics are demanded (Marcus 2005; Marcus & Alexander 2007). This explains why an Arabic interviewee commented that Arabic Wikibooks do not follow the structures of textbooks that are used in schools. For example, when Université Française d'Égypte decided to incorporate OER into their programs, they adopted *only* four courses from OCW@MIT and adapted them for their needs (Sabry 2009). Although flexibility of choice is desirable among individualistic people, Iyengar and Lepper (2003) found that Asian Americans (collectivists) prefer to have choices made for them by significant others. This suggests that OCLA for collectivist users

should be more directive, so that potential users may not get confused by the many choices available.

To conclude, the findings of online interviews analysis reveal that there are differences in reasons for contribution (approach) to Wikibooks between Anglo and Arabic interviewees. These differences can be understood within 3 dimensions:

- 1) **Independent selves versus interdependent selves.** This dimension explains why independent Anglo interviewees are motivated by learning, enhancement, recognition and enjoyment while interdependent Arabic interviewees are motivated by obligation and problem solving motives.
- 2) **Secular/rational values versus traditional values.** This dimension explains why Anglo interviewees balance the cost and benefits of contribution and thus find that contribution lets them gain benefits, such as learning and enjoyment and recognition, while Arabic interviewees are motivated by traditional collective values including responsibility towards their community and a desire to solve its many problems.
- 3) **Intrinsic versus extrinsic values.** Anglo interviewees are more motivated by intrinsic values such as enjoyment, learning, discussion, helping the disadvantaged, and belief in freedom and knowledge; while Arabic interviewees are more motivated by extrinsic values such as obligation, career, recognition, and problem solving.

Reasons for non-contribution can also be understood within these 3 dimensions:

- 1) **Individualism versus collectivism.** While Anglo interviewees admit that they do not contribute because of their lack of confidence and the technical difficulties they face, Arabic interviewees excuse their non-contribution through their other interests and social responsibilities.
- 2) **Technical difficulties versus technical barriers.** While Anglo interviewees are dissatisfied with the editor tools and lack of visibility of the help section, the Arabic interviewees suffer from issues relating to the digital divide, such as a lack of awareness of how to write, lack of awareness of the nature of open content websites, and poor digital infrastructure (PCs with no internet connection, and sometimes some website access is restricted).
- 3) **Unsupportive teachers versus digital illiterate teachers.** While Anglo interviewees comment that their teachers are not yet ready to accept and adopt the use of open educational resources in their learning activities, Arabic interviewees argue that their teachers are digitally illiterate and actually need training, and their education system too needs to support the use of ICT in learning and teaching activities, instead of prohibiting the use of computers or imposing internet access restrictions.

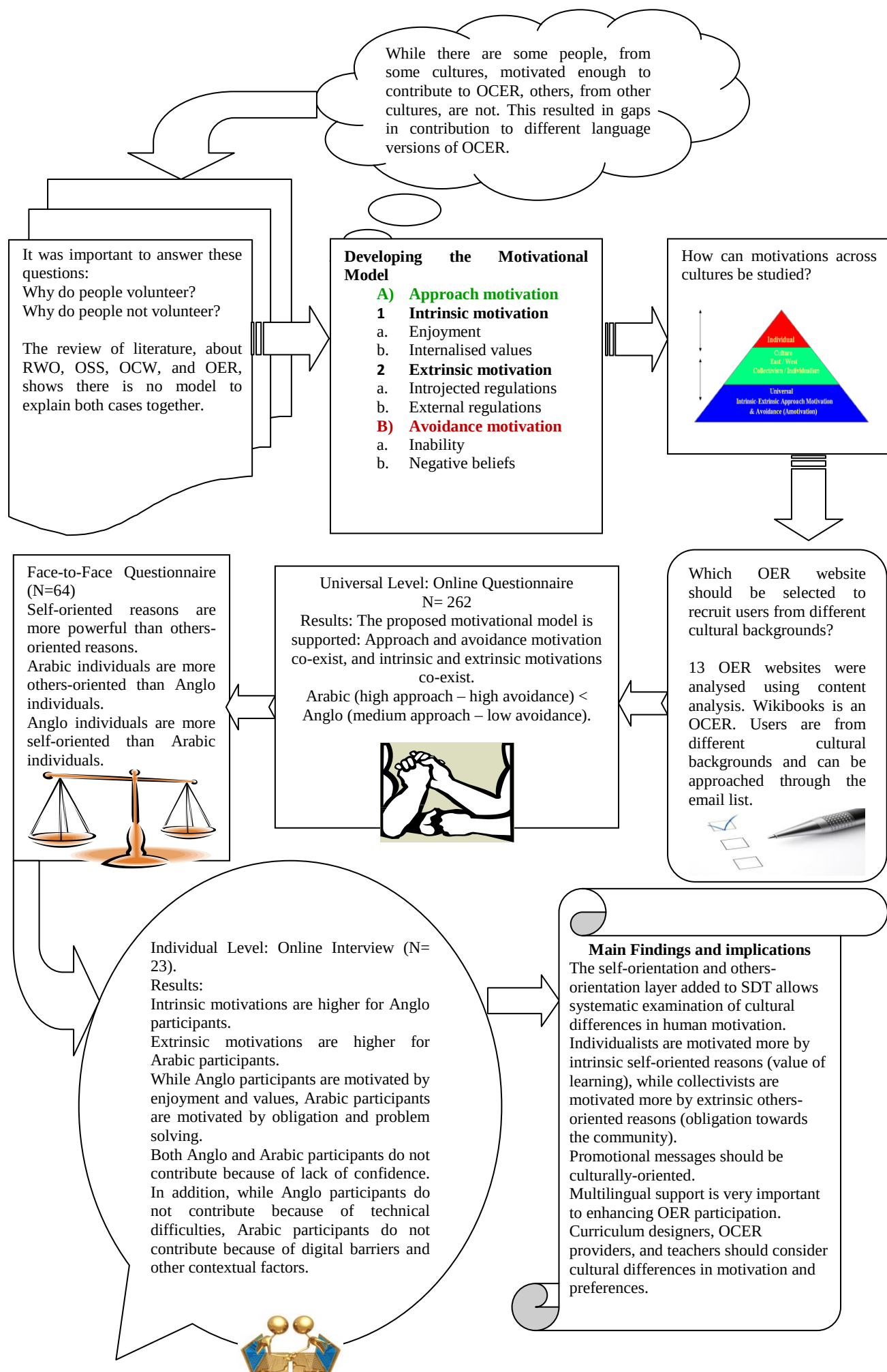
Regardless of the above mentioned differences in reasons for contribution and non-contribution to open educational resources, learning and collaboration in sharing information are considered the main reasons for contribution to Wikibooks, while lack of confidence and lack of awareness are the main reasons for non-contribution. Pedagogical designers and educationalists should design curricula that consider cultural differences with options in subject preferences, the nature of collaboration, the nature of choices, and values and benefits that are considered important to learners. Teachers' skills in integrating OER into teaching and learning activities are essential. Transition training is needed, moving from traditional ICT skills to more flexible lifelong IT skills, with appropriate training to match the nature of open educational resources.

General conclusions and future directions

Truth is elusive; but research, well-conducted, can provide a warrant, an adequate assurance, for the assertion which we eventually offer. We may not be able to claim that we have pinned down the truth. But if we can say that our methodology and evidence allow a reasonable claim to be made, then this is as much as anyone can reasonably demand.

(Dick 1997).

Poster 1: Cultural differences in motivations for contribution to OCER



The *stylised summary* of the thesis (see Poster 1) returns to the research problem, and summarises and debriefs the general conclusions, with a special focus on the limitations and the complexities of interdisciplinary research. It outlines the research contributions, and suggests ways to enhance the practice of OER in formal education settings and for independent lifelong learning. In considering the project's limitations and beyond the focus of current research, there are directions suggested for future research.

There are a number of research findings that are discussed in the preceding chapters, in relation to the review of literature, the methodology and the four empirical studies (OER websites content analysis, online questionnaire, face-to-face questionnaire and online interviews). These findings are discussed from the holistic perspective in this chapter. These findings can be briefly summarised as follows:

Contributions extending motivation theory

Empirical research has shown that self-determination theory and goal valence theory can be integrated – supporting the view that motivation and amotivation co-exist in the virtual sphere of ‘open educational resources’ – the proposed model to examine cultural differences in OER motivation. This finding has implications in designing and implementing OER which, it is argued, should be designed to suit different users, who have different goals and needs. Their motivations to achieve these goals are not completely intrinsic or extrinsic, but rather they are a mix of both. This suggests that playfulness (intrinsic motivation) is an important issue, but such OER activities should also be seen as important (extrinsic motivation) in developing skills. Furthermore, providing support, such as help or video tutorials, may help to avoid amotivation, thereby enabling OER participants to achieve their goals of OER engagement.

The OER motivational model considers the self and the others/community orientations, through the lens of intrinsic and extrinsic motivation and amotivation. Such a model allows for the examination of differences in individualist and collectivist cultures. This finding has implications for the design of cultural-orientated OER, and highlights an

area for future research. More specifically, the findings point to the need for research into the strategies that might be employed in designing OER that accommodate both individualist or collectivist practices, while also meeting their intrinsic and extrinsic goals.

Intrinsic and extrinsic motivations involve both self-oriented goals and others oriented goals, supporting the balance between both while contributing to OER. This finding highlights the need for further research exploring the optimal 'balance' between self-oriented goals and others-oriented goals. The findings of this study suggest that what can be seen as self-oriented for one person, may be seen as others-oriented for another. This observation raises an important question regarding whether the achievement of such a balance might involve a change of goal orientation for the same person. Further longitudinal studies are required to provide further insight into this issue.

The research does establish that there are differences between Arabic and Anglo participants' contributions to Wikibooks. Such differences suggest cultural differences in motivation. The focus of this research was on contributions to Wikibooks, which is an open content educational resource with minimal access restrictions. However, the question remains as to whether there would be differences in motivation across cultures in participating in OER if OER participation is regulated by certain norms and/or certain restrictions. Future research might attempt to explore more-controlled OER environments.

Although the main two theories of cultural difference, those of Geert Hofstede and Harry Triandis, deal with cultural dimensions, multi-dimensionality may also provide better understanding of individual differences among those from different cultures. As discussed in preceding chapters, this finding may involve a need to reconsider cultural measurements, especially in the era where an issue of the 'global culture' is being discussed most often.

Motivation in relation to open educational resources includes more than learning orientation; there are also motivations similar to those among *producers* of open content webpages, code programmers of open source software contribution, and volunteers to real world organisations; and more interesting, those OER *producers* share humanitarian

and religious motivations with those volunteering to RWO. This finding raises the question that if volunteers to RWO are also able and willing to contribute to open content websites of their organisations, would it make any difference in motivational orientations and volunteerism functions if volunteering activities were conducted in real-world settings or in the digital sphere.

Another finding from this study is that online behaviour of contributing to open educational resources (OER) is similar to volunteering to real world organisations (RWO), and is culturally oriented. Future research should therefore explore how RWO can direct their volunteers to create digital resources that would be useful for their communities, and how those volunteers would be regulated according to their individual and cultural differences.

Motivations for contribution to OER are, to a large extent, relevant to motivations for contribution to open source software (OSS) and open content webpages (OCW). However, personal interests, education, and qualifications do direct an individual toward a specific venue for volunteerism. There is evidence that suggests younger individuals are participating in OSS, OCW, and OER more than older people. However, since older retired people have more spare time, future research is needed to explore strategies for engaging older people to participate in OER. Furthermore, such future research could shed further light on differences in motivation between older and younger individuals.

Motivations of OER users in open content educational resources are different from open access educational resources. As discussed in the OER content analysis chapter, OER users prefer more engagement with content, and appear to want to feel more empowered. This finding suggests the need for a greater emphasis on OCER rather than OAER which has more limited opportunities for participants to actively participate in OER activities. As noted previously, there has been a growth in OAER providers also incorporating open content learning activities (OCLA), such as associated wikis or blogs. Further research is required to explore whether motivations for engagement in OCER are different from OCLA. A related research question requiring further investigation could focus on whether there are differences in the learning outcomes of users of OAER and OCER.

It is argued in this thesis that motivations for non-volunteering to OER can be examined using the proposed model, which can also extend current knowledge relating to voluntarism theory by examining why individuals both approach and avoid voluntarism at the same time. Understanding the reasons for non-volunteering can help in the development of strategies that can help to sustain the long term viability of OCER. Although this current research has focused on reasons for non-volunteering to OCER at a specific point in time, future research should also explore reasons for volunteering to OER over a longer period of time, to identify if there are any cultural differences in motivations over time.

Contributions improving OER applications

The findings from this study suggest that OER motivation is contextual. While Arabic participants were found to be more motivated by obligation (others-oriented extrinsic motivation), Anglo participants appear to be more motivated by learning values (self-oriented intrinsic motivation). This finding suggests that while activities focused on communities could be more interesting to Arabic individuals, activities that focus on skills may be more engaging for Anglo individuals. However, future research should be conducted to explore this further.

The goals of OER initiatives are different from those of OER users; but with OCER, goals are more closely matched – suggesting that the future will be brighter for open content educational resources, than for open access educational resources. This is why Wikibooks has more *producers* and contributions compared to other OER. This finding might suggest that OER participation could be enhanced by providing less restriction and more opportunities for activity engagement. Furthermore, the open content learning activities OCLA model might provide one way in which a balance between open content activities and open access resources can be achieved. Future research might explore OCLA strategies and implications for *producer* engagement.

The findings reported also suggest that there are cultural differences in subject preferences. While Anglo participants were found to show interest in a diverse range of subjects, Arabic participants appear to prefer religious, political and historical topics. This finding suggests that while Arabic individuals were not found to actively participate in scientific and engineering subjects to the same extent as Anglo individuals, further research is required to determine whether this finding holds true in other studies exploring this issue.

Educators and lecturers play a significant role in creating a readiness for sharing information. Trained teachers need to understand that while both intrinsic and extrinsic factors play a role in motivating potential OER *producers*, users are unlikely to contribute unless they perceive that the benefits they gain are worth the time and effort they allocate. The findings from this study suggest that incentives that motivate Anglo users/students may be different from those suitable for Arabic users/students. Indeed, incentives also appear to be culture-specific. For example, "loyalty" can be used to motivate those obligated Arabic individuals while "bright future" can be used with learning and skills orientated Anglo individuals. Promotion messages advertised on OER websites should focus on culture-specific incentives. Future research should examine the implications of such messages on OER participation.

Both political systems and educational systems play roles in harnessing or hindering contribution. Accessibility, readiness and training play a significant role in maximising contribution. As discussed in the thesis, the 'digital divide' is no longer determined solely by economic circumstances and physical access; the findings suggest that such a divide may now be determined by a range of other social factors. Further research is required to explore the reasons that some who are trained and know how to use ICT are still reluctant to take more active steps to be engaged in the OER movement. It is possible that increased education through discussion forums, training programs, and tutorials may help to inspire more participants to be active in the OER movement. However, further research is required to explore how best to encourage individuals to be more active participants in the OER movement. Research should focus on "what" and "how" to inspire trainees, and assess the outcomes of such "morale boosting" sessions.

The recommendations arising from the findings of this research suggest that an animated logo link on the Wikipedia website to Wikibooks might increase traffic and also potentially increase contributions. Although this recommendation is specific to the Wikimedia Foundation, similar strategies might prove useful for other OER providers, so future research might investigate the impact of this form of animated advertisement designed to link users to different OCER and OCLA provided within a specific website.

The comparative study of OER websites and content analysis of users' FAQs addresses the challenges users experience when participating in and contributing to OER. FAQs provide a means by which users' questions are addressed, and also provide the means by which user needs, preferences, and orientations can be addressed. Further research might explore how FAQs can be better utilised as "how to" guides through the use of audio/video tutorials rather than plain text answers to questions.

The findings from this study also suggest that culture-specific promotional messages may be more effective in increasing contributions to Wikibooks than standard messages. Further research is required to explore the impact that culture-specific promotional messages may have on increasing contributions to other OER websites.

Multi-language documentation, help, FAQs, and video tutorials may help reduce lack of confidence, which has been shown in this current research to be a significant barrier to contribution. Further research could address the benefits of such documentation, FAQs, and tutorials, taking into account cultural preferences in messages, incentives, design, and outputs.

This current research also highlights the need to identify strategies for facilitating the participation of female learners in OER. Although this current research has discussed reasons that might hinder females from contribution, there is a need to explore such issues further, especially in relation to whether there are differences in topic preference.

Contributions to methodology and online research methods

This current research has shown that a multilevel model of culture helps to understand motivation for contribution to open educational resources, both quantitatively and qualitatively, from the universal level to the cultural level, and the individual level to the cultural level. It is argued that this multilevel model may be a useful approach to examining OER motivation across cultures in formal education settings. Although it can be argued that such settings pose regulations on behaviour thus limiting the examination of cultural values, the proposed "multilayered" model, especially the qualitative assessment at the individual level, bottom-up to the universal level, provides researchers with a valuable instrument for furthering research in this field.

The tested proposed model of OER motivation allows systematic examination of motivation across cultures. It also provides the means for categorisation and thematic analysis of qualitative data. Since cultures are different including intra-cultural variables, and thus values are not ranged from positive to negative or from high to low, categorisation of value codes helps identify cultural differences in a more useable manner. Researchers from a range of disciplines could consider applying such a model to the examination of different phenomena across cultures – such as motivations for engagement in political debate in open content media sites. It is argued that despite its limitations the model has potential for such research, given that it does take into account contextual and individual factors such as education. Further research, however, could be undertaken to test the validity and reliability of the model as a tool for conducting systematic examination of motivation across cultures, and for addressing related areas of concern.

The current research has also shown that having an action plan for dealing with potential low response rates is important in research of this kind. This action plan should involve a number of possible techniques that can be used, not only as alternatives, but also as parallel solutions for increasing responses. Methodologists usually discuss techniques to enhance response rates, but adopting an "action plan" to increase response rates without significantly impacting upon the time frame should also be considered in research. Researchers should also consider different parallel recruitment methods as part of this overall strategy.

Examining motivation for contribution to OER involves an assumption that users/*producers* are able to make such decisions (it is not a mandatory contribution). Restricted selection criteria allow for the selection of an appropriate OER website for examining the motivations of users and *producers*. An important criterion used for the selection of a specific case study for the current research was limited access restrictions to OER that allow individuals from different cultures to contribute. However, future research should also explore whether there are any differences in motivations (intrinsic and extrinsic) and amotivation between restricted access and restriction-free OER websites.

The use of online text chat interviews helps avoid the time involved in transcribing and interpreting responses in audio/video interviews. Invitations to participate in the interviews via messenger software can help to increase the response rate. All-in-one messengers, such as Trillian Astra, can easily manage long contact lists of research participants and those who have different IM providers. Such software manages filing and time-stamping of interview transcripts. However, future research might investigate the difference in the response rate of email invitations compared to messenger add-contact invitations to potential participants.

The online questionnaire scale developed for this current research can be used for future research, since very few items were excluded from the Varimax rotation. As noted in previous sections of this thesis, the clustered factors, to a large extent, were found to agree with the proposed model. Items in this questionnaire were replicated in the open-ended questions, and in the online interviews. Such a scale could be used in future research examining OER user motivations in restricted-access OER settings or institutional OER settings.

The inclusion of open-ended questions in the questionnaire provides rich data that can be used for content validity of items included in the questionnaire scale. Although methodologists recommend content validity, such a technique was not used beyond the psychology discipline to validate the design questionnaire items. It is common, especially in psychology, to refine questionnaire items to fewer sets of questions, based

on test rounds. Although this technique is already applied in psychology, such a technique might also be useful for research undertaken in other disciplinary fields such as political science, education, and cultural studies. More specifically, this research has shown a way in which this technique can be used to validate the design questionnaire items. Further research could explore the benefits of using this technique as a strategy for developing questionnaires that are more accurate and include fewer questions.

Examining implicit reasons for approaching or avoiding OER participation, through interviews, provided an effective strategy for examining user motivations and opinions about surrounding systems and individuals. Although this technique is also being used mainly in research in the psychology discipline, such a technique might be used in other disciplines, once again including political science, education, and cultural studies, especially when a negative phenomenon is being researched (such as racism). More related to the current research, implicit reasoning techniques can be used to explore why females are not very much involved in OER movement, or the reasons that make Arabic individuals not prefer scientific disciplines; or why Anglo teachers are not inspired enough to contribute to OER.

Using an independent coder to check the reliability of qualitative data was unnecessary for the current research, especially when codes themselves are mainly drawn from the review of literature – the area where the researcher is more expert than an independent coder. Further research should explore such methodological issues – comparing different interpretations for results of quantitative and qualitative data analysis across different reviewers, or the same reviewers at different times, to determine if there are any cultural differences in interpretations, and how this can be assessed and interpreted.

The research reported in this thesis has thus contributed to the field by extending motivation theory, exploring strategies for improving OER applications, and by proposing new methodological approaches. It should be evident that these contributions occurred progressively as the study progressed from stage to stage over the four year research study.

Open educational resources rest on electronic materials that are freely offered online for users. These OER involve both learning modules as well as the employment of content management systems (Hylén 2006). These OER can be either open access (OAER) or open content (OCER) (Hanna & Wood 2011). Although open access educational resources allow learners to use learning modules and send feedback to OER developers for consideration in the next edition, open content educational resources allow more engagement with content, and thus editions are produced on an ongoing basis (Hanna & Wood 2011). That means the users of OER are also the producers of OER – performing a double role: reading for learning purposes and writing under different motivations (Metzer & Hanna 2011). These different motivations, as explored in this research, suggest that OCLA suit different users with different needs and different cultural backgrounds. However, it is important to ensure that learning objectives and promotional messages are clear enough to inspire potential producers.

Results of the current research show that there are similarities between contribution to OER and voluntarism to ROW. Such results were based on a theoretical framework based on similarities between contributions to ROW and OSS (as discussed in Table 16). However, review of the specialist literature demonstrates a lack of research, not only in relation to the motivational phenomenon from the basis of traditional theories of voluntarism (Clary *et al.* 1998b), and from the contemporary view of goal achievement for self-determination (Deci & Ryan 2000; Elliot 1994, 1999, 2006), but as determined by many factors, both individual and contextual (Beck 2000). Such factors should be considered when designing OCER and OCLA. Playfulness should be considered when designing those activities, but at the same time, such activities should meet the values of different users. Any activity should add to individuals' skills so that they perceive the value of their contribution.

This current research considered conscious motivation for contribution (or non-contribution) to OER, using experiences which people can recall and report, whether explicitly or implicitly. Although this research gave attention to implicit motivations, future research should explore whether implicit motivations differ across age and gender. Such research could be problematic because theories of conscious motivation share a basic assumption that humans have underlying reasons for their behaviour, as well as the intention to pursue their goals (Aarts & Hassin 2005). Such informed

decisions are made based on the perceived value of action outcomes and the probability of achievement (Strack & Deutsch 2005). Hence goals play a significant role in human motivation. But when goals are multiple and complex, and they guide thoughts and behaviours towards the desired end state (Gollwitzer & Bargh 2005), examining differences in implicit goal differences across age or gender raises particular methodological challenges.

Although this research has shown that approach and avoidance tendencies co-exist, it did not shed light on whether there is a mutual effect between those tendencies, and thus impact on outcome behaviour. A human in achieving many goals faces conflicting tendencies – tendencies to approach and tendencies to avoid (Anderson 1996; Atkinson 1964; Elliot 2008; Elliot & Fryer 2008; Michalak *et al.* 2006). While the results suggest that avoidance motivations are more powerful than approach motivations in OER contribution behaviour, it remains unclear whether the increase in approach or avoidance motivations would lead to an increase or decrease in OER contributions. Future research may shed light on such possible mutual effects.

Sensitivity to both approach and avoidance is associated with goal adoption (Gable & Strachman 2008). Adding to that, there are individual differences such as attitudes, traits, gender, age and education (McCrae & Costa 1987), as well as influences from their surrounding environment, including cultural values, politics and the education system (Hofstede & McCrae 2004; McClelland 1967). Culture specifically, as bounded by political borders (Douglas & Craig 2009; Hofstede 2001), is strongly linked to motivational differences (Kitayama & Cohen 2007; Kitayama & Markus 2000; Kitayama *et al.* 1997; Markus & Kitayama 1991; McClelland 1987; Morling & Kitayama 2008). Such distinctions between cultures based on political borders or linguistic frames added a limitation to the current research. Although such a limitation was minimised by distinguishing cultures by grouping national cultures into broader groups (Arabic and Anglo), affiliation to such groupings is subjective and can be negotiated. Furthermore, incorporating different contextual factors in examining OER motivation is argued to strengthen the results of cultural differences.

The review of literature found that most research conducted to explore volunteering motivations in OSS, OCW, and RWO is primarily western-based. However, culture plays an integral role in the development of those individual cognitions; and as Elliot *et al.* (2001) point out, most empirical research into personal goal pursuit has taken place within Western nations. It was intended here to investigate whether approach and avoidance motivation can differ, or function differently, in individualist and collectivist societies. Results support the view that culture plays a significant role in OER motivations. This suggests that teachers who use OCLA or providers of OCER should consider the cultural differences of students and other producers. Although this research shed light on how culture could be considered when designing OCLA, future research may focus on an "Eastern" version of self-determination theory. This research explored how adapted SDT is supported for both Western and Eastern populations when the sample of different cultural groups was statistically analysed as one sample. However, it might be useful if future research is undertaken to uncover differences in factors affecting motivations for each cultural group.

The early model of *self-determination theory* made a relatively inflexible distinction between intrinsic motivation and extrinsic reinforcement (Deci 1972, 1975). Later evolutions of the model, as evident in mini-theories of the concept, especially Causality Orientation Theory (COT) and Goal Content Theory (GCT), demonstrate flexibility in examining human behaviour, so provided an adequate theoretical foundation to develop the understandings about motivation for OER participation. Results of the current research support the adequacy of choice of COT and GCT as theoretical foundations that might explain OER motivation. Such theory allowed motivation to be evaluated as low or high in relation to dimensions of the value that a person places on a goal (see for example Breen & Lindsay 1999). As intrinsic motivation and extrinsic motivation work in 'complementary fashion' (Koestner & Losier 2004), results revealed from this research support that intrinsic and extrinsic motivations coexist. Although STD demonstrates its applicability not only in individualistic Western cultures (Markus, Kitayama & Heiman 1996), but also in collectivistic non-Western cultures (Chirkov, Ryan & Willness 2005), this theory in instances of OER motivational responses needs careful adaptation. Such adaptation is argued to have the capacity to capture cultural variation in motivational responses. The findings of this current research suggest that

the proposed integrated model has the capacity to explore cultural differences (individualist and collectivist cultures) in intrinsic and extrinsic OER motivation and amotivation.

Although Chirkov, Ryan and Willness (2005) have used Triandis's (1995) four dimensional model of cultural representation (see its refinement in Singelis *et al.* 1995), the use of Hofstede's (2001) cultural value representation was suitable in examining cross-cultural differences in OER motivation for many reasons discussed in Chapter 2, Chapter 3 and Chapter 7. The dependency on Hofstede's model has, however, some limitations in relation to the theorisation of his model (Baskerville 2003; McSweeney 2002). These limitations were addressed in the current research, to a large extent, in the triangulation of techniques used to examine cultural differences in OER motivation, depending on the multilayered model to examine cultural differences, and integrating qualitative examination to complement the quantitative measurement of differences in motivation. This examination needed however to theoretically classify values/goals/reasons orientations (see for example Kasser & Ryan 1996) in participating in OSS, OCW, and OER, into intrinsic and extrinsic orientations (see Table 16), to explore cultural differences which might exist.

The new-found dimensionality in motivation according to SDT, as discussed in Chapter 1 and Chapter 7, in intrinsic motivation (Lakhani & Wolf 2005a; Schroer & Hertel 2009; Vallerand & et al. 1992) and amotivation (Legault, Green-Demers & Pelletier 2006; Pelletier *et al.* 1999) posed a potential limitation when examining the cultural differences in OER participation, especially in that motivation, according to SDT, was explained on either a continuum (Deci & Ryan 1985b, 2000, 2008), or in a hierarchical model (Elliot 2006; Elliot & Church 1997). Having a single dimension does not provide the capacity to examine cultural differences in motivation, especially when there are tendencies for returning reasons to the self or the other/community. The unified model of motivation, that integrates SDT and GVT, helped deal not only with the above limitation, but also a list of limitations discussed in Chapter 1.

Results of quantitative data analysis support for instance that intrinsic and extrinsic motivations co-exist, and the relationship between them is not negative (see also Covington & Müeller 2001). This suggests that designers of OER need to employ

strategies that acknowledge that activities should be enjoyable, while also recognising the need for participants to develop their skills and capabilities. At the same time, it is important to be aware of the need for the contributions of participants to be visible to others for shared recognition.

The results of the current research support the argument that there are *multiple goal alliances* (Van Yperen 2006), whether reflecting approach or avoidance, which organise behaviour via self-regulation mechanisms of intrinsic motivation [pleasure, accomplishment and experience stimulation], extrinsic motivation [external regulation, introjected regulation and identified regulation], and amotivation. This specifically means that open content learning activities should vary in objectives and outcomes, so that they meet different user needs; and those teachers and instructors who are responsible for inspiring students to take part of OELA need to also deal with issues of amotivation, and be able to use external reinforcement efficiently.

Again, the flexibility and simplicity of the proposed model which was used as a 'methodological tool' provided systematic means of investigation of OER motivation across individualist and collectivist cultures. It integrates both approach and avoidance motivation, as well as intrinsic and extrinsic motivation and amotivation (Hanna & Metzger 2011b), and so meets the above considerations. This simpler model considers the broad range of goals and values, but also recognises the complex nature of conflicting motivations and co-existence of different regulatory styles of goal orientation. At the same time, the added self-oriented and others-oriented layer to intrinsic and extrinsic motivation and self-focused and others/eco-focused to amotivation provides the capacity to examine cultural differences. This model can therefore assist in examining motivations for participation in OCLA in a systematic and timely manner, and most importantly, as a useful model for examining cultural differences, in order to adapt activities to suit different individuals from different cultures, taking into account high competition and low sociability versus low competition and high sociability (Triandis & Gelfand 1998) for individualist versus collectivist cultures. Although it appears that Hedonism (happiness) is shared motivation among all individuals across cultures (Triandis & Gelfand 1998), there are cultural differences in how happiness is attained: many report for instance that while

happiness is attained by personal achievement in Western cultures, it is attained by relationship with others in collectivist cultures (Kitayama & Markus 2000).

OCLA should meet different *produser* backgrounds. Previous research also found that responsiveness to others' needs differs across cultures: while it can be seen as 'obligated' in collectivist cultures, it is a matter of 'choice' in individualist cultures (Eisenberg & Fabes 1998; Iyengar & DeVoe 2003; Iyengar & Lepper 1999; Jacobsen 1983; Miller, Bersoff & Harwood 1990; Oyserman, Coon & Kemmelmeier 2002). While people in individualist cultures prefer high-independence goals, individuals in collectivist cultures prefer low-independence goals (Oishi & Diener 2001). While acknowledging the limitations of categorising individuals as either collectivist or individualist, the research helps to explain the reasons that Arabic interviewees report being motivated by obligation toward their communities (to solve their problems), while Anglo interviewees focus on learning. This finding has implications for the design of OCLA to accommodate such cultural diversity.

Results of interview analysis and the online questionnaire show that there are cultural differences in OER motivation. Such results do agree with previous studies in relation to volunteering to RWO. For example, while reasons for voluntarism show quite close ranking between individualistic and collectivistic volunteers (Clary *et al.* 1998b; Stukas *et al.* 2009; Wu, Lo & Liu 2009), the social function of voluntarism differs between individualist and collectivist cultures. This social function is the most important factor that motivated people to volunteer in a collectivist culture, but it was the least factor that motivated people to volunteer in an individualist culture (see Table 15). Similarly, ranking of volunteering to RWO motivations differs across six countries (Hustinx *et al.* 2010b). Such differences are consistent, to some extent, with Hofstede's (2001) thinking: while individualists are self-oriented, collectivists are community-oriented – as illustrated in Table 26. Even the feelings associated with goal achievement differ across culture: while collectivists value friendly feelings for others, individualists seek to achieve pride (Kurokawa, Kitayama & Markus 2000). Results of current research also show that individualist OER producers are more likely to be intrinsic self-orientated, while collectivist OER producers are more likely to be extrinsic other-orientated. Such findings need to be reflected in the design of OCLA, while at the same time recognising the limitations of any approach that is based on a view of cultures as

inflexible and static. Distinguishing cultures as either individualist (primarily the cultures of Western countries) or collectivist (for instance the cultures of Eastern/Middle Eastern countries) involves an assumption that cultures are homogeneous and unchanging. This ignores the dynamic nature of cultures, especially after the rise of globalisation and international media, and resultant changes in human values and motivations, and hence behaviours. Such changes in individuals' behaviours consequently lead to new cultural practices at the macro-level. In other words, dividing the world's nations into individualist and collectivist cultures over-simplifies complex cultural formations – indeed, a part of such simplistic views of culture is the misleading habit of distinguishing cultures according to the political borders of states. Introducing the multilayered model to assess differences in motivation across cultures helped deal with above limitation, although it cannot entirely overcome it. More specifically, the micro-level examination conducted through interviews assessed cultural effects from a more dynamic perspective. Furthermore, avoiding the sole dependency on scores of cultural values produced by Hofstede (2001) helped shed light on the dynamic nature of OER motivation, and this was clearly demonstrated in OER contributions in response to current events in producers' environments. This finding suggests that any OCLA should depend on more recent situational problem-solving activities.

Quantitative approaches to the study of cultures allow statistical techniques to examine cross cultural differences. Factor analysis, analyses of variance, and regression analysis can all contribute to isolating significant features (van de Vijver & Leung 1997). Contributing to the available knowledge in the field of cross-cultural psychology of motivation, the analysis of variance was used to explore OER motivation across Arabic and Anglo cultures. In cross-cultural psychology, it is common to study differences in motivation across culture using the individual as the unit of analysis (van de Vijver, Hemert & Poortinga 2008). Hofstede's (2001) study, in particular, and his indices for cultural values, helped, 'temporarily' and only to some extent, compare motivations across cultures. These indices used as secondary data work as a basis for finding relationships between motivations and cultures. It is argued that the model applied and tested in this current research can be used in future research without the need to depend heavily on quantitative measures of cultural differences, as introduced in Hofstede's (2001) work. The revised and extended model developed for this study incorporates an additional self/others orientation layer to the analysis of motivation. This model was

used in the current research to assess motivational differences across cultures, especially differences in approach and avoidance motivations; and in intrinsic and extrinsic motivations across cultures (Hamamura 2008; Robertson 2010). Future research should also give more attention to the self-orientated and others-orientated OER producers, especially who use OCER in more formal educational settings, to see if there are any differences between those who contribute to OER as "mandatory" activities and those who contribute to OER as "voluntary" activities.

It is important to stress that human motivation is not simply the outcome of approach motivation minus avoidance motivation (cited in Weiner 1992). Such an equation does not reflect the conflict that can exist between approach and avoidance. This explains why there has been no attempt to add approach and avoidance motivation together to calculate the resultant change. Both approach and avoidance are distinct components of motivation, with approach motivation involving both intrinsic motivation and extrinsic motivation. The proposed theoretical model has the capacity for the separation between approach and avoidance motivation, and hence improves existing theories. This current study has contributed to existing knowledge by exploring issues impacting on OCER, and issues that may hinder active participation. This research also identified the fluid nature of participation to OCER, as some participants who were contributors to OCER at the outset of the research ceased this involvement subsequently. Further research should investigate the fluid nature of participation and contribution to OCERs as this has implications for the sustainability of the OCER movement.

Human amotivation, as argued in the model developed for the research, is multidimensional and involves two factors: issues related to inability, and issues related to belief. Amotivation related to a goal arises when an individual is not able to achieve that goal. It might relate to task characteristics and/or to individual skills, or be because an individual is unwilling to do a task, because they have negative beliefs about the task and its usefulness, and/or negative belief about themselves, such as a lack of confidence or a sense of indolence leading to inactivity. As discussed above, it is very important to deal with issues relating to negative beliefs in the same manner when designing tutorials and FAQs, to clear any sense of inability.

The cross-cultural research undertaken here provides evidence that motivation does indeed vary across cultures. Research agrees that while for example eastern cultures are more socially directed, western cultures are more individually directed (Kumer & Maehr 2007). The finding raises issues for voluntarism. Volunteers, by default, aim to achieve a range of goals relating to their society/community, but at the same time they do voluntary activities because these activities may be beneficial to them, in some way or another. Many research projects have found that volunteers (in RWO, OSS, OCW, and OER) are motivated by a range of reasons, such as believing in values relating to their community, being asked to participate by others, or a sense of obligation. However, volunteers also seek benefits for themselves, such as protection from loneliness, enjoyment, socialising with others, understanding, recognition, and career goals, as summarised in Table 14 and Table 16. But the research also shows that voluntarism, in RWO, is more socially oriented in collectivist culture than in individualist culture – as demonstrated in Table 15 and Table 26. The same cultural orientations affect OER *producers*, and can be seen to be reflected in motivation for contribution to OER. Again, this implies that when designing any OCLA, cultural orientations should be considered.

Much research focusing on OER considers the institutional and pedagogical objectives from launching OER websites, yet there has been very little focus on the consumer of these OER materials and their needs (Hanna & Wood 2011). Analysis of FAQs in some websites shows that there is a gap between the objectives of OER initiatives and the needs of OER users. Such limitations – examining FAQs instead of interviewing actual OER users – demonstrate that users, as *producers* of content, are not considered enough. Previous studies show that the net generation, the major *producers* of open content educational resources, prefer learning by doing, and are achievement oriented (Oblinger & Oblinger 2005) – they are also social, dynamic and acquainted with multiculturalism (Zhang & Bonk 2010). A starting point to address the needs of OER producers is to assess their FAQs from cultural perspectives, and once an outlined picture is drawn, then interviews should be conducted to gain deeper understandings of their culture-specific needs.

Although computer-mediated learning (*e-learning*) is a well-established field – including research attempting to provide solutions to diverse populations – OER as a

new phenomenon in the educational sphere needs further consideration. While learners in e-learning are multicultural, and are generally required working together on the same content, learners using OCER are less likely to be multicultural, since they have the choice of reading and writing to the content in a language they understand. Therefore, designing e-learning modules for ‘multicultural’ audiences must consider cultural variation.

The multilingualism of OCER (especially in wikis), poses design considerations which must take into account some curious paradoxes online; for instance, multilingualism may still encourage monoculturalist practices, since OER are dominated by ‘Western’ oriented *producers*, or when a OER website supports one local language, when the content users and *producers* are likely to be from the same cultural and linguistic background. The review of relevant literature has shown that there might be shared motivations among *producers* of each language version, as well as shared preferences – but there are differences between different linguistic groups.

Understanding why any OER user reads and writes to OCER is essential to increasing their engagement in OCER. This supports the need to examine both similarities and differences in motivation for contribution to OER. While the outcomes of motivation may be the same, contribution to OCER and the reasons for contributing can be widely different. The issue then becomes: do these reasons differ among independent individualist people and interdependent collectivist people? Is there a range, from more intrinsic-motivated individuals, to more extrinsic-motivated individuals (see for example Iyengar & DeVoe 2003; Iyengar & Lepper 1999), and from modern, secular societies to more traditional religious societies (Lewis 2002b; Madeley 2009; Mostyn & Hourani 1988; Parkes 1970; Sharma 1998)? Although the results of the current research suggest that there are differences in OER motivation between individuals from individualist secular societies and collectivist religious societies, it remains unclear as to why individuals from religious societies participate very actively in open content media websites and other social networks, but not as actively in open content educational resources.

The complexity of the research problem is that motivation not only differs across individuals and cultures, but that the technological aspects of open educational

resources add to the complexity of issues related to the ongoing socio-technical divide between Anglo western cultures and Arabic eastern cultures. This additional complexity relates to the nature of ‘voluntarism’. While voluntarism involves a notion of altruism (Clary *et al.* 1998b), Finkelstein (2010) found that collectivism strongly relates to altruistic motivation and the desire to strengthen social ties, more so than individualism. Why then is there little participation from Arabic OER users, compared to Anglo OER users? Although the current research found that both education systems and teacher qualifications in Arabic countries lack the support required for OER involvement, further research is needed to examine issues related to the social divide that make teachers, while they are ICT skilled, not inspired enough to be part of the OER movement, and how cultural values contribute to such a social divide.

Culture, however, as one variable affecting motivation is complex in itself. There are always complex realities affecting cultural responses (Said 1994). Part of such cultural response is the institutional system of education within a specific social system, yet while Lewis (2002b) blames institutions for poor outcomes, Bourdieu (1998) sees that actions go beyond the sort of rational decision-making promoted in education systems, and can be influenced by many factors. Different ideologies, identities, and technological resources are used to achieve high presence and psychological belonging (Tomlinson 2002). Analysis of interviews revealed that Arabic Wikibookians contribute to politics, history, and religion in response to globalisation leading to the fading of traditional cultural values, criticism of Islam, relating Islam with terrorism, and maintaining awareness of Islamic and ancient civilizations. If Arabic individuals have taken part in OER movements, especially in political and religious subjects, there is a potential risk that these open content venues are being used in disseminating fundamentalist ideologies. Nevertheless, it is worthwhile for researchers to examine how OER can be used to develop neutral opinions in issues being discussed in the media un-neutrally, such as terrorism, religion, public policies, history, the scientific revolution, and multiculturalism policies.

One problem for the research proved to rest upon how cultural influences were to be revealed. Once again, the complexity of the problem arises not only because of the many variables relating to the individual, to the contextual system and to culture; it is also because motivation theory has heavily used quantitative approaches. Such

approaches assume that variables can be measured, which contradicts research approaches in the field of Cultural Studies, where more descriptive and qualitative approaches are used to study cultural phenomena. The solution used here was to draw on these varying disciplinary based methodological approaches to develop a combined investigative process, but that also results in a multilayered set of data, the analysis of which is complex in itself.

While some theorists address cultural differences at a macro level, others have collected behavioural detail at a micro level; and between these two, there are middle levels. This posed difficulties in examining cultural differences in OER participation where macro-level exploration of cultural differences uses more descriptive data, and the micro-level examination depends on quantitative data. From here, a multilayered examination was needed to uncover cultural differences in OER motivation. Although such a methodological model seems complex, it facilitated the examination process and produced a systematic tool to identify cultural similarities and differences. As discussed earlier, this model can be used to examine other phenomena such as exploring cultural differences in participating in *SecondLife* activities.

Multi-dimensionality in such research is not, however, sufficient in its own right. Although Triandis (1994, 1995) was able, for instance, to identify the vertical and horizontal dimensions of individualist and collectivist societies, examining and identifying cultural differences, Triandis' research is not fully appropriate for the examination of cross-cultural differences in OER motivation, because his theorisation is not solid enough to make clear distinction between the equality and independence, when meanings of dimensions (VC, VI, HI, HC) intersect. The complexities and sometimes the interchange between these 'horizontal' and 'vertical' axes of individualism and collectivism add further unneeded complexity, if his model was to be used.

Hofstede's (2001) model also has some limitations as a framework for examining cultural differences in motivation:

- 1) Hofstede used non-original survey data from a multinational organisation (IBM), to examine cultural differences. Results from the analysed data do not reflect the population of any given society since it was based on a biased sample. However,

his sample is very relevant to the sample of Wikibookians: educated individuals and the digitally literate.

- 2) Quantitative approaches to cultural difference (and cultural similarity), as discussed in Chapter 2 and Chapter 7, have been widely criticised for ‘measuring the immeasurable’. However, individuals have the ability to rate reliably how far they agree or disagree with a certain value, goal or reason – the scale used in the online and F2F questionnaire studies.
- 3) Even assuming that these measures are accurate, they might not be current after more than two decades. This presents a significant limitation when measures of OER motivation are correlated with measures of cultural values. Reasons include not only that the nature of culture is itself dynamic, but also that globalisation accelerates change in cultural values. However, such quantitative measures were used with caution.
- 4) Hofstede dealt with data from only six Arabic countries, and yet represented these countries as one region. These countries are significantly different, although they share the same language (Arabic). While Egypt and Lebanon have taken steps towards a secular state and modern education, Saudi Arabia remains a very traditional autocratic and religious state. While some countries are economically rich, such as Saudi Arabia, UAE and Kuwait, Egypt remains relatively poor. While the Gulf countries share the same political system and a rich oil-based economy, they are different on cultural dimensions (see At-Twajiri & Al-Muhaiza 1996 for more details about differences in Gulf countries). However, the recent update to cultural value scores on cultural dimensions of some Arab countries (At-Twajiri & Al-Muhaiza 1996; Hofstede, Hofstede & Minkov 2005) has dealt with such a criticism.
- 5) The decision to update scores for Arabic countries, using the work of At-Twajiri and Al-Muhaiza (1996), and the later study of Hofstede, Hofstede and Minkov (2005), although it holds methodological limitations since the two studies are undertaken at different times, many Arabic countries now have cultural value scores. This means that each Arabic country has its own cultural value scores (see Appendix F).

Dependency on these quantitative measures of cultural values was hence minimal, with more attention given to descriptive differences. One important factor of dependency on

Hofstede's framework is that it considers a *large number* of Arabic countries – 13 nations (see Appendix F) and *all* Anglo countries (see Appendix F). These nations constitute the examined cultural groups of the current research. According to this framework there are large differences between Anglo and Arabic nations:

- 1) individualism versus collectivism (Figure 5);
- 2) low versus high power distance (Figure 7);
- 3) low versus high uncertainty avoidance (Figure 8); and
- 4) small differences in masculinity versus femininity between Anglo and Arabic nations (Figure 6).

Therefore, while it was expected that OER motivation would relate to the first three above dimensions, and to some extent with the fourth dimension, perhaps in relation to gender role and religious affiliation, results show limited correlations between motivation and cultural value scores (as illustrated in Table 58). In each case, however, deeper cultural analysis was designed into the interviews study.

The cultural dimensions established within quantitative categories involve dualistic, *either-or* continua (Osland & Bird 2000), which do not reflect the complexities within cultures and cultural values. Both individualist level and universalist level were examined to explore cultural differences in OER motivation. At the same time, the examination considered individual and contextual factors that impact upon OER motivation. Motivations for contribution appeared to be impacted by cultural values, teachers' encouragement (contextual factors) and age or educational level (individual factors). Motivations for non-contribution appeared to be impacted by culture and level of ICT equipment in schools (contextual factors) and occupations of OER users (individual factors).

Although it is argued that multidimensional measures of cultural values at the individual level are more appropriate than bi-polar or one-dimensional measures (Bearden, Money & Nevins 2006), cultural differences in motivation at both the universal level and individual level (see Figure 15) were examined. This multilevel approach considered ecological relationships between individuals and their socio-cultural contexts (Nezlek 2011), but at the same time refused to ignore individual differences, including age, gender, education and socio-economic status (Steel & Taras 2010).

Although multilevel approaches to the study of cultural differences may vary to include a global level, national level, organisational level, group level, and individual level (Erez & Gati 2004), the focus here was on the regional-linguistic level as a basis of comparison between the universal level and the individual level. While individual differences, such as age and gender, can be statistically measured, qualitative data such as values and preferences can also be quantified (Kâğıtçıbaşı 1997). This added a level of complexity to the examination of motivational differences between cultural groups studied. Averaging the responses of the sample and the results from analytical procedures, both at country-level and individual-level which were not identical, is not a simple matter. The assessment of the universal level depended on statistical analysis of data collected by online questionnaire, while the individual level depended on quantification of the content of interview scripts. These are differently processed – generating very different forms of data – adding a level of complexity to integrate conclusions drawn from both quantitative and qualitative studies together.

An online questionnaire was used to collect data from distributed online OER *producers* and *users*. Arabic and English participants were invited, via the Wikibooks mail list and site notice published on Wikibooks (see Appendix J), to participate in Arabic and English password-accessed online questionnaire. When designing the questions in the online questionnaire, questions about OER motivation considered not only other research on OER and research on motivations for volunteering in RWO, OSS and OCW (as illustrated in Table 16), but also findings from the small OER websites content analysis study (as illustrated in Table 18, Table 19 and Table 20). At the same time, given the cultural-comparison, cultural orientations (as illustrated in Table 10, Table 15 and Table 26) were a primary consideration.

Considering that patterns of information sharing have been shown to differ across individualist and collectivist cultures (Cho & Lee 2008; Chow *et al.* 1999), this raised the question: would patterns of reasons for contribution to OER differ across Anglo and Arabic OER *producers*, especially since there is some evidence that patterns of contribution activities to open content webpages of Wikipedia differ across nations (Pfeil, Zaphiris & Ang 2006)? Although research shows that dimensions of cultures are reflected in website design (Ahmed, Mouratidis & Preston 2008; Callahan 2005;

Dormann 2006; Dormann & Chisalita 2002; Gould, Zakaria & Yusof 2000; Marcus & Alexander 2007; Marcus & Gould 2000; Singh & Baack 2004b; Singh *et al.* 2006b; Singh, Furrer & Ostinelli 2004; Singh & Matsuo 2004; Singh, Zhao & Hu 2005), the literature review does not show any evidence that motivation for contribution to OER may vary across cultures.

It was attempted here to locate evidence of cultural impact upon OER *producers*, affecting their reasons for contribution and/or non-contribution, and whether there are any differences in preferences for contribution topics across individuals from the studied cultural groups. Results at the universal level (from online and face-to-face questionnaires) and individual level (from the online interviews) that reveal cultural differences suggest that the use of multilevel approach to research OER motivational differences (and similarities) across Arabic and Anglo cultures was adequate.

Social necessity and interaction with technology accelerate technological evolution (Castells 1996; Winston 1998). This is why freely accessible educational resources accelerate the OER movement (as examined in the content analysis of OER websites). However, activists in Web 2.0 are not only from different economic, educational and social backgrounds; they are also from different linguistic and cultural backgrounds. This is why OER in particular has received such attention. The interaction between learners, learners and context, and learners and instructors/experts within OER allows experiential learning – the pillar of constructivist learning theory. Such interactions also help to identify specific learner needs and can assist in the design of approaches that aim to meet such needs.

Human motivation, although universal in that all individuals seek their well-being, differs across cultures. However, individual as well as cultural and sociological factors impact upon motivation in general, and OER participation in specific (see Figure 16). Cultural considerations of OER, however, in relation to content structure, objectives, design, implementation, human-content interaction and learning strategies, were not examined. The research focused on what drives participation in OER across Arabic and Anglo cultures – not on OER itself.

The uses of Web 2.0 technology in education (OER) vary. Wiki technology specifically does not require high-tech specifications, so *producers* from both developed and developing countries can access, interact with and contribute to its open content. The intention to interact with Web 2.0 technology involves individual factors such as self-efficacy, perceived usefulness and perceived ease of use, but also social factors, such as peer influence, student influence and superior influence (Hartshorne, Ajjan & Ferdig 2010), as well as technical factors including availability and facility resources (Hartshorne, Ajjan & Ferdig 2010; Roberts 2010). Using Web 2.0 technology in learning involves the need for delivery to be adapted to learning styles and needs of learners, but more importantly to the cultural orientations of learners, which always come into play when they self-regulate their interactions with OER. Although this research examined preferences and motivational differences across Arabic collectivists and Anglo individualists, it did not explore on-the-job differences while interacting with OER. Although participant observation is difficult when participants are accessing OER activities remotely, the use of other approaches such as examination of cookies or wiki history may provide a useful strategy for examining contributors' preferences and activities. Future research, conducted within universities, could also consider the impact of educational level, program of study, religion, native language, and hours of activity in each subject via information collected by cookies. Such research may help to uncover cultural differences in activities and how other factors impact upon student engagement.

This empirical study went beyond the individualism-collectivism cultural framing in understanding psychological forms of motivation for contribution to OER, as well as other individual and environmental factors that impact upon motivations. These motivations, whether intrinsic or extrinsic, as discussed in Table 14, needed to be discovered in relation to not only cultural differences, but also other individual and socio-technical factors that impact upon motivation and intentions behind contribution to OER. Although it is known that ranking of motivations for volunteering to RWO differs across individualist and collectivist societies (see Table 15), results show that contribution to OER tends to be more self-oriented in individualist societies, while more others-oriented in collectivist societies – which is consistent with previous research reported in Table 15 and Table 26. As discussed earlier in this chapter, designers of OER should consider cultural differences when designing open content learning

activities – which the usual reservation on the tendency towards essentialism within such categories

It was important to examine and reveal reasons that hinder people from contribution. Without knowing these reasons, the sustainability of these OER projects is at risk. While the literature shows some reasons that hinder people from volunteering in RWO, no previous studies have attempted to examine reasons for non-contribution to OSS, OCW, or OER. Although reasons for not volunteering can ‘theoretically’ play a role in non-contribution to OER as part of other social engagement and responsibilities, issues relating to technical infrastructure and ICT skills can also play a role – as part of the digital divide.

Institutions have their own reasons to produce and host OER, including cost reduction and attracting new students (Mora 2008). These reasons differ for those learners who use OER (OAER), and those engaging with content (OCER), discussed in Table 19 and Table 20 (see also Hanna & Wood 2011). So, does that mean that contributors to OER are motivated by altruism, value expression and improving the well-being of others more than by self-oriented reasons, such as career benefits, as has been shown with volunteers to RWO (Briggs, Peterson & Gregory 2010)? Before an attempt was made to answer that question, a certain classification for possible intrinsic and extrinsic reasons for contribution was established (see Table 21). Data analysis of the online questionnaire revealed that such classification is, to a large extent, accurate. Since results reveal that OER users are more intrinsically motivated than extrinsically motivated, this suggests that they aim to improve well-being. Furthermore, results of the supplementary F2F questionnaire reveal that self-orientated motivations are of higher weight than others-orientated motivations, suggesting that OER users seek well-being for themselves before attempting to satisfy the needs of others.

Contributors to OSS and OCW are similarly more motivated, mainly by self-oriented reasons (see Table 16). Identifying reasons as self-oriented or others-oriented relates to a methodological difficulty, because such reasons are not clear enough to be classified as *either-or*, although there is a theoretical attempt to classify motivations as illustrated in Table 26. Volunteers tend to weight altruistic reasons for helping others (see means reported in Table 26) above benefits they get from volunteering as returns of their

efforts (Shye 2010). Volunteers may not report implicit reasons for contribution, an issue which posed difficulty for exploring OER motivations. This difficulty was dealt with by not asking direct questions to interview participants about reasons for volunteering, allowing them instead to talk about the benefits they get by their contribution effort, as well as by asking them their opinion regarding others who contribute content to OER.

Within self-oriented and others-oriented reasons for contribution (see Table 26), such reasons can be classified as either intrinsic and/or extrinsic (see Table 22). That means that when participants expressed their opinion in the face-to-face questionnaire as to whether they see a motivation as self-oriented or others-oriented, the analysed data results were more likely to exclude some responses from the binomial test, if nearly half of the participants see that as self-oriented, the other half as others-oriented. The split means an ambiguous group is created. The point that can be made here, however, is that classification of self-oriented and others-oriented reasons differs from individualist and collectivist participants; and this can explain why the binomial test revealed that some items were neither self-oriented nor others-oriented. From a pedagogical point of view, this suggests that OER users working on those items, regardless of their cultures, can be satisfied. For example, the impact of teachers and friends upon OER users was not seen as self-oriented or others-oriented. This suggested that if teachers encourage their students to contribute, it would not be regarded as being confused with cultural values. Finding ways to inspire teachers to use their skills and capacities in encouraging their students to interact with OER could be explored in future research.

To choose an appropriate OER website that allows users to contribute materials, and at the same time allows users from both Arabic and Anglo societies to contribute without any access restrictions – *produsers* approachable by email list – an assessment of a number of OER websites was undertaken. In that assessment, the nature of resources (whether open content or open access), targeted users, FAQs, size of modules and the number of registered users were considered. This assessment was difficult and had some limitations. It depended on a time-intensive website content analysis, and was limited in demonstrating the actual needs of users or their motivations for using and contributing to OER (Hanna & Wood 2011). However, such a comparison showed that needs of OER users have not been met by OER providers. Future research should focus on FAQs

and Suggestion Forums to develop more customised OER that meet different user needs.

While it was important to investigate instances of user-behaviour in OER websites, time considerations prevented this. Instead, examinations of different language modules reflected the preferred language of contributors, and thus their culture. It does not necessarily mean, however, that contributors, users, and subscribers to any language version support, practice, or are affiliated to that culture. Assessment of OER websites was similarly limited in identifying different user needs from just an analysis of their FAQs and responses. No attempt was made to analyse these FAQs from the consideration of the user's cultural background. Further research is needed in this area.

While assessment of OER objectives reflects the motivations of institutions and NFP organisations, these objectives do not necessarily reflect the motivations of content contributors (see also Hanna & Wood 2011). The objectives of OER sites and the explicit user motivations reflect, for instance, educational purposes as reasons for contributing and interacting with OER, yet such motivations did not strongly reflect individual and cultural differences. The content analysis of OER websites reveals that NFP OER appears to meet OER user needs more than institutional OER (as illustrated in Table 19 and Table 20). OER website content analysis also provided evidence that reasons for contribution to OER, to a large extent, agree with patterns of motivation for volunteering in OSS and RWO (see Table 22) – there are similarities between OER and other forms of volunteering to OSS, OCW, and RWO (see Table 16).

Assessment of different OER websites revealed that Wikibooks, among other OER websites, as an open content educational resources website, allows users to contribute to its contents without (or with limited) restrictions. This website offers its users different language versions, and has mail lists of subscribers that facilitate approaching those subscribed users. It is, to that extent, open to and supportive of research such as this. Considering that results show that both intrinsic and extrinsic motivations are high (suggesting that there is no negative relationship between the two), this implies that no access restrictions encourage intrinsically and extrinsically orientated behaviour.

There is, however, a limitation that it is not possible to have a 100% guarantee that contributors to a specific language version of Wikibooks are using their native language. Furthermore, there appears to be a big difference between the number of modules in Arabic and English (see Table 25). Such suggested difference in population size has led to imbalance within the sample, and also in the distribution of users between readers and *producers* (see Table 32): while there were more readers than *producers* in the Arabic sample, there were more *producers* than readers in the Anglo sample (see Table 24 and also Appendix H). Such results contradict what was argued in the literature review. Differences in the number of modules in Arabic and English Wikibooks suggest that there are not only differences in motivation (see Table 24), but also in the activities of registered non-active contributors, rather than registered active contributors. The numbers of articles per registered user were quite similar (see Table 25). That means that both contributors and non-contributors were registered in the email list and hence allowed the opportunity for a balanced sample.

Although motivation for contribution is recognised as very important for the quality (and the quantity) of available content, considering the scope of this research, it was not possible to examine how the level of motivation impacts upon the quality of content, or even how motivation might change roles of contributors, from adding minimal spelling corrections to contributing articles or sub-sections to existing articles. This area may need further research. Nor was this a longitudinal study; it did not focus on levels of motivation over time, and the impact on contribution and/or quality and quantity of content. Unlike Petrides (2008) who finds cultural differences within open content, the examined differences in motivation between Arabic Middle Eastern cultures and Western Anglo cultures help promote acceptance of and contribution to open educational resources.

Participation by Wikibookians, especially those who participated in the online questionnaire and online interviews, allowed the opportunity to examine OER motivation in non-education settings. However, findings of the online questionnaire provide a road map when OER are used and integrated in formal education. For example, participants were not satisfied that their teachers do not use or do not encourage them to use OER. Furthermore, results also suggest that teachers should make their students aware of the benefits of OER, and provide students the support to

bridge starting up difficulties. For users of OER from public (government) schools, socio-economic status is not a barrier that hinders learners accessing OER, providing they have PCs with internet access. The difficulties in accessing OER are more likely to relate to the level of socio-political readiness rather than economic readiness.

While the online questionnaire was designed to collect data from geographically distributed participants (Bryman 2008a, 2008b; Couper 2000; Couper, Traugott & Lamias 2001; Rasmussen 2008), previous studies have shown little information in relation to multilingual online research instruments. The online questionnaire was available, however, in Arabic and English (see Appendix E for translation and back translation). Similarly, very little evidence exists in cross-cultural research for online interviews that are conducted in different languages. Examining motivations of Arabic and Anglo Wikibookians in engaging in OER required interviews to be conducted in Arabic and English. Considering that students in most universities are from different cultural backgrounds, research conducted within those universities to examine student experiences with different learning technologies, could use data collection methods designed in different languages. This would enable participants to elaborate more on their experiences without issues relating to language barriers.

Although the online questionnaire included the *Likert*-type scale, it was useful that open-ended questions added to the questionnaire were used to give further information for the content validity of scale items identified throughout the review of literature. Furthermore, answers to these open-ended questions allowed establishing connection with the interviews study, in terms of topics covered and themes identified. Answers to these open-ended questions allowed, too, a comparison between the cultural groups studied.

The integration of results of the online questionnaire, F2F questionnaire and online interviews, has allowed the development of a clearer picture of motivations across individualist and collectivist Wikibookians as illustrated as in the following Figure 25.

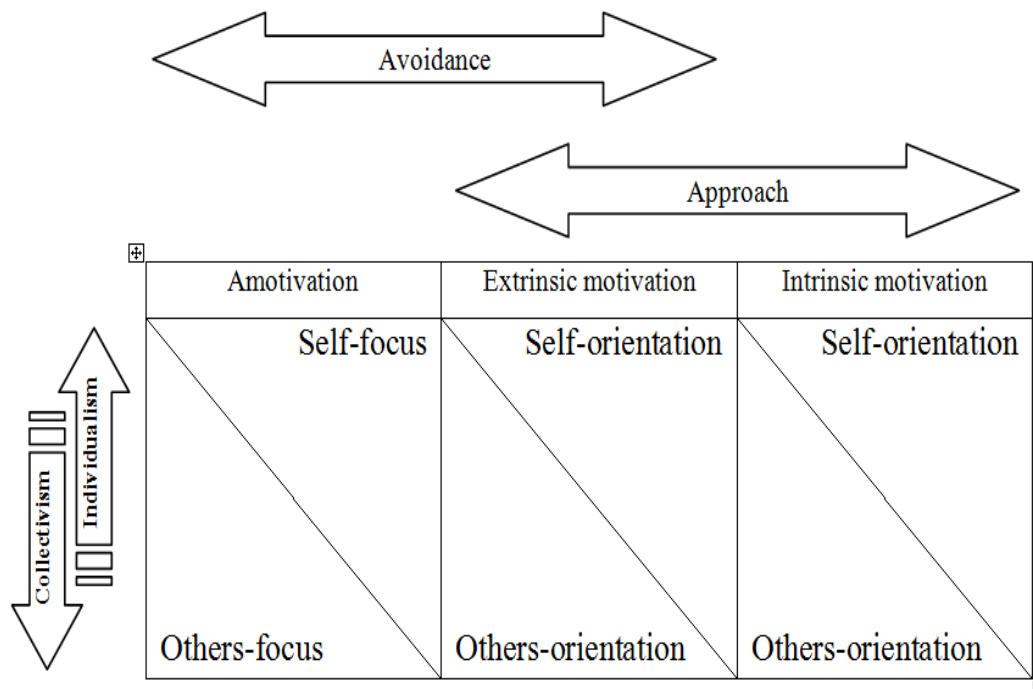


Figure 25: Self and others orientations in intrinsic and extrinsic motivations and amotivation across individualist and collectivist cultures

Considering both the individual level and the universal level allowed some simplification of complexity of OER motivation across individualist and collectivist Wikibookians. All individuals, regardless of their cultures, approach and avoid certain behaviours, including OER participation, but for most of the time face conflicts between the two tendencies. All individuals have intrinsic and extrinsic motivations. These motivations are reshaped by individual and contextual values or regulations. Similar to motivation, amotivation can be explained by issues related to the self and issues related to others or the community (eco). All individuals share self-orientated and others-orientated regulations. However, it is in the differences between individualist and collectivist Wikibookians where such regulations can be seen and explained – taking into account their values/goals, individual differences and socio-cultural and contextual factors.

Participating Wikibookians, regardless of their culture, were mainly below middle age (younger than 45 years) suggesting that promoting the use of OER with younger individuals will be more successful than with older people. Although discussions in the preceding chapters suggest consistency with earlier research in OSS, OCW and OER, in

relation to active participation in OER sphere, there is no suggestion that OER do not suit female students. Contributing to OER is voluntary, but when females are committed to (some forms of) education, they participate as much as male students or even more, since they tend to be higher achievers, because male students have more attention difficulties than female students or issues relating to classroom behaviour (Gibb, Fergusson & Horwood 2008). Furthermore, female students are expected to be more engaged in OER, considering OER itself as a matter of collaborative work. Also, Shavitt, Torelli and Riemer (2011) have found that generally males are more individualistic (or independent) than females; and females are higher in horizontal collectivist practices than males. All of these point to the potential for successful participation of females. However, future research needs to focus on gender orientations toward OER in relation to preferred subjects and preferred OCLA.

The results also revealed that active players in contribution to OER Wikibooks were mostly younger than 40s year of age – consistent with other online venue volunteers to OSS and OCW. The responses to questions relating to computer literacy revealed that engaging with ICT activities in education and other social functions from a young age is however an important factor relating to positive uses of technology. As with contributors to OSS and OCW, males are dominant in contribution to and use of OER. Most participants received their education in public schools, which suggests that economic factors play a role in motivating users to read and contribute to OER Wikibooks to supplement access to traditional texts. Factors such as teacher skills in ICT and their encouragement of student use of ICT in their learning also proved to play a significant role in motivation for contribution. In general, there are, however, no significant differences between the cultural groups in relation to these individual differences. Cultural and contextual factors do play a significant role in motivation – but the outcomes appear ‘universal’ rather than specific to ‘national’ or ‘language-based’ cultures. This poses a question: if issues related to teacher ICT skills seem to be in both cultural groups, that imply that the social divide exists in both contexts. Teachers, in their training sessions, should be aware of different benefits of OER for their teaching practices, and be able to inspire their students in OCLA. Future research could explore the impact of teacher training on their students’ experiences in OCLA. Such a study could also explore teachers' capacity for developing effective strategies for addressing social inclusion in the use of OCER.

When research participants were given the opportunity to write their reasons for contribution, in the open-ended questions, these too were consistent with the pre-identified reasons that were selected, designed and used in the *Likert* scale items of the online questionnaire.

Although ‘religion’ was not explicitly mentioned in these open-ended questions, the notion of ‘helping others’ was repeated among Arabic participants more frequently than Anglo participants, perhaps due to traditional values and the deep roots of religious practice in traditional Arabic nations. This was consistent with ranking of motivations across Arabic and Anglo Wikibookians (see Table 64). Overall, reasons for contribution to OER go beyond pragmatic educational purposes. This means that if there is no restriction, many would contribute, and each has their own reasons for OER participation.

Similarly, responses to open-ended questions about non-contribution also reveal consistency with the pre-identified reasons for non-contribution (as stated in the *Likert* scale items).

The multi-dimensional model proposed to examine OER motivation is more realistic than the SDT model, as outlined in Figure 2. It admits more complex distribution of motivation, but at the same time provides a flexible tool to examine these complex motivations with simplistic and systematic procedures.

Rotated scale items for reasons for non-contribution revealed new complex multi-dimensions (Table 59). Beyond inability (lack of confidence and distracting interests), and negative beliefs (negative views towards the contextual system and valueless voluntarism), people tend to have many reasons for not participating. Reasons explored in response to open-ended questions supported this view of a diverse set of motivations. This suggests OCLA design should be flexible enough to meet the different needs of users.

Overall, results of online questionnaire and online interviews suggest that resultant motivation of Arabic Wikibookians is likely to be less than resultant motivation of

Anglo Wikibookians. This is because motivations for non-contribution were higher for Arabic Wikibookians than Anglo Wikibookians. This result indicates that reasons for avoiding OER participation are more powerful than reasons for approaching. Hence, the inclusion of easy to follow tutorials could help in addressing issues relating to lack of confidence. These tutorials should also focus on the benefits OER producers may gain from their participation. Results of both the online questionnaire and online interviews suggest that digital infrastructure and economic conditions are not barriers for contribution. Lack of awareness and teacher skills are the main factors determining levels of motivation. Both teachers and learners need to be aware of the usefulness of OER, and be technically skilled enough to participate in OER content contribution. Explanation may lie in the culture-of-poverty or culture-of-richness, the *habitus* that controls the actions of individuals (Bourdieu 1998).

Excluding enjoyment (which is self-oriented), each of the other four dimensions (endorsed values, external regulations, problem solving, and moral rewards) contains two items: one can be seen as *self-oriented* and the other item as *others-oriented* as follow:

- 1) Endorsed values include helping poor people (*others-oriented*) and learning (*self-oriented*);
- 2) External regulations contain the desire to belong to group of friends (*self-oriented*) and feeling pushed by a teacher to avoid punishment (*others-oriented*);
- 3) Solving problem contains avoiding loneliness (*self-oriented*) and the desire to publish for recognition (*others-oriented*); and
- 4) Moral rewards include the impact of religious teachings towards helping others (*others-oriented*) and the desire to express an opinion (*self-oriented*).

These theoretical classifications (as presented in Table 26) were validated, to some extent, by the binomial test conducted on data collected by the F2F questionnaire (as presented in Table 68 and Table 69). These results supported, to a large extent, the proposed model (see Table 7), and were also consistent with findings of the review of literature reported in Table 6, Table 14, Table 15, Table 16, Table 21, Table 26 and Table 27. Such motivations identified throughout the review of literature and tested in online and F2F questionnaire have an acceptable content validity, reported in Chapter 8.

These intrinsic and extrinsic motivations were also supported by results of the online interviews analysis reported in Table 73.

Motivations toward OER differed between Anglo and Arabic Wikibookians (see Table 60, Table 61, Table 64, Table 68, Table 69, and Table 78). There are also cultural differences in subjects that Wikibookians prefer to read and contribute to (Table 37 and Table 37). It was impossible to examine any cultural differences among Anglo and Arabic Wikibookians in their motivations toward OER without examining individual and contextual differences (see Figure 16) including age, gender, educational level, educational field, economic status, and the capacity for ICT self-learning (individual differences), and teacher encouragement of ICT use, level of ICT equipment at school, and language of instruction (contextual differences). This justifies the decision to address the research main problem, examining cultural differences in OER motivation, by multilevel model that was used as a research framework (Figure 15): 1) exploring the Wikibookians at the universal level, and then examining the cultural differences; and 2) exploring the Wikibookians at the individual level, and then examining cultural differences.

It is clear then that while culture plays a significant role in motivating contribution, it also plays a significant role in avoiding contribution. Other factors that prove important in amotivation include the level of ICT use at schools and the nature of a user's occupation. This suggests that the nature of occupation as one of individual factors, and the contextual factors (culture and ICT equipment at school) both affect motivation. This too endorses the research model (Figure 16).

The study of the F2F questionnaire was also important in examining OER *producers*' thinking processes – which appeared to be culturally-oriented. Analysis of data reveals that Wikibooks *producers* weight more heavily those reasons for contribution, which help them solve their personal problems, rather than solving others' problems, and/or enhancing their knowledge. Arabic individuals more than Anglo individuals contribute to solve their problems, while more Anglo than Arabic participants avoid/reduce contribution because they have other interests. Arabic individuals appear to have more limited choices, and they avoid contribution more often through lack of confidence than

Anglo participants, a statistic which positively correlates with uncertainty avoidance. This explanation can be argued to be acceptable because while Anglo interviewees focused more on learning and information sharing, while Arabic interviewees focused more on their desires to solve issues related to their societies. Perhaps they feel the responsibility of providing solutions for those in trouble or those who suffer from lack of knowledge.

These results suggest that, to promote contribution among Arabic OER users, it is important to promote OER as an appropriate path towards recognised publishing, as well as providing support and documentation to reduce their uncertainty and a widespread lack of confidence. For Anglo OER users, it is important to enhance OER enjoyment and promote topic variety that meets their subject preferences. Rational decision making plays a significant role in motivating all OER users to contribute, since people may weight solving personal problems above altruistic goals of helping others and/or sharing information with them. Furthermore, results show that reasons for non-contribution are more related to the self, than to issues of context. This suggests that strengthening ICT skills and promoting the advantages of contribution to oneself will help increase contribution.

Recommendations and future directions

The findings of the current research reported in this thesis have identified cultural differences in OCER motivation. However, this research has also highlighted a number of limitations in this research approach and put forward suggestions for future research to address some of these identified limitations.

The quantitative studies, the online questionnaire and the face-to-face questionnaire, explored the multi-dimensionality of motivation for contribution to OER Wikibooks, and found that such dimensions are consistent, if only to some extent, with the cultural dimensions demonstrated by Hofstede and Triandis. This quantitative study was limited, however, in understanding individual differences in motivation, and whether there are any similarities among individuals within one culture or differences between cultures. As discussed earlier here in this chapter that reasons for contributions, as suggested by

interviewees, relate more to collectivism than individualism, since the nature of contribution is collectivistic in itself (Tumlin *et al.* 2007). However, the motivations themselves were different: while individualists focused on independent learning and helping others by sharing, collectivists focused on duties and obligation to their societies. This result causes a problem in relation to the core values of high versus low individualism as argued by Geert Hofstede, and vertical and horizontal individualism and collectivism as argued by Harry Triandis. Results also suggest that individualism, whether horizontal or vertical, does not exist in online OER participation. Rather, it looks like a matter of vertical and horizontal collectivism. This finding itself suggests that vertical and horizontal practices are a more accurate description than individualism and collectivism. But, at the same time, it put the concept of a dimensionality of cultural practices at risk.

Categories used within cross-cultural studies, and in particular Hofstede's structuring of cultural values as a seemingly absolute set of descriptors, are not enough. Although reasons for contribution and non-contribution to OER Wikibooks have been identified and tested, these reasons cannot fully explain some differences between cultural groups. Participants to the online interview differ across the Arabic and Anglo samples: while the majority of Anglo participants are *producers* of Wikibooks and are employed, only half of the Arabic participants are *producers*, and unemployed. Many of these *producers* are familiar with wikis through experience with Wikipedia, and have experienced ICT technologies. However, support and help were significant issues for those *producers*, as they helped familiarise wiki writing and deal with any technical difficulties.

The analysis of interviews attempted to identify the shared universals among people in different cultures, and their motivation for contributing to OER; but also worked to bridge between micro and macro level patterns of values and behaviours.

The consistency between demographic data between participants in the online questionnaire and online interviewees suggests that respondents are, to a large extent, authentic in their answers, and they might not have disguised their age, gender, and educational level. Furthermore, the age of a participant seems to be consistent with their educational level for those who responded to the online questionnaire and engaged in the online interviews. A post check of demographic details of participants ensured some

degrees of truthfulness, since demographic details of most research relating to OSS, OCW and OER show that contributors are generally highly educated young males. This suggests a need to examine why females tend to be reluctant in OER when participation is voluntary. Perhaps future research can address this matter. But, as discussed earlier in this chapter, when OER participation is mandatory within formal education, it is expected that females will be committed to participate. However, a further study can support such claim.

Interview transcriptions were read many times to identify not only shared themes, but also unique responses. Quantification was used to cluster sentences across theme categories. Results showed that information sharing is the top reason for contribution among both Arabic and Anglo participants – a reason that is consistent with OSS, OER, and RWO when contributors weigh more altruistic reasons. However, there are cultural differences in other motivations for contribution to OER Wikibooks: while Arabic participants appeared motivated by social obligation, Anglo participants prized learning, understanding, ego enhancement and career development. This result is consistent with Finkelstein (2010), and with Table 15 and Table 26 in the literature review. Furthermore, these results are consistent with the individualism versus collectivism orientation as argued by Hofstede (2001) and Triandis (1995, 2001). To a large extent, the ‘masculine’ cultures of Anglo and Arabic participants are both highly motivated by recognition, consistent with Hofstede (2001). Similar to the results of the online questionnaire, interview results reveal that Arabic participants are more motivated by problem-solving than Anglo participants – a result of the obligation to solve society’s problems in Arabic nations.

Results of interview analyses overall show that Arabic participants are more extrinsically motivated, while Anglo participants are more intrinsically motivated. The extension of the motivations framework, explored through interview analysis, strengthens current research.

It was difficult, however, in the analysis of interviews, to link motivation and other demographic factors, such as gender, age, and educational level. The general picture of interviewees (Table 70) shows that participants share the main characteristics of active players in OSS, OCW and OER: they are highly educated, technologically literate, and

mostly male. Females disappear from the Arabic sample, while there is only one female in the Anglo sample. This may point to the shortcomings of women's education in the Arabic countries, but also in general the 'double-shift' (Cohen & Kennedy 2007) that a woman works, perhaps not allowing her to spend time contributing.

Results of the interview analysis also show that reasons for amotivation in relation to contributing to OER Wikibooks are consistent with the pre-identified reasons outlined in the literature review and tested in the online questionnaire.

While Anglo and Arabic interviewees agree that both lack of awareness and the low value placed on knowledge sharing would hinder them from contribution, Anglo participants were clear that lack of confidence and technical difficulties hindered them from contribution, while Arabic participants reported other interests relating to their social responsibilities and time constraints.

While Anglo participants were dissatisfied when their teachers proved unwilling to adopt wiki technology, Arabic participants were dissatisfied that their teachers are unskilled, and/or when the education system prohibited the use of ICT in schools. This suggests that different strategies are needed to enhance OER participation. For Anglo individuals, it is important to demonstrate the benefits and usefulness of OER to teachers, students and learners; while for Arabic individuals, it is about creating readiness for using OER through teacher training and reforming curriculum, re-training pedagogy designers, to focus on 'learning with technology' rather than 'learning technology'. However, for both Arabic and Anglo cultures, it is important to consider topic preferences, available choices, independent/interdependent tasks, and enjoyable/collective tasks while designing OER-based curriculum. Finally, without creating awareness, providing multilingual help, support, and documentation, and FAQs in different languages, there may be no significant increase of contribution to OER.

As also briefly mentioned in this chapter, and along the way, there are limitations in examining cross-cultural OER motivation: some are methodological and were dealt with according to the available literature, and others relate to the scope of researching OER participation and the limited time and resources. For example, this research

focused on examining motivations for contribution to open educational resources, given that contributors have freedom of choice. Future research may need to address contributors' motivation in class settings, or in response to any kind of 'mandatory volunteering' (Stukas, Snyder & Clary 1999), within a cross-cultural perspective. Furthermore, changes in motivations have not been examined, across time or due to changes within independent variables, such as providing support or using culturally-specific promoting messages.

Analysed and discussed throughout this thesis are two cultures, Arabic and Anglo. Future research may focus on other cultures (including Indian culture, considering the limitation of their low response rate here), as well as examining specific user motivation within specific nations, considering that nations are different in relation to values (Hofstede 2001; Singelis *et al.* 1995; Smith & Schwartz 1997; Triandis 1995), digital and literacy policies (Castells 1996, 2001; Lewis 2002a; Said 1994), and systems (Lewis 2002a); which also control people's practices (Bourdieu 1984). In spite of such limitations, which may be addressed in the future research, there are a number of contributions to cross-cultural motivation theory, OER theory, applications of OER and methodology and research methods for examining OER user motivation.

Last but not least, attention was given to understanding cultural differences in motivation, and other individual and contextual factors that affect motivation in relation to contribution to OER. Understanding those motivations and other individual and contextual factors helps in assessing any problem in engaging learners in OER, helps promote use of OER in learning, and helps make those currently unaware into more active OER contributors.

Despite the acknowledged limitations of the current research, this concluding chapter has summarised the significant contributions to the field that have been identified and discussed throughout the thesis. These contributions to theory, methodology, and OER applications are significant in an evolving field of research exploring open content educational resources and open content educational activities. However, the research reported in this thesis has focused primarily on cultural perspectives of OER

motivations. Results of the analysed data suggest the following recommendations, in relation to improving levels of active OER *producers* across cultures:

- 1) More support to engage wikis (and other collaborative activities) in schools and university. Teachers and lecturers should be made aware of the benefits of OER for both instructors and students. Curriculum designers should work to increase use of OER.
- 2) Academics must be aware that issues with the credibility of knowledge appear no longer to be a strong reason for not depending on OER. Unusable knowledge, or too few attempts to advance knowledge, appear to be greater risks.
- 3) Teachers need to take every opportunity to use wikis, especially if the assessment and learning process requires collective activities such as group projects or group reports.
- 4) Wikis are effective tools for teaching learners in their distributed homes and promote actions allowing engagement with other learners – and other teachers too.
- 5) Women specifically can take advantage of this tool, especially in Arabic countries, where women do not have sufficient access to education. Education systems should support this tool and make an effort to train teachers and curriculum designers to use wikis.
- 6) Wikis do not require high specification infrastructure, and do not require writing in certain languages, so individuals from many socio-economic-cultural backgrounds can use and contribute to wikis.
- 7) Organisations that initiate and host OER should make support and help available to users, in different languages. Sooner or later, most OER providers will turn from OAER to OCER, so close attention to user needs and preferences for activities and topics is critical to their success and sustainability.
- 8) Access restrictions should be minimal if sponsors want more participation. Users need recognition, so maintaining a history of activities for each user may increase contribution.
- 9) Any OCER provider should take advantage of any successful projects to promote OCER. For example, Wikibooks is not very well known, which it is not the case for Wikipedia. Linkable rotating logos in Wikipedia to their other projects might increase contribution. Any OER provider should publicise their resources and create awareness of the different advantages of contribution for learners, teachers,

students, researchers, and the general community. These messages should be culturally oriented.

- 10) Future research may focus on other cultures and on using OER in formal education. Longitudinal study before and after applying culturally-specific promoting interventions should be conducted.

A concluding message: open educational resources are expanding exponentially, and users and *producers* of OER are no longer only students and self-learners. It is expected that OER will have industrial and professional uses. For example, organisations can communicate with their clients using OER to allow information sharing of suggestions, manuals, support and feedback. OER can also be used in media to create greater awareness. There are small attempts to maintain and document or even revive extinct cultures.

UNESCO³⁰ and some distributed small-scale NGO organisations spend time³¹, effort and money to maintain and document aspects of some cultures and heritages (including language, religion, art, literature, texts, agriculture, architecture, customs, festivals, music, and herbal medicine). For example, although *Bibliotheca Alexandria*, in cooperation with UNESCO, is trying to create awareness of *Coptic Heritage*³², and several universities and research centres have participated in some events and conferences including the Australian Catholic University³³ and Macquarie University³⁴ in Sydney, these attempts do not go beyond the academic sphere.

³⁰ See the History of humanity: From the seventh century BC to the seventh century AD (vol 3), UNESCO Publishing / Routledge.

³¹ See for example St Mark Foundation (www.coptic-history.org), St Mark Coptic Orthodox Church (www.stmarkchicago.org/Pages/CopticHistory.aspx), St Takla Church (www.st-takla.org/Coptic-church-1.html), and the Coptic Network (www.coptic.net).

³² See for example the First International Coptic Studies Conference <http://webcast.bibalex.org/home/List.aspx?Conference=/6Oypf/E9TVpkdE3EbwqhA>

³³ See video of first day session at <http://webcast.bibalex.org/Cast/Video.aspx?ID=v9PdLDrZdMmSHYQurhKfg>, by Pauline Allen and Youhanna Nessim Youssef from the Australian Catholic University.

³⁴ See Coptic Studies at Macquarie University <http://www.mq.edu.au/pubstatic/public/redirect/?id=20592>.

Dependency on OER enhances knowledge sharing among individuals within a society. In any OER usage, both professional/industrial or traditional/educational, cost and techno-pedagogical aspects OER should be monitored. Although it is usually assumed that OER reduce learning costs – which is true for learners – OER hosting providers will have increasing running costs. Without finding business revenues, these OER initiatives will not be sustained. As in any market, understanding individual, cultural, contextual factors is the starting point of the success of any business strategies. The current research outlined some factors that impact upon motivations for participation in OER for Anglo and Arabic individuals and their preferences. Monitors of OER websites should include educational/pedagogical designers, educational psychologists, business/market planners, and IT technicians; together they can work to maximise the outcomes of OER projects.

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Appendix A

Ethics Application and Approval

***The impact of culture on incentives for contribution to
wiki textbook projects***

Ethics Proposal

Candidate

Amal Maher Batra Hanna

Supervisors

Principal Supervisor

Dr Denise Wood

Co-Principal Supervisor

Dr Jackie Cook

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Ethics Application

The Ethics protocol (or application for ethics approval) is in three sections:

- ❖ **Section 1** is a coversheet which records your contact details and the title of your project.
- ❖ **Section 2** is a checklist of yes/no responses which identify key issues.
- ❖ **Section 3** is the proforma which provides the ethics committee with more detail about your project and particularly your interaction with research participants.
- ❖ **Guidelines** to help you prepare your ethics protocol are accessible from the Research and Innovation Services, website www.unisa.edu.au/res/ethics/human.asp#forms

Please complete and submit all three sections.

Please submit 17 copies and the original to the Executive Officer, Uni SA HREC

Submit application via your student email to the Ethics officer email

(lianne.quin@unisa.edu.au)

Section 1: Coversheet

Researcher's name	Amal Maher Batra <u>HANNA</u>
Researcher's School	School of Communication
and Division	Division of Education, Arts, Social Science
Postal address for correspondence	2-4 Gladstone St., Fullarton, Adelaide, South Australia 5063
Telephone number/s	(W) 08 830 24494 (H) 08 837 22531
Email	<u>Amal.Hanna@postgrads.unisa.edu.au</u>

Please circle the type of research being undertaken

Staff	☒ (PhD)	☐ Professional Doctorate	☐ Masters Research	☐ Masters Coursework	☐ Grad Dip/ Grad Cert	☐ Honors	☐ Undergraduate	☐ Other

Title of research project The impact of culture on incentives for contribution to wiki textbooks project

Plain English title The impact of culture on incentives for contribution to wiki textbooks project

Proposed commencement date November 2008

Researcher's signature

I certify that the protocol is complete and the research will be conducted in accordance with the protocol and in an ethical manner.

Supervisor's signature

I certify that this protocol has been completed in accordance with the requirements of the UniSA's protocol guidelines. I have considered the ethical implications of the proposed research and believe that the research will be conducted in accordance with the relevant local, state, national and Uni SA policies, guidelines, regulations and legislation.

Supervisor's name & contact details

Dr Denise Wood:

UniSA, School of Communication, Magill Campus
C2-33C, Tel: 830 24642 Denise.Wood@unisa.edu.au

Dr Jackie Cook:

UniSA, School of Communication, Magill Campus
C2-36, Tel: 830 24519 Jackie.Cook@unisa.edu.au

Please note that protocols which do not provide sufficient information for HREC or DEC to make an adequate assessment may be returned for revision.

Section 2: Checklist

Please circle your response to each of the following questions:

Does the research involve participation of Aboriginal or Torres Strait Islander people who have been selected as research participants because they are indigenous Australians?	No
Does the research involve any artifacts that are of cultural, spiritual or religious significance to Aboriginal or Torres Strait Islander people?	No
Does the research involve an unusually dependent relationship between the researcher and any of the research participants?	No
Could the research place research participants in an unusually vulnerable situation?	No
Is there any potential risk (physical, emotional, social or legal) to individual participants' well being, beyond that normally encountered in everyday life, as a result of their involvement in the research?	No
Does the research involve the administration or application of drugs and/or Clinical Trial Notification Scheme (CTN) documentation? (see www.unisa.edu.au/res/ethics/human.asp#forms)	No
Is there any reasonable likelihood that the research will result in the reporting of suspected child abuse?	No
Is there any potential risk to the researcher's safety, beyond that normally encountered in everyday life, as a result of their involvement in the research?	No
Do you plan to vary the usual written consent processes? It will be online consent.	Yes
Is the study known to involve research into illegal activities?	No
Does the study have potential legal implications for the researcher or the University?	No
Have you applied for funding for this research (other than Divisional funds)?	No
If YES, please give the name of granting body applied to and the type of grant sought.	N/A

- ❖ **Staff, PhD, Professional Doctorate and Masters by Research proposals must be considered by the Human Research Ethics Committee.**
- ❖ **All other student research should be considered by the appropriate Divisional Ethics Committee unless the researcher answered YES to any of the questions above.**
- ❖ **If you are uncertain about how to answer any of the questions or whether HREC or a Divisional Ethics Committee should consider your proposal please seek advice from the chair of the Divisional Ethics Committee.**

Please answer the remaining questions

What research methodologies will you use (tick those applicable)

Anonymous questionnaires	☐	Questionnaires requesting intimate personal, identifying, or sensitive information	☐
Internet questionnaires	☒	Face to face interviews which request personal or sensitive information	☐
Other questionnaires	☐	Focus groups	☐
Face to face interviews which do not request personal or sensitive information	☐	Action Research	☐
Observation of participant's usual activities	☐	Experiment or testing of a procedure, drug or equipment	☐
Observation of an activity set up for the purposes of the study	☐	Use of biological hazards, GMOs or pathogenic organisms. <i>(Refer additional approval requirement: www.unisa.edu.au/res/ethics/biohaz.asp#biological)</i>	☐
Access to medical records (or records which contain intimate personal information, <u>and</u> are individually identifiable <u>and</u> are not publicly available)	☐	Use of carcinogenic and/or toxic chemicals, including heavy metals. <i>(Refer additional approval requirement: www.unisa.edu.au/res/ethics/biohaz.asp#biological)</i>	☐
		Use of Radiation (Ionising and/or Non-ionising) <i>(Refer additional approval requirement: www.unisa.edu.au/res/ethics/biohaz.asp#biological)</i>	☐
Other (please specify)	Online semi-structured interview, that does not involve sensitive information		

Please tick the group/s from which your sample of participants will be drawn for this study

General public	☒	Children or young people under the age of 18	☐
Friends or family	☐	Patients of a hospital or clinic where you need approval to do the research	☐
Work colleagues	☐	Prisoners or people in the care of correctional services	☐
People with whom you have an ongoing professional relationship (eg students or clients)	☐	Members of the armed forces	☐
Other (please specify)			

In which country is data collection to take place? The data will be collected online. However, the researcher seeks participants from Australia and Egypt

List the organizations where the research will be undertaken. (Please note that written approval from all organizations must be obtained before the research can commence).

www.Wikibooks.org (please see attached approval) and www.Wikipedia.com

The researcher will seek participants who subscribed to Wikipedia email lists, after collecting data from Wikibooks email lists subscribers to get their required completed questionnaires for her study.

Will the research involve access to individuals, clients or records required from any organization? YES

See the attached approval in Appendix 6. YES

Will the research involve access to Uni SA staff, students or data? No

If YES, has approval been received? N/A

Will you access individually identifiable information about participants from any government department? No

or

from another organization (for example a state based register, education department, hospital, health department, correctional services)? No

If YES, list the government department(s) and/or organization(s) N/A

Have you received approval to access this information from the government department(s)/organization(s) listed above? N/A

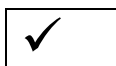
Will the research take place in South Australia in schools, preschools, child care centers or other educational facilities? N/A

Are the following appendices attached?

• Appendix 1	Reference list	Yes
• Appendix 2	Research tools	Yes
• Appendix 3	Recruitment material	Yes
• Appendix 4	Information sheet	Yes
• Appendix 5	Consent form	Yes
• Appendix 6	Correspondence	Yes

Language of the Consent Form, Participant Information Sheet and any other material provided to research participants if other than English. English & Arabic

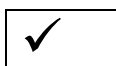
Thesis/dissertation



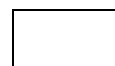
Conference presentation



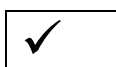
Journal article/s



Commissioned report



Research paper



Other (please specify) _____

Will research participants have the opportunity to receive a copy of your final report or summary of the findings if they wish? Yes

All the participants will receive an email that involves a link to the research findings which will be published online.

Will research participants receive any payment in relation to their participation? No

Ethics approval will not be finalized until copies of all necessary materials have been received by the executive officer of the ethics committee considering your protocol.

Section 3: Ethics protocol proforma

Please keep your responses as brief as possible while providing enough information for members of the ethics committee to gain a good understanding of what your research will involve. The Guidelines for Gaining Ethics Approval provide advice about what the committee requires. Remember that members of the ethics committee might not have the same background in your area of study that you have. Your responses should be written in plain English for a non-expert audience.

The suggested length of responses is a guide only. Simple, uncontentious research might be adequately explained more briefly. Research projects with a number of component parts or which involve possible risks to the research participants will require more detailed explanation.

Some questions might not be relevant to your study, for any that are not simply write N/A.

1 RESEARCH AIMS

Words

1.1 State the aims of your research

50-100

Wiki textbooks are “open” textbooks that enable anyone to contribute to and to edit the contributions of others. Wiki textbooks can also provide a means by which members can search and access free educational material. The aim of this research is to investigate whether people from different cultures view the “open” textbook concept in the same way and to determine whether these differing views affect their contribution to open textbooks. More specifically, the project aims to examine the effect of the culture in the development and the use of wiki textbooks, in two different situated societies: Australia (Western culture) and Egypt (Arabic culture). When Hofstede explained the culture he discussed that all cultures share values of individualism, masculinity, power distance, and uncertainty avoidance; however the direction and intensity of each value differ from one nation to another. In terms of direction, while some cultures are individualists, others are collectivists. In terms of intensity, while some cultures are highly individualistic other are low individualistic. This research will explore the impact of each value on the motivation for contribution to Wikibooks by correlating the motivational patterns to the Hofstede’s values of national culture.

1.2 Explain the need for, and value of, your research.

100-300

The need:

The current research relating to this field identifies both intrinsic and extrinsic motivations for open content/source contributions (Hars & Ou 2001; Jürgen, Wolfram & Philipp 2005; Krishnamurthy 2006; Nov 2007; Schroer & Hertel 2007; Shapira, Kantor & Melamed 2001). These motivations are generated from the individuals themselves based on their values’ systems (Shapira, Kantor & Melamed 2001; Jürgen, Wolfram & Philipp 2005; Krishnamurthy 2006). However, individuals are also members of a community, which it is argued also shapes and reshapes their value systems, and thus, affect their behaviors (Hofstede 2001).

These cultural values are applied both in the physical world and in cyberspace (Marcus & Gould 2000; Callahan 2005; Segev, Ahituv & Barzilai-Nahon 2007). Although Pfeil, Zaphiris and Siang Ang (2006) explored how a contribution to Wikipedia is affected by culture, based on the Hofstede’s national cultural values, there have been no studies undertaken that address the question of whether cultural values play a significant role in affecting motivations (intrinsic and/or extrinsic) to contribute to wiki textbooks. In other words, this research will explore how each value of Hofstede’s national culture affects the motivation, and the reasons, of contribution and therefore there patterns of contribution. The proposed research aims to meet this identified gap in the literature by investigating the ways in which the motivation of wiki textbook authors are impacted by cultural values, identifying how cultural values are expressed in wiki textbook authoring, and determining if wiki processes “suit” one social or cultural context more than others.

The value:

A Wiki textbook is an inexpensive, speedy, and endlessly updatable source of information. Wiki textbooks therefore have the potential to enable communities outside the major global publishing networks and especially for developing nations to contribute to the publication of textbooks. However, if there are cultural factors that impact on the motivation of authors to contribute to the wiki textbook process, there may be a need to adapt the wiki process in certain ways to maximize the potential of the wiki textbook movement. This study sets out to produce and analyze a cross-cultural set of case studies to address this issue. Understanding the cultural-based motivation of contribution will help to stimulating the contribution by identifying the appropriate cultural based incentives.

See Appendix 1

2 RESEARCH METHODOLOGY

2.1 List your research questions or hypotheses.

50-100

Main Question:

How do Anglo and Arabic cultural values affect the contributors' motivations as they work to produce English and Arabic wiki textbooks?

Research subsidiary questions:

- Is there a significant difference in how the two sample groups approach the authoring of a wiki textbook? If yes, how far do such differences relate to cultural values within each society?
- How do participants report their wiki textbook authoring experiences? What are the problems do they report? Do they see these problems as socially or culturally engaged issues? Do they report any preference for particular wiki processes to suit their social/cultural preferences?
- Do wiki processes "suit" one social or cultural context more than others? If yes, how might these be overcome?

2.2 Outline your research design and methodology.

250-300

1. Review of the literature to address the social and cultural issues that relating to technology diffusion; in particular wiki software that is used to produce wiki textbooks.
2. Design of online questionnaire that seeks answers about the respondents' experiences of wiki textbook authoring.
3. The researcher, as an email list subscriber, will send the invitation email to subscribers of the wikibooks.org and wikipedia.com email lists to participate in this study.
4. A series of semi-structured online interviews to be conducted using instant messenger service, VoIP, or email, depending on questionnaire respondents' expressed preference, to explore the online questionnaire responses in more depth.
5. A mixed-method analysis of data, quantifying responses to typify experiences in each society and to explore more socio-cultural issues through descriptive case-study approach

See **Appendix 2**.

2.3 Indicate whether your research is the first stage of a larger project.

50-100

This is a stand-alone PhD research project.

3 RESEARCH PARTICIPANTS

3.1 Who will be approached or recruited to be research participants? How many participants will be involved in your study? 50-100

The researcher will approach subscribers to *wikibooks.org* and *Wikipedia.com* email lists, through the emailing list of those projects. The sample of the current study is a quota sample. This sample allows the researcher to divide the population into groups, and interview a fixed number in each group (Bryman 2008). In a similar study conducted on Wikibookians, Sajjapanroj & Bonk (2008) collected 80 completed questionnaires. Because my study focuses on participants from two countries, Australia and Egypt, I will be satisfied if I am able to collect 30-40 completed questionnaires. In the same study, Sajjapanroj & Bonk invited 15 people who participated in the questionnaire to also participate in email interviews. This ratio is 18%. Therefore, the researcher expects to interview 5-7 people from each of the specified target populations.

3.2 List the selection and, if appropriate to your study, the exclusion criteria for participants. 50-100

Selection:

This study seeks participants whose native language is Arabic to represent Arabic culture and English to represent Anglo culture. The specific populations will be drawn from Egypt to represent Arabic culture and Australia to represent Anglo culture.

Exclusion:

Participants who do not speak Arabic and English as their native language
Participants who do not live in Egypt or Australia.
Participants under year 18.

3.3 How will you recruit participants for your research? 200-300

The researcher, as an email list subscriber, will email the Wikibooks.org and Wikipedia.com email list's subscribers to participate in the online questionnaire. This email will include brief information about the project (see **Appendix 3**) and a link to the online questionnaire, as well as the username and password required to access the online questionnaire.

3.4 How will you provide detailed information about your study to potential participants? 50-100

The researcher, as an email list subscriber, will email the Wikibooks.org and Wikipedia.com email list's subscribers to participate in the online questionnaire. This email will provide brief information about the research project and the invitation to participate in the questionnaire (see **Appendix 2**), as well as the username and password to gain access to the questionnaire. When the potential participant presses the link that is included in their email, they will be asked to login using the username and passwords that are provided to them in order to read more information about the research project and details about the procedures that the researcher will use to separate identifying information (their email addresses and other contact details), if they want to participate in interviews, from their answers in the questionnaire.

See **Appendix 4**

3.5 Describe how you will obtain consent to participate from those volunteering as participants for your research. 100-200

Consent will be displayed via the project website which provides details about the project. Participants will indicate their agreement to participate in the project by pressing the "I accept" button to prior to gaining access to the online questionnaire.

Respondents to the questionnaire, who are interested in participating in a follow-up online interview, will indicate their agreement by providing the contact method they prefer for the interview in the online questionnaire. Procedures are taken to ensure separation of this identifying information from participant responses to the questionnaire.

See **Appendix 5**

- 3.6 **If your research participants will be drawn from any dependent group (people who have an unequal power relationship with you or with an organization which is cooperating in the research) please detail how will you ensure that participants do not feel under any obligation to assist you with your research as participants.** 100-200
- Not applicable to the current study
- 3.7 **Describe how you will preserve participants' confidentiality as you collect and analyze the data and when you report the results.** 50-100
- The data that will be collected will be stored in a secured database in UniSA protected web server. The identifying information such as participants' email addresses, VoIP numbers, or any other contact details will be retained confidentially in a secured database on UniSA protected web server. Downloaded and printed data will be also stored in a secured filing cabinet in School of Communication office.
- The researcher will ensure that any identifying information (the contact details) of participants, who express interest in participating in the online interviews, will be separated from their answers in the questionnaire.
- The interview data files, whether tapes and/or transcriptions (or translations), will be kept in secured file cabinet in the School of Communication office. The researcher will use pseudonym, such as "Participant 01-Egypt" or "Participant03-Australia", when she stores interview files.
- 3.8 **If there are any potential risks (physical, emotional, social or legal) to individual subjects' well being (beyond those normally encountered in everyday life) as a result of their involvement in the research, detail the steps that will be taken to address, minimize and/or manage these risks including any support facilities such as counseling, debriefings or referrals.** 100-200
- Not applicable to the current study
- 3.9 **If there are any potential safety implications for yourself as the researcher (beyond those normally encountered in everyday life) please indicate how these will be addressed.** 50-100
- In the online questionnaire, there is no potential risk whether for the researcher or the participant. However, I prefer to use "Amal Maher" instead of Amal Hanna to contact the subscribers, because I'm known in Egypt by this name- a popular name, and common name.
- In that case a special email account maybe needed: Amal.Maher@students.unisa.edu.au
- 3.10 **If research participants will receive any payment, reimbursement or other benefit from participation in the research, please detail this and provide a justification for the level of compensation.** 50-100
- Participants will not receive any payment

4 RECORDING, REPORTING, STORAGE AND ACCESS TO THE RESEARCH DATA AND RESULTS

4.1 Describe briefly how the research data will be recorded, for example, audiotape, videotape, or written notes. 50-100

The data that will be collected using the online questionnaire will be stored in a secured database on the UniSA web server. Downloaded and printed data will be also stored in a secured filing cabinet in School of Communication office..

The online interview files (tapes or transcripts) will be also stored in a secured filing cabinet in School of Communication office at UniSA. These files will be stored using pseudonym.

4.2 Describe what you will do with the recorded data once it has been analysed. In order for the University to comply with the *Australian Code for the Responsible Conduct of Research* your research data must be stored securely for five years in a safe environment. Describe how and where the data will be stored and whether the data will be individually identifiable, re-identifiable data; or non-identifiable data 50-100

The data which will be collected using either online questionnaire or online interviews will be stored on the secured UniSA server or stored in secured filing cabinet in the School of Communication office. The researcher will use pseudonym for the stored interview files. The collected data will be retained in UniSA for five years, and then it will be destroyed.

4.3 Specify who apart from yourself (and your supervisors if applicable) will have access to the research data and results, and any conditions to be placed on that access. 25-50

The researcher and her supervisors are the only people who have access to the stored data whether the questionnaire database or the interview' files.

The research findings will not be disseminated without approval from the research supervisors.

5 OWNERSHIP OF THE RESEARCH

5.1 Detail who will own the data and the results of your research. 25-50

As a sole researcher, I own the research results and findings

The research paper(s) arising from the study may be published in cooperation with supervisors, or independently be the researcher.

Amal Hanna qualifies as author of PhD project titled: "The impact of culture on incentives for contribution to wiki textbook projects". Amal Hanna owns the intellectual property of PhD research: the idea, the title, the scope and the research findings and her contribution to the knowledge.

Amal Hanna is responsible for the collected data; and her supervisors Dr Denise Wood and Dr Jackie Cook can access these data at any time. The analysis's results of collected data by web-based survey and/or the semi-structured interview are sole responsibility by Amal Hanna. Amal Hanna will, in consultation with her supervisors Dr Denise Wood and Dr Jackie Cook, work into the interpretation of results' analysis.

Amal Hanna during her candidature will publish papers as sole author which are based on her PhD project. In relation to PhD project, Amal Hanna may publish papers incorporation with her supervisors Dr Denise Wood and Dr Jackie Cook. The joint papers in relation to the PhD project, Amal Hanna will be the first author. The authorship for papers will be documented according to The Australian Code of Practice.

6 APPENDICES

6.1 Reference list

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- Wagner, C & Prasarnphanich 2007, 'Innovating collaborative content creation: The role of altruism and Wiki technology', paper presented at the 40th Hawaii International Conference on System Sciences, Hawaii.

6.2 Research tools

N.B. The research participant will sign in first in order to read the information sheet (see Appendix 4) and then in case of their acceptance on the consent form (see Appendix 5) to participate in the online questionnaire, they will be redirected to the following questionnaire.

6.2.1 Online Questionnaire

The researcher will take every care to remove responses from any identifying material as early as possible. Likewise individual's responses will be kept confidential by the researcher and not be identified in the reporting of the research. However the researcher cannot guarantee the confidentiality or anonymity of material transferred by email or the internet.

1 Demographics

1.1 Age

- ☐ Younger than 18 years
- ☐ 18-25
- ☐ 25-35
- ☐ 35-45
- ☐ Older than 45 years

1.2 Educational level

- ☐ Primary school
- ☐ Secondary school
- ☐ Trade/ professional certificate
- ☐ University- Underground degree
- ☐ Honors
- ☐ Postgraduate Diploma
- ☐ Masters
- ☐ PhD/Professional Doctor
- ☐ Post doctoral
- ☐ Others

1.3 Educational field

- ☐ Student with no specialization
- ☐ Manufacturing and Mechanical Engineering
- ☐ Commerce, Management and Marketing
- ☐ Communication & Cultural Studies
- ☐ Computer and Information Science
- ☐ Education : please specify -----
- ☐ Electrical and Information Engineering
- ☐ Health Sciences
- ☐ Law
- ☐ Media and Arts
- ☐ Mathematics and Statistics
- ☐ Natural and Built Environments
- ☐ Nursing and Midwifery
- ☐ Pharmacy
- ☐ Psychology
- ☐ Social Work and Social Policy
- ☐ Others -----

1.4 Are you a student or working in an Educational institution or academia

- ☐ No
- ☐ Yes. Please specify -----

1.5 Native Language

- ☐ *Mandarin*
- ☐ *English*
- ☐ *Hindi*
- ☐ *Spanish*
- ☐ *Arabic*
- ☐ *Russian*
- ☐ *Portuguese*
- ☐ *French*

- ☐ *Japanese*
- ☐ *German*
- ☐ *Italian*
- ☐ *Others-----*

1.6 Language at School

- ☐ Mandarin
- ☐ English
- ☐ Hindi
- ☐ Spanish
- ☐ Arabic
- ☐ Russian
- ☐ Portuguese
- ☐ French
- ☐ Japanese
- ☐ German
- ☐ Italian
- ☐ Others-----
- ☐ Mixed -----

1.7 Language(s) that I use online in wikibooks.org

- ☐ Mandarin
- ☐ English
- ☐ Hindi
- ☐ Spanish
- ☐ Arabic
- ☐ Russian
- ☐ Portuguese
- ☐ Bengali
- ☐ Malay
- ☐ French
- ☐ Japanese
- ☐ German

- ☐ Italian
- ☐ Others-----
- ☐ Mixed -----

1.8 Country where you live most of the time

1.9 Gender

- ☐ Male
- ☐ Female
- ☐ Other

1.10 Religion

1.11 Education System

- ☐ Public
- ☐ Private
- ☐ Others-----

1.12 Computer literacy and learning process

- ☐ I learned how to use computer and internet in school and/or university
- ☐ I taught myself how to use a computer or I received a private training
- ☐ My teachers and lecturers asked me to study and do assignments using a computer.
- ☐ Others -----

2- Currently, I contribute because:

2.1. I want to have fun

- ☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

2.2. My friends do so

- ☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

2.3. Poor people can use these free books

- ☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

2.4. My teacher asked me to do so

- ☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

2.5. I believe that information should be free

- ☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

2.6. My religious teaching asks me to help others

- ☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

2.7. Others do not have the expert knowledge that I have

- ☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

2.8. I can not find other places to publish my work

- ☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

2.9. I'm lonely and so have free time

- ☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

2.10. I want to express my personal opinions

- ☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

2.11. Logical and grammatical errors have to be corrected

- ☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

2.12. There is a lack of information resources in my language.

- ☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

2.13. I contribute because I want to learn.

☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

2.14 Topics that I contribute to in and/or like to read

Topic	I write	I read
Natural sciences: Biology, Chemistry and Physics	☐	☐
Engineering	☐	☐
Business & Economics	☐	☐
History	☐	☐
Language and literature	☐	☐
Geography	☐	☐
Information technology and Programming Languages	☐	☐
Religious	☐	☐
Humanities	☐	☐
Politics	☐	☐
Sports	☐	☐
Media and Arts	☐	☐
Others----	☐	☐

13.15 Do you have any other comments you would like to add

3 I (whether always or sometimes) do not contribute because:

3.1 No financial reward

☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

3.2 I can't use wiki

☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

3.3 This is un-helpful website

☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

3.4 Our educational system (institution) does not (or can not) adopt this technology as a part of learning process

☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

3.5 I don't have a knowledge base in any suitable topic

☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

3.6 Contribution is useless unless others know of this website

☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

3.7 Our society does not value voluntary work

☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

3.8 I prefer reading to writing

☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

3.9 There is no clear structure for textbooks

☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

3.10 I have other hobbies and interests that take up my time rather than contributing to wiki textbooks

☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

3.11 I prefer socializing with family and friends rather than setting on the computer to contribute

☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

3.12 Others do not have an internet access or do not know of this website

☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly

agree

disagree

3.13 I do not feel confident.

- ☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

3.14 I prefer to write in my own language

- ☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

3.15 As this is voluntary work, orders to contribute are not acceptable to me

- ☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

3.16 This is not my job to write textbooks

- ☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree

3.17 Do you have any other comments you would like to add

In the next section of the questionnaire, you will be asked to provide your email address if you would like to receive a summary of the research results and findings, and also your contact details if you agree to me contacting you for an interview. However, in order to ensure confidentiality, the information that you provide in this questionnaire will be separated from your contact details should you agree to proceed to the next section. For this reason, you will be asked to sign out from this questionnaire before providing further information.

☐ Yes, I agree to provide my email address and /or other contact details

☐ No thanks, I don't want to receive a summary of the research findings and/or participate in the interview

Before the participants continue to answer the last part of the questionnaire, they will be asked to sign in again using the username and password that are given to them in the recruiting emails.

4. Research findings and interviews

4.1. Please provide us email address, if you would like to receive a summary of the research results and findings

4.2. If you agree to me contacting you to arrange an online interview, please provide details of your preferred method of contact:

☐ Instant Messenger (please provide details (i.e. Yahoo/ MSN/...))

☐ VoIP/Skype (please your number)

☐ Email (please specify email address)

☐ Other (please specify)-----

Thank you for taking the time to answer this questionnaire.

Your answers are important to us

Online Questionnaire in Arabic

إن الباحث سوف يفعل كل ما في وسعه لحذف كل ما يحدد شخصية المشاركين بالدراسة. وإن البيانات التي سوف يتم تجميعها سوف يتم الاحتفاظ بها في مكان آمن وبشكل لا يدل على هوية صاحبها. إلا أنه لا يوجد ما يضمن بشكل مطلق البيانات والمعلومات التي تنقل عبر الإنترنت أو عبر البريد الإلكتروني

1- البيانات الديموغرافية

1-1 العمر

- ☐ أقل من 18 عام
- ☐ من 18 حتى 25
- ☐ من 25 حتى 35
- ☐ من 35 حتى 45
- ☐ أكبر من 45 عام

2-1 المستوى التعليمي

- ☐ مرحلة التعليم الأساسي
- ☐ مرحلة التعليم الثانوي
- ☐ التعليم الفني والتجاري
- ☐ بكالوريوس
- ☐ بكالوريوس مع مرتبة الشرف
- ☐ دبلوم عليا
- ☐ ماجستير
- ☐ دكتوراه
- ☐ دراسات ما بعد الدكتوراه
- ☐ أخرى

3-1 التخصص الدراسي

- ☐ مازلت طالب ولم أتحصص بعد
- ☐ هندسة إنتاج وميكانيكا
- ☐ التجارة والإدارة والتسويق
- ☐ الاتصالات والدراسات الثقافية
- ☐ الكمبيوتر ونظم المعلومات
- ☐ التعليم: ومن فضلك وضح بشكل أكثر إستفاضة -----
- ☐ هندسة المعلومات والإلكترونيات
- ☐ العلوم الصحية
- ☐ الدراسات القانونية
- ☐ الإعلام والآداب
- ☐ الرياضة البحتة والإحصاء
- ☐ التمرض ورعاية المسنين
- ☐ الصيدلة
- ☐ علم النفس
- ☐ العمل الجماعي والسياسات المجتمعية
- ☐ أخرى: ومن فضلك وضح بشكل أكثر إستفاضة -----

4-1 هل انت طالب أو ممن يعمل في المجال التعليمي والأكاديمي

- ☐ لا
- ☐ نعم: ومن فضلك وضح بشكل أكثر إستفاضة -----

5-1 ماهي لغتك الأم

- ☐ الماندارين (الصينية)
- ☐ الإنجليزية
- ☐ الهندية
- ☐ الأسبانية
- ☐ العربية
- ☐ الروسية
- ☐ البرتغالية
- ☐ الفرنسية
- ☐ اليابانية
- ☐ الألمانية
- ☐ الإيطالية
- ☐ أخرى: ومن فضلك وضح بشكل أكثر إستفاضة -----

6-1 ماهي اللغة المستعملة في الدراسة

- ☐ الماندارين (الصينية)
- ☐ الإنجليزية
- ☐ الهندية
- ☐ الأسبانية
- ☐ العربية
- ☐ الروسية
- ☐ البرتغالية

- الفرنسية
○ اليابانية
○ الألمانية
○ الإيطالية
○ أخرى: ومن فضلك وضح بشكل أكثر إستفاضة -----
○ عدة لغات هي -----

7-1 اللغة التي أساهم بها في موقع wikibooks.org هي:

- الماندارين (الصينية)
○ الإنجليزية
○ الهندية
○ الأسبانية
○ العربية
○ الروسية
○ البرتغالية
○ الفرنسية
○ اليابانية
○ الألمانية
○ الإيطالية
○ أخرى: ومن فضلك وضح بشكل أكثر إستفاضة -----
○ عدة لغات هي -----

8-1 ما هي الدولة التي عشت فيها معظم حياتك

9-1 الجنس

- رجل
○ امرأة
○ أخرى

10-1 الديانة

11-1 النظام التعليمي

- عام
○ خاص
○ أخرى: من فضلك وضح بشكل أكثر إستفاضة -----

12-1 مهارات الكمبيوتر والعملية التعليمية

- ☐ قامت المدرسة (الجامعة) بتعليمي كيفية إستخدام الكمبيوتر
☐ علمت نفسي بنفسي كيف أستخدم الكمبيوتر والتعامل مع الإنترنت هذا بالإضافة لمجموعة من خلال مراكز التدريب الخاصة
☐ أقوم بعمل الواجبات الدراسية بإستعمال الكمبيوتر بناء على رغبة أساتذتي ومدرسي
☐ أخرى: من فضلك وضح بشكل أكثر إستفاضة -----

2- أساهم حالياً في wikibooks.org :

- غير موافق بالمرة ○ غير موافق ○ محايد ○ أوافق ○ أوافق بشدة ○

1-2 لأنني أشعر بالإستمتاع

- غير موافق بالمرة ○ غير موافق ○ محايد ○ أوافق ○ أوافق بشدة ○

2-2 لأن أصدقائي يقوموا بنفس العمل

- غير موافق بالمرة ○ غير موافق ○ محايد ○ أوافق ○ أوافق بشدة ○

3-2 حتى يجد الفقراء كتب مجانية

- غير موافق بالمرة ○ غير موافق ○ محايد ○ أوافق ○ أوافق بشدة ○

4-2 لأن مدرسي طلب مني المساهمة بالكتابة

- غير موافق بالمرة ○ غير موافق ○ محايد ○ أوافق ○ أوافق بشدة ○

5-2 لاني أؤمن بأن المعلومات يجب أن تكون متاحة للجميع وبالمجان

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

6-2 لأن تعاليم الدين تطلب مني أن أساعد الآخرين

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

7-2 لأن الآخرين لا يمتلكون المعلومات المتخصصة التي أمتلكها

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

8-2 لأنني لا أجد مكاناً آخر لنشر أعمالي

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

9-2 لأنني أشعر بالوحدة ولدي الكثير من وقت الفراغ

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

10-2 حتى أعبر عن آرائي الشخصية

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

11-2 لأنني وجدت بعض الأخطاء الفادحة (المنطقية) أو النحوية التي يجب تصحيحها

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

12-2 لأن هناك عجز شديد في المعلومات باللغة الأم

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

13-2 أساهم لأنني أرغب في التعلم

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

14-2 المواضيع التي أساهم فيها أو/و أحب قراءتها:

المواضيع	التي اكتبها	التي أقرأها
العلوم الطبيعية: الكيمياء والفيزياء والأحياء	☐	☐
الهندسة	☐	☐
الاقتصاد والأعمال	☐	☐
التاريخ	☐	☐
الأدب واللغات	☐	☐
الجغرافيا	☐	☐
تكنولوجيا المعلومات ولغات البرمجة	☐	☐
المواضيع الدينية	☐	☐
علم الإنسانيات	☐	☐
السياسة	☐	☐
الرياضة	☐	☐
الإعلام والفنون	☐	☐
أخرى: من فضلك وضح بشكل أكثر إستفاضة -----	☐	☐

15-2 هل لك أي ملاحظات أخرى ترغب بإضافتها وبالتعبير عنها:

3- إنني دائماً أو في بعض الأحيان لا أساهم
1-3 لأنه لا يوجد عائد مادي

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

2-3 لا أستطيع أن أستخدم الويكي

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

3-3 لا أجد أن هذا الموقع يمثل فائدة

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

4-3 نظامنا التعليمي ومؤسساته لا ولن تستخدم الويكي في العملية التعليمية

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

5-3 ليست لدي معلومات كافية تؤهلني للمساهمة في الموضوع

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

6-3 المساهمة في هذا الموقع لا جدوى منها طالما أن الآخرين لا يعرفون هذا الموقع

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

7-3 إن مجتمعنا لا يقدر العمل التطوعي

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

8-3 أفضل القراءة أكثر من الكتابة

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

9-3 لا يوجد جدول واضح للمحتويات الخاصة بكل كتاب

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

10-3 لدي إهتمامات وهوايات أخرى أكثر أهمية من المساهمة في ال Wikitextbook

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

11-3 أفضل الجلوس مع الأهل والأصدقاء عن الجلوس أمام الكمبيوتر لأساهم في هذا الموقع

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

12-3 قد يكون الآخرين ليست لديهم امكانية الإتصال بالإنترنت أو أنهم لا يعرفون هذا الموقع

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

13-3 لا أشعر بالثقة الكافية للقيام بهذا العمل

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

14-3 أفضل الكتابة بلغتي الأم

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

15-3 أنه عمل تطوعي، وبالتالي فإن لا أتعلم الأوامر التي تدفعني للمساهمة في الموقع

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

16-3 إنها ليست وظيفتي لأقوم بالكتابة والمساهمة في ال Wiki textbook

غير موافق بالمرة ☐ غير موافق ☐ محايد ☐ أوافق ☐ أوافق بشدة ☐

17-3 هل لك أي ملاحظات أخرى ترغب بإضافتها والتعبير عنها:

إن الجزء التالي من إستمارة الإستبيان سوف يتضمن سؤالك عن بريدك الإلكتروني في حال ما إذا كنت ترغب في الحصول على ملخص بنتائج البحث، كما سيتضمن أيضا بيانات عن كيفية الإتصال بك لإجراء المقابلة الشخصية. ولكن لضمان عزل إجاباتك التي قدمتها أثناء الإستبيان عن بيانات الإتصال بك فإنه يتطلب منك الخروج تسجيل والدخول مرة أخرى

0 نعم، أوافق على تزويدكم ببريدي الإلكتروني الشخصي و/ أو بيانات الإتصال الأخرى
0 لا، فأنا غير راغب في الحصول على ملخص بنتائج البحث و/أو المشاركة في مقابلة شخصية

4- نتائج البحث والمقابلات

1-4 ما هو بريدك الإلكتروني إذا كنت ترغب في الحصول على نسخة مختصرة من نتائج البحث

2-4 إذا وافقت على إجراء المقابلة الشخصية فما هي الوسيلة التي تفضلها لإجراء المقابلة

☐ عن طريق الماسنجر فما هو Yahoo/MSN/..... الخاص بك

☐ عن طريق VoIP/Skype فما هو الرقم الخاص بك

☐ عن طريق الإيميل فما هو بريدك الإلكتروني

☐ أو عبر أي وسيلة أخرى تفضلها ، من فضلك زودنا بالتفاصيل

وفي النهاية نود أن نشكركم على الإقتطاع من وقتكم الثمين للإجابة على هذا الإستبيان وتأكد دائماً ان إجاباتك مفيدة لنا

6.2.2 Online Semi-structured Interview

The interviews will target students, researchers, tutors and professors

The questions asked in the semi-structured interview will be based on the results of analysis of online questionnaire data and will address the following focal areas:

- Masculinity and femininity:
 - i.e. differing views about wiki textbook based on gender Individualism and Collectivism:
 - i.e. writing practices and preferences
- Uncertainty avoidance:
 - i.e. no contribution or preference for clear structure
- Power distance:
 - i.e. initiation and perception toward “delete”
- Preferred interface for wiki process
- How do people see their society as a mean of motivating wiki authoring?

6.3 Recruitment material
The English Email to Wikibooks.org email list subscribers

Are you Australian and is your native language English?

Dear Wikibooks.org (or Wikipedia) Subscriber,

You are invited to participate in a research study that aims to explore what motivates Wikibookians to write to Wiki textbook projects. Your responses will help us identify shared motivations among contributors.

You will be required to use the following username and password in order to access further details about the project and the consent form should you agree to participant in this research study.

Username: motivations

Password: wikiproject

Interested enough to take this  15 min. online Survey?
(www.UniSA.edu.au/wikiEnglishSurvey.htm)
I appreciated your time in helping me to do this research

If you have any questions, please do not hesitate to contact me:

Amal Maher

PhD Student

School of Communication

University of South Australia

Email: Amal.Maher@students.unisa.edu.au

The English Translation to the Arabic Email to Wikibooks.org email list subscribers

Are you Egyptian and is your native language Arabic?

Dear Wikibooks.org (or Wikipedia) Subscriber,

You are invited to participate in a research study that aims to explore what motivates Wikibookians to write to Wiki textbook projects. Your responses will help us identify shared motivations among contributors.

You will be required to use the following username and password in order to access further details about the project and the consent form should you agree to participant in this research study.

Username: motivations

Password: wikiproject

Interested enough to take this  15 min. online Survey?
(www.UniSA.edu.au/wikiArabicSurvey.htm)
I appreciated your time in helping me to do this research

If you have any questions, please do not hesitate to contact me:

Amal Maher

PhD Student

School of Communication

University of South Australia

Email: Amal.Maher@students.unisa.edu.au

هل انت مصري ولغتك الأم هي العربية

عزيزي المشترك في موقع Wikibooks.org (او موقع Wikipedia.com)

انت مدعو للمشاركة في الدراسة التي تهدف إلى إكتشاف الحوافز التي تلعب دورا في نفوس الأفراد وتدفعهم للمشاركة في موقع Wikibooks.org . إن إجاباتك سوف تساعدنا على تحديد ماهية الدوافع المشتركة بين المساهمين في البيئة الثقافية التي نشأوا فيها.

مطلوب منك حتى تستطيع المشاركة في هذا الإستبيان أن تسجل الدخول أولا مستعملا إسم الدخول وكلمة السر التاليين، بعدها سوف يكون متاحا لك التعرف بشكل أكثر على المشروع البحثي وايضا يستدعي لمشاركتكم في هذا الإستبيان موافقتك على نموذج معد لذلك الغرض يتضمن موافقتك على إجراء البحث

إسم الدخول: motivations

كلمة السر: wikiproject



لماذا لا تستقطع من وقتك 15 دقيقة فقط وتجيب على هذا الإستقصاء؟

(www.UniSA.edu.au/wikiArabicSurvey.htm)

وأنا أقدر وقتك الثمين للمساهمة في هذا الإستطلاع

وإذا كان لديك أي إستفسار، فيمكنك الإتصال بي على العنوان التالي

أمال ماهر

جامعة جنوب أستراليا

كلية الاتصالات

وبريدي الإلكتروني هو Amal.Maher@students.unisa.edu.au

6.4 English Information sheet & Consent Form (for Australians)

University of South Australia
Division of Education, Arts, and Social Sciences
School of Communication

The purpose of this study is to explore what motivates Wikibookians to contribute to Wiki textbook projects. Your responses will help identify shared motivations among contributors. Interested participants in Australia (English as your native language, and aged over 18 years) will complete an anonymous online questionnaire.

This project has been approved by the University of South Australia's Human Research Ethics Committee. If you have any ethical concerns about the project or questions about your rights as a participant please contact the Executive Officer of this Committee, Tel: +61 8 8302 3118; Email: Vicki.allen@unisa.edu.au

This questionnaire will collect demographic data (age, gender, educational level, first language, and country of residence), information about topics that they like to contribute and reasons that motivate them to write and edit Wikibooks. In the last section of the online questionnaire, participants will be asked if they would like to receive a summary of the research findings and/or the preferred contact methods if they would like to participate in an online interview.

All records containing personal information will remain confidential and no information which could lead to identification of any individual will be released. However, the researcher cannot guarantee the confidentiality or anonymity of material transferred by email or the internet.

The collected data will be stored in UniSA secured sever and the printed records will also be kept in a secured cabinet in School of Communication office. All records on the UniSA server or the printed material will be kept for five years and then they will be destroyed in October 2013.

To ensure your anonymity, the information that you provide in the online questionnaire will be separated from any identifying information. You will therefore be asked to sign out first, and sign in again using the same username and password that is given to you in the email you received should you agree to participate in the online interview or if you want to provide us with an email address to receive a summary of findings of the study.

The online questionnaire will take approximately 15-20 minutes to answer. All data that will be collected and the contact details will be kept confidentially for five years and then it will be destroyed. No data will be made public.

Please be advised that participation is voluntary

Participants will be able to receive a summary of the research findings upon the PhD dissertation being published by mid of 2011.

If you have any questions or concerns regarding this study, please do not hesitate to contact me:

Amal Maher

PhD Student

Email: Amal.Maher@students.unisa.edu.au

However, you may feel that you would like to contact my supervisors regarding any concerns, or regarding my project:

Dr Denise Wood

School of Communication

University of South Australia

Email: Denise.Wood@unisa.edu.au

Dr Jackie Cook

School of Communication

University of South Australia

Email: Jackie.Cook@unisa.edu.au

This questionnaire will not cause the participant any problem or put them at risk. However if the participants feel of any risk or unethical treatment, they can contact the Ethics Committee:

Ms Vicki Allen

RIS Ethics and Compliance Officer

University of South Australia

Email: Vicki.Allen@unisa.edu.au

I'm willing to participate. [Go to consent form to sign it]	Sorry, I don't want to participate in this study [Sign out]

Consent Form

Do you agree to take part in this study?

I have read carefully the information sheet; and understand the nature and purpose of the research.

I understand that I may withdraw from the research project at any stage and that this will not affect my status now or in the future.

I understand that while information gained during the study may be published, I will not be identified and my personal results will remain confidential.

I understand that the collected data will be retained for five years

I am over 18 years.

Yes, I agree

6.5 Arabic Information sheet & Consent Form (for Egyptians)

جامعة جنوب أستراليا
كلية التعليم والفنون والعلوم الاجتماعية
قسم الاتصالات

إن هذه الدراسة تهدف إلى إكتشاف الحوافز التي تلعب دورا في نفوس الأفراد وتدفعهم للمشاركة في موقع Wikibooks.org . إن إجاباتك سوف تساعدنا على تحديد ماهية الدوافع المشتركة بين المساهمين في البيئة الثقافية التي نشأوا فيها. الراغبين في المشاركة في هذه الدراسة هم مصريون لغتهم الأم العربية وسنهم أكبر من 18 عاما مدعون للمشاركة في الاستبيان العشوائي.

إن هذا المشروع تمت الموافقة عليه من مجلس أخلاقيات البحث بجامعة جنوب أستراليا. وإذا كان لديك أي تحفظ بخصوص حقوقك كمشارك في هذا البحث فإنه يمكنك الإتصال بالموظف التنفيذي على هذا المجلس على تليفون +61 8 8302 3118 أو عبر البريد الإلكتروني Vicki.Allen@unisa.edu.au

هذا الاستبيان يهدف إلى تجميع بيانات ديموغرافية كالسن والجنس والمستوى التعليمي واللغة الأم والدولة التي عشت فيها أغلب وقتك. وايضا المواضيع التي ترغب فيها والأسباب التي تحفزك على المساهمة في هذه المواضيع. في المرحلة الأخيرة من هذا الاستبيان سوف يطلب منك أن تزودنا ببريدك الإلكتروني في حال رغبتك في الحصول على ملخص بنتائج البحث، و/أو وسيلة الإتصال التي ترغبها في حالة موافقتك على إجراء مقابلة معك.

كل السجلات المتضمنة على بيانات شخصية سيتم الإحتفاظ على سريتها وهذه المعلومات الدالة على الشخصية أيضا لن يتم نشرها. ومع ذلك فإنه لا ضمان سرية أو عدم خصوصية البيانات المنقولة عبر الإنترنت أو عبر البريد الإلكتروني. إن البيانات المجمعة سيتم الإحتفاظ بها على السيفر الخاص بالجامعة وهو محمي بعناية كما أن السجلات المطبوعة سيتم الإحتفاظ بها في خزانة خاصة بمكتب كلية الاتصالات وإن كلا من السجلات الرقمية أو المطبوعة ستم الإحتفاظ بها لمدة خمس سنوات وسيتم تدميرها في أكتوبر 2013

ولضمان خصوصيتك فقد تم عزل إجاباتك التي سوف تقدمها عبر إستمارة الاستبيان عن بيانات الإتصال الخاصة بك حيث سيطلب منك الخروج وتسجيل الدخول مرة أخرى مستعملا نفس إسم الدخول وكلمة السر المعطاة بالبريد الإلكتروني الذي سبق إرساله لك.

إن هذا الاستبيان سوف يستغرق من 15 إلى 20 دقيقة. وإنني أؤكد لك أن البيانات التي يتم تجميعها وبيانات الإتصال الخاصة بك سوف يتم الإحتفاظ بها في مكان آمن وسوف يتم التخلص منها بعد خمس سنوات. وثق أن بياناتك لن تنتشر.

إن المشاركة في هذا الاستبيان هو تطوعي
إن المشاركين سوف يكونون قادرين على الحصول على نسخة من نتائج البحث عندما تكون الرسالة متاحة للنشر في منتصف عام 2011

وإذا كان لديك أي إستفسار، فيمكنك الإتصال بي على العنوان التالي

أمال ماهر

جامعة جنوب أستراليا

كلية الاتصالات

وبريدي الإلكتروني هو Amal.Maher@students.unisa.edu.au

كما أنك يمكنك الإتصال بمشرفي على هذه الدراسة وهما

د. دينيس وود
جامعة جنوب أستراليا
كلية الاتصالات

وبريدها الإلكتروني Denise.Wood@unisa.edu.au

د. جاكى كوك
جامعة جنوب أستراليا
كلية الاتصالات

وبريدها الإلكتروني Jackie.Cook@unisa.edu.au

هذا وإنه يمكنك الإنسحاب من هذا الاستبيان في أي لحظة دون أن يسبب هذا ضرر لك. ومع ذلك فإنه إذا شعرت أن هناك ضرر قد حدث لك ومعاملة غير أخلاقية فإنه يمكن لك الإتصال اللجنة القائمة على ضمان أخلاقيات البحث:

فيكي ألين

جامعة جنوب أستراليا

وبريدها الإلكتروني هو Vicki.Allen@unisa.edu.au

أني على استعداد للمشاركة في البحث
(أذهب إلى نموذج الموافقة على إجراء البحث)

أنا أسف، فأنا غير راغب على
المشاركة في هذا البحث
(خروج)

نموذج الموافقة على المشاركة بالبحث

هل انت موافق على المشاركة في هذه الإستبيان؟

أقر بأنني قرأت صحيفة المعلومات المقدمة وموافق على طبيعة هدف وطبيعة هذه الدراسة
أني أفهم اني استطيع الانسحاب من هذه الدراسة في أية لحظة وأن هذا لا يؤثر على الآن أو في المستقبل
أني أفهم أن المعلومات المبنية على هذه الدراسة قد يتم نشرها ولكن بياناتي الشخصية وكل ما هو دال على شخصيتي سوف يظل سرياً
وأن هذه البيانات المجمعة سوف يتم الإحتفاظ بها لمدة خمسة سنوات
كما أني أكبر من 18 عاما

نعم، أنا موافق

6.6 English translation for Arabic Information sheet & Consent Form (for Egyptians)

University of South Australia
Division of Education, Arts, and Social Sciences
School of Communication

The purpose of this study is to explore what motivates Wikibookians to contribute to Wiki textbook projects. Your responses will help identify shared motivations among contributors. Interested participants in Egypt (Arabic as your native language, and aged over 18 years) will complete an anonymous online questionnaire.

This project has been approved by the University of South Australia's Human Research Ethics Committee.

If you have any ethical concerns about the project or questions about your rights as a participant please contact the Executive Officer of this Committee, Tel: +61 8 8302 3118; Email: Vicki.Allen@unisa.edu.au

This questionnaire will collect demographic data (age, gender, educational level, first language, and country of residence), information about topics that they like to contribute and reasons that motivate them to write and edit Wikibooks. In the last section of the online questionnaire, participants will be asked if they would like to receive a summary of the research findings and/or the preferred contact methods if they would like to participate in an online interview.

All records containing personal information will remain confidential and no information which could lead to identification of any individual will be released. However, the researcher cannot guarantee the confidentiality or anonymity of material transferred by email or the internet.

The collected data will be stored in UniSA secured sever and the printed records will also be kept in a secured cabinet in School of Communication office. All records on the UniSA server or the printed material will be kept for five years and then they will be destroyed in October 2013.

To ensure your anonymity, the information that you provide in the online questionnaire will be separated from any identifying information. You will therefore be asked to sign out first, and sign in again using the same username and password that is given to you in the email you received should you agree to participate in the online interview or if you want to provide us with an email address to receive a summary of findings of the study.

The online questionnaire will take approximately 15-20 minutes to answer. All data that will be collected and the contact details will be kept confidentially for five years and then it will be destroyed. No data will be made public.

Please be advised that participation is voluntary

Participants will be able to receive a summary of the research findings upon the PhD dissertation being published by mid of 2011.

If you have any questions or concerns regarding this study, please do not hesitate to contact me:

Amal Maher
PhD Student
Email: Amal.Maher@students.unisa.edu.au

However, you may feel that you would like to contact my supervisors regarding any concerns, or regarding my project:

Dr Denise Wood
School of Communication
University of South Australia
Email: Denise.Wood@unisa.edu.au

Dr Jackie Cook
School of Communication
University of South Australia
Email: Jackie.Cook@unisa.edu.au

This questionnaire will not cause the participant any problem or put them at risk. However if the participants feel of any risk or unethical treatment, they can contact the Ethics Committee:

Ms Vicki Allen
RIS Ethics and Compliance Officer
University of South Australia
Email: Vicki.Allen@unisa.edu.au

I'm willing to participate.
[Go to consent form to sign it]

Sorry, I don't want to participate
in this study
[Sign out]

Consent Form

Do you agree to take part in this study?

I have read carefully the information sheet; and understand the nature and purpose of the research.

I understand that I may withdraw from the research project at any stage and that this will not affect my status now or in the future.

I understand that while information gained during the study may be published, I will not be identified and my personal results will remain confidential.

I understand that the collected data will be retained for five years

I am over 18 years.

Yes, I agree

6.7 Correspondence

Wikibooks.org is a sister project to Wikipedia.org. The founder of Wikibooks.org is Wikimedia Foundation. I approached Wikimedia foundation and gained their acceptance to email the Wikibooks.org email list subscribers (attached)

Wikimedia Foundation

info@wikimedia.org

Erik Möller

Deputy Director, Wikimedia Foundation
erik@wikimedia.org OR eloquence@gmail.com

From: Hanna, Amal Maher Batra - hanam004

Sent: Thu 10/04/2008 4:59 PM

To: info@wikimedia.org

Subject: WikiBooks Survey

Hi WikiMedia Foundation

I would like to do a survey about why people contribute to wiki books. Could you help me with that by putting a like in WikiBooks project's main page, or provide me with the mailing list that I can use to distribute the survey.

I seek your cooperation to support my research
If you need more information, feel free to email me

Waiting for your response
Thanks

Amal Hanna

PhD Student, School of Communication, UniSA
Office : UniSA, Magill Campus, TE1-11
Tel: 830 24494

From: eloquence@gmail.com on behalf of Erik Moeller

Sent: Fri 11/04/2008 3:11 AM

To: Hanna, Amal Maher Batra - hanam004

Subject: Wikibooks survey

Amal,

the Wikibooks mailing list is at :

<https://lists.wikimedia.org/mailman/listinfo/textbook-l>

Curtis Bonk from Indiana University has been studying the Wikibooks community for a while; you may want to get in touch with him to see if your research overlaps and if he can provide advice: "Bonk, Curtis Jay" <cjbonk@indiana.edu>.,

Cheers,
Erik

--

Erik Möller

Deputy Director, Wikimedia Foundation
Support Free Knowledge: <http://wikimediafoundation.org/wiki/Donate>

From: eloquence@gmail.com on behalf of Erik Moeller
Sent: Mon 16/06/2008 6:03 PM
To: Hanna, Amal Maher Batra - hanam004
Subject: Re: Wikibooks survey

Yes, sure, that's fine.

2008/6/13 Hanna, Amal Maher Batra - hanam004
Amal.Hanna@postgrads.unisa.edu.au>:
Dear Erik Moeller

Thank you very much for your email, and sending me the link of mailing list.

Could you please confirming me that I can email the subscribers to invite them to answer an online questionnaire?

Thank you for your cooperation and support

Kind Regards

Amal Hanna
PhD Student, School of Communication, UniSA
Office : UniSA, Magill Campus, TE1-11
Tel: 830 24494

End of ethics application

Ethics Approval

From: Alice Granger
To: Hanna, Amal Maher Batra
Sent: Friday, December 12, 2008 7:14 AM
Subject: Ethics protocol P244/08 "The impact of culture on incentives for contribution to wiki textbooks project"

Dear Amal,

Re: Ethics protocol P244/08 "The impact of culture on incentives for contribution to wiki textbooks project"

Thank you for providing the amendments and/or additional information requested by the University's Human Research Ethics Committee (email dated 2 December 2008).

I am pleased to advise that your protocol has been granted ethics approval and meets the requirements of the *National Statement on Ethical Conduct in Human Research*.

Please regard this email as formal notification of approval.

Ethics approval is always made on the basis of a number of conditions detailed in the attachment; it is important that you are familiar with, and abide by, these conditions. It is also essential that you conduct all research according to UniSA guidelines, which can be found at <http://www.unisa.edu.au/res/ethics/default.asp>

Please note, if your project is a clinical trial you are required to register it in a publicly accessible trials registry prior to enrolment of the first participant (eg Australian New Zealand Clinical Trials Registry <http://www.anzctr.org.au/Survey/UserQuestion.aspx>) as a condition of ethics approval.

Best wishes for your research.

Alice

Alice Granger
Compliance Officer
Research and Innovation Services
University of South Australia
Mawson Lakes Campus
Tel: 08 8302 3523
email: alice.granger@unisa.edu.au

Appendix B

Amendment to Recruitment Method for the Online Questionnaire

Date: 5 March 2009

From: **Amal Hanna**
PhD Candidate
School of Communication
University of South Australia

To: **Vicki Allen**
Ethics and Compliance Officer & Executive Officer
Uni SA Human Research Ethics Committee
Research and Innovation Services
University of South Australia

CC: **Alice Granger**
Compliance Officer
Research and Innovation Services
University of South Australia

Re: Some minor amendments of to the Recruitment Material and Methods in Ethics protocol P244/08

I had approval for “The impact of culture on incentives for contribution to wiki textbooks project” (P244/08) on 26 September 2008 subject to some amendments, and the Formal Notification of Approval was in 12 December 2008.

Reasons for amendments:

Because of the low response rate to my online questionnaire to explore the impact of culture on motivation for contribution to Wikibooks project, I have to take some actions to increase the response rate.

To do so, I contacted Wikimedia Foundation regarding some actions that I need to take in increase the response rate. Please find enclosed correspondence of their acceptance of these proposed actions.

Wikimedia Foundation's Response:

- 1) **Wikimedia Foundation** offered me to put an advertisement in Wikibooks website pages.

English Advertisement in all Wikibooks pages

You are invited to participate in a research study that aims to explore the shared motivations among Wikibookians to write to Wikibooks. The research has been approved by UniSA Human Ethics. Take the survey http://easstudents.cw.unisa.edu.au/com/survey/wikisurveyen_interface/Results/survey/indexEN.htm . and use [motivations] as your username and [wikiproject] as your password to login.

Arabic Advertisement in Arabic pages of Wikibooks

انت مدعو للمشاركة في إستقصاء لمعرفة ماهية الدوافع المشتركة بين المساهمين للمشاركة في ويكي الكتب. لقد تمت الموافقة على إجراء هذا البحث بواسطة مجلس أخلاقيات البحث بجامعة جنوب أستراليا. للمشاركة في هذا الإستبيان باللغة العربية
[http://easstudents.cw.unisa.edu.au/com/survey/wikisurveyen_interface/Results/survey/indexAR.htm] علما
بأن إسم الدخول [motivations] هو وكلمة السر هي [wikiproject]

- 2) **Wikimedia Foundation** accepted to let me email my invitation letter to the Wikimedia Foundation mail lists [foundation-l@lists.wikimedia.org].

If you have any concerns please let me know

Thanks for your efforts
Kind regards

Amal Hanna

PhD Candidate, School of Communication, UniSA
Office: UniSA, Magill Campus, TE1-11
Tel: 830 24494
Mob: 0404 131312

Amal Hanna's email to Mike Ingram at Wikibooks regarding a Formal Confirmation:

From: Amal Hanna
Sent: Thursday, 5 March 2009 2:19 PM
To: Mike.lifeguard
Subject: RE: 3-Steps Action Plan

Dear Mike,

Thank you so much for your prompt response and for your cooperation to increase the response rate for my research.

I have done the advertisement message in English and Arabic to be put in Wikibooks pages.

At the moment, in order to have additional approval from the Research Ethics Committee, could you please grant me a Formal Confirmation, it would be better if you do that from Wikimedia email address, stating that (for example):

Wikimedia Foundation is willing to put the following sitenotice in Wikibooks pages:

English Advertisement in all Wikibooks pages

You are invited to participate in a research study that aims to explore the shared motivations among Wikibookians to write to Wikibooks. Take the survey

http://easstudents.cw.unisa.edu.au/com/survey/wikisurveyen_interface/Results/survey/indexEN.htm .

Please login to the survey and use [motivations] as your username and [wikiproject] as your password.

Arabic Advertisement in Arabic pages of Wikibooks

انت مدعو للمشاركة في إستقصاء لمعرفة ماهية الدوافع المشتركة بين المساهمين للمشاركة في ويكي الكتب. للمشاركة في هذا الإستبيان باللغة العربية

[http://easstudents.cw.unisa.edu.au/com/survey/wikisurveyen_interface/Results/survey/indexAR.htm] علماً بأن إسم الدخول [motivations] وكلمة السر هي [wikiproject]

Moreover, the researcher Amal Hanna, can also email the Wikimedia Foundation mail lists to invite all the registered users to her study.

Mike (please full name)

Title

Once the ethics committee approve these changes, we need to add "The research has been approved by UniSA Human Ethics" to the site notice.

If you have any concerns, could you please let me know?

Thank you once again for your support and cooperation
Kind regards

Amal Hanna

PhD Candidate, School of Communication, UniSA
Office: UniSA, Magill Campus, TE1-11
Tel: +61 (8) 830 24494
Mob: +61 0404 131312

Mike Ingram's response with the Formal Confirmation:

From: EN-Copyvio [info-en-c@wikipedia.org]

Sent: Thursday, 5 March 2009 2:46 PM

To: Amal Hanna

Subject: Re: [Ticket#2009030510009121] Fwd: RE: 3-Steps Action Plan

Dear Amal Hanna,

Thank you for your email.

I am a volunteer, as are all the other administrators of Wikibooks and our other wikis; the Foundation which provides operational support does not have the staff capacity to micromanage in this way, nor would they wish to for legal reasons.

Nevertheless, I can certainly state that as a member of the community, I'd be happy to arrange to place these sitenotices on the English and Arabic editions of Wikibooks. I hope to arrange that in the next few days (I need to contact an Arabic colleague to handle the sitenotice on ar.wikibooks.org).

As well, you're certainly permitted to mail appropriate informational emails to our mailing lists - both textbook-l and foundation-l in this case – without permission, but I can certainly give you the go-ahead on that as well.

As I say, I'll have to contact an ar.wikibooks.org administrator to put up a sitenotice there - I'll let you know in a few days' time where we are on that.

Yours sincerely,
Mike Ingram

--

Wikibooks - <http://en.wikibooks.org>

Disclaimer: all mail to this address is answered by volunteers, and responses are not to be considered an official statement of the Wikimedia Foundation. For official correspondence, please contact the Wikimedia Foundation by certified mail at the address listed on <http://www.wikimediafoundation.org>

From: Alice Granger
To: Hanna, Amal Maher Batra
Sent: Monday, March 23, 2009 11:48 AM
Subject: Ethics Protocol P244/08 "The impact of culture on incentives for contribution to wiki textbooks project"

Dear Amal,

Re: Ethics Protocol P244/08 "The impact of culture on incentives for contribution to wiki textbooks project"

Thank you for submitting the variations to your original protocol for approval. The Chairperson of the University's Human Research Ethics Committee has assessed this request and approved the advertisement in the Wikibooks website pages (as detailed in your email dated 6th March 2009).

Please regard this email as formal notification of approval.

Ethics approval is always made on the basis of a number of conditions detailed in the attachment; it is important that you are familiar with, and abide by, these conditions. It is also essential that you conduct all research according to UniSA guidelines, which can be found at <http://www.unisa.edu.au/res/ethics/default.asp>

Best wishes for your research.

Kind regards

Alice

Alice Granger
Compliance Officer
Research and Innovation Services
University of South Australia
Mawson Lakes Campus
Tel: 08 8302 3523
email: alice.granger@unisa.edu.au

Appendix C

Amendment to Recruitment Method for the Online Interview

Amendments to Ethics Application P244/08

Recruitment Material and Information Sheet for the Online Semi-Structured Interview

Researcher's name Amal Maher Batra HANNA
Researcher's School and Division School of Communication
 Division of Education, Arts, Social Science
Postal address for correspondence 2-4 Gladstone St., Fullarton,
 Adelaide, South Australia 5063
Telephone number/s (W) 08 830 24494 (H) 08 837 22531 (M) 0404131312
Email Amal.Hanna@postgrads.unisa.edu.au

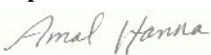
Please circle the type of research being undertaken

Staff ☒ (PhD) Professional Doctorate Masters Research Masters Coursework Grad Dip/ Grad Cert Honors Undergraduate Other

Title of research project The impact of culture on incentives for contribution to wiki textbooks project

Plain English title The impact of culture on incentives for contribution to wiki textbooks project

Proposed commencement date September 2009

Researcher's signature 
I certify that the protocol is complete and the research will be conducted in accordance with the protocol and in an ethical manner

Supervisor's signature 
I certify that this protocol has been completed in accordance with the requirements of the UniSA's protocol guidelines. I have considered the ethical implications of the proposed research and believe that the research will be conducted in accordance with the relevant local, state, national and Uni SA policies, guidelines, regulations and legislation.

Supervisor's name & contact details Dr Denise Wood:
 UniSA, School of Communication, Magill Campus
 C2-33C, Tel: 830 24642 Denise.Wood@unisa.edu.au

Dr Jackie Cook:
 UniSA, School of Communication, Magill Campus
 C2-36 , Tel: 830 24519 Jackie.Cook@unisa.edu.au

Please note that protocols which do not provide sufficient information for HREC or DEC to make an adequate assessment may be returned for revision.

Ethics protocol P244/08 Amendments
Recruitment Material and Information Sheet for the
Online Semi-Structured Interview

Recruitment Email

Dear Wikibook Contributor,

Thank you for your participation in the online questionnaire and for agreeing to be interviewed. I am pleased to advise that the analysis of the data from the completed online questionnaires has been finalized. The analysis provides some initial insights into the reasons *Wikibookians* contribute to Wiki textbook projects. However, some of these results require further investigation to gain a better understanding of the motivation of *Wikibooks*' contributors.

Now, I would like to invite you to participate in the online interview. The interview will take from 30 to 45 minutes. This interview will be in the form of text chat. I have *attached a 'Research Information Sheet'*, which provides more detailed information about the research and interview. As you aware from previous correspondence, this research project has been *approved by the University of South Australia's Human Research Ethics Committee*.

Could you please reply to this email with the appropriate local time for you to meet with you online?

Time: ----- AM or PM?

City: -----

Your reply will be considered as your **consent (agreement)** for the interview. The interviews will start from **1st September 2009 till the end of this year**. When I receive your reply, I will add you to my messenger contact list, and you will then receive an invitation via my *UniSA* email account Amal.Maher@UniSA.edu.au.

I look forward to meeting with you online

Thank you
Kind regards

Amal Maher
PhD Candidate
School of Communication
University of South Australia
Email: Amal.Maher@UniSA.edu.au

Information Sheet

The purpose of this study is to explore what motivates '*Wikibookians*' to contribute to Wiki textbook projects. Your responses will help identify shared motivations among contributors.

Interested participants, who agreed to be interviewed and provided the researcher with their contact details, will be invited for online semi-structured interviews using Instant Messaging Software such as Yahoo and MSN Messengers.

This project has been approved by the University of South Australia's Human Research Ethics Committee. If you have any ethical concerns about the project or questions about your rights as a participant please contact the Executive Officer of this Committee, Mrs Vicki Allen, Tel: +61 8 8302 3118; Email: Vicki.Allen@UniSA.edu.au

The online semi-structured interviews will collect demographic data (age, gender, occupation, educational level, first language, and country of residence), information about topics that they like to contribute and reasons that motivate them to write and edit *Wikibooks*. Moreover, the interviews will focus on some socio-technical issues that are related to your contribution's experience, and issues that you see may affect others to not-to contribute to *Wikibooks* website.

The interviews will be in the form of text chat. The text chats will be saved in Microsoft document files. These files will be saved and remained confidential, and no information which could lead to identification of any individual will be released.

The collected data will be stored on a UniSA secured sever and the printed records will also be kept in a secured cabinet in School of Communication, International Studies and Languages office. All records saved on the UniSA server or the printed material will be kept for five years and will be destroyed in October 2013. No data will be made public.

The researcher will not ask the interviewees for identifying information such as their names, mobile numbers etc or any personal information. However, the interviewees may wish to leave their email addresses if they want to receive a summary of the study's findings. This summary will be received upon the PhD dissertation being published by mid of 2011.

Participation in the interview is voluntary. The interview will take from 30 to 45 minutes. Interviewees can choose between Arabic and English as the language for online interviews.

If you have any questions or concerns regarding this study, please do not hesitate to contact me:

Amal Maher

PhD Candidate

School of Communication

University of South Australia

Email: Amal.Maher@UniSA.edu.au

However, you may feel that you would like to contact my supervisors regarding any concerns, or regarding my project:

Dr Denise Wood

School of Communication

University of South Australia

Email: Denise.Wood@UniSA.edu.au

Dr Jackie Cook

School of Communication

University of South Australia

Email: Jackie.Cook@UniSA.edu.au

This questionnaire will not cause the participant any problem or put them at risk. However if the participants feel of any risk or unethical treatment, they can contact the Ethics Committee:

Ms Vicki Allen

RIS Ethics and Compliance Officer

University of South Australia

Email: Vicki.Allen@UniSA.edu.au

Amendments to Ethics Application P244/08

Researcher's name Amal Maher Batra HANNA (Student ID 100077899)

Researcher's School School of Communication, International Studies, and Languages

Division Division of Education, Arts, Social Science

Postal address 2-4 Gladstone St., Fullarton,
Adelaide, South Australia 5063

Telephone number/s (W) 08 830 24494 (H) 08 837 22531 (M) 0404131312

Email Amal.Hanna@postgrads.unisa.edu.au

Type of research PhD

Title of research project The impact of culture on incentives for contribution to wiki textbooks project

The problem & solution Due to the lack of responses for the invitation to the online semi-structured interviews, I will apply different techniques to increase the response rate. These recruitment techniques are:

- 1- ***Send personalized invitation emails***, to those who have previously accepted to be interviewed until a sufficient number of participants for the online semi-structured interviews is attained.
- 2- ***Send invitation emails to subscribers to Wikibooks and Wikimedia Foundation mail lists***. This recruitment method was used to collect participants for the web-based questionnaire. I now wish to adopt that same strategy to recruit potential participants for the online interviews.
- 3- ***Publish recruitment site notices on both the Arabic and English versions of Wikibooks home pages to recruit participants for the online interview***. Respondents to this recruitment notice will be linked to a secure password-protected form where they will be required to leave their name (first/nick name- optional), and their MSN/Yahoo/Gmail email addresses.
- 4- ***Automatic 'Add Contact' to respondents' messengers***. Those who have previously agreed to be interviewed as well as new respondents to the new call for interviews will receive the researcher's 'Add Contact' to their messenger Services.

Attached to this request for amendments to the ethics application are the following documents:

- 1- Information Sheet
- 2- General invitation email (to subscribers to Wikibooks & Wikimedia) AND Personal invitation email (to those who accepted to be interviewed).
- 3- Website recruitment notice (to be published on Wikibooks website).
- 4- The Correspondence to/from Wikibooks' Administrator regarding the website recruitment notice.

Researcher's signature *Amal Hanna*
15 October 2010

Supervisor's signature *Dr Denise Wood*

Supervisor's name & contact details **Dr Denise Wood**
Denise.Wood@unisa.edu.au
C2-33C, Tel: 830 24642

Dr Jackie Cook
Jackie.Cook@unisa.edu.au
C2-36 , Tel: 830 24519

Assoc Prof Jacques Metzger
Jacques.Metzer@unisa.edu.au

Amendments to Ethics Application P244/08

(1) Information Sheet

The purpose of this study is to explore what motivates ‘*Wikibookians*’ to contribute to Wiki textbook projects. Your response will help identify shared motivations among contributors. Interested participants, who agreed to be interviewed and provided the researcher with their email addresses, will be invited for online semi-structured interviews using Instant Messaging Software such as MSN, Yahoo and Gmail Messengers.

This project has been approved by the University of South Australia’s Human Research Ethics Committee. If you have any ethical concerns about the project or questions about your rights as a participant please contact the Executive Officer of this Committee (see contact details below).

Participation in the interview is voluntary. The interview will take from 30 to 45 minutes. Interviewees can choose between Arabic and English as the language for online interviews.

The online semi-structured interviews will collect demographic data (age, gender, occupation, educational and country of residence), information about topics of contribution and reasons that motivate them to write and edit *Wikibooks*. Moreover, the interviews will focus on some socio-technical issues that are related to your contribution’s experience, and issues that you see may affect others to not-to contribute to *Wikibooks* website.

The interviews will be in the form of text chat. The text chats will be saved in Microsoft document files. These files will be saved and remained confidential, and no information which could lead to identification data will be released. The collected data will be stored on a UniSA secured sever and the printed records will also be kept in a secured cabinet in School of Communication, International Studies and Languages office. All records saved on the UniSA server or the printed material will be kept for five years and will be destroyed in October 2013. No data will be made public.

The researcher will not ask the interviewees for identifying information such as their full names, mobile numbers etc or any personal information. However, participants are optional asked to leave their first (or nick) name. Moreover, the interviewees may wish to receive a summary of the study’s findings. This summary will be received upon the PhD dissertation being published by mid of 2011.

If you have any questions or concerns regarding this study, please do not hesitate to contact me:

Amal Maher

PhD Candidate

Email: Amal.Maher@UniSA.edu.au

If you have any concerns regarding my research project, you can contact my supervisors:

Dr Denise Wood

Email: Denise.Wood@UniSA.edu.au

Dr Jackie Cook

Email: Jackie.Cook@UniSA.edu.au

Assoc Prof Jacques Metzger

Email: Jacques.Metzer@unisa.edu.au

Amendments to Ethics Application P244/08

(2) General & Personal Recruitment Email

Dear **Wikibook Contributor** OR **First Name**,

I would like to invite you to participate in the online interview. The interview will take from 45 to 60 minutes. This interview will be in the form of text chat. The '[Research Information Sheet](#)', provides you more detailed information about the research and interview. This research project has been *approved by the University of South Australia's Human Research Ethics Committee*.

If you are willing to be interviewed, could you please [CLICK HERE](#) to fill-in a form with your first/nick name (optional), your MSN/Yahoo/ Gmail email address, your city and country, and the best time for you to be interviewed. To login to the Interview Contact Form, please use the following details:

Username : **interview**

Password : **agreement**

Your login will be considered as your **consent (agreement)** for the interview. The interviews will start from **1st November till 31st December 2010**. When I receive your details, I will add you to my messenger contacts (Id: InterviewonWikibooks). I will arrange an interview with you according to the best time that suites you.

Amal Maher

PhD Candidate

School of Communication

University of South Australia

Email: Amal.Maher@UniSA.edu.au

(3) Website recruitment notice

You are invited to participate in an online interview in which you will be asked to share your experiences with **Wikibooks**. The '[Research Information Sheet](#)', provides more detailed information about the aims of the research and interviews. To access the **Interview Contact Form**, please [CLICK HERE](#). And, to login, please use **interview** as your **username** and **agreement** as your **password**. This research project has been *approved by the University of South Australia's Human Research Ethics Committee*.

Amendments to Ethics Application P244/08

(4) Correspondence with Wikibooks' Administrator

From: Aaron.Adignola@gamil.com
To: Amal.Hanna@UniSA.edu.au
Cc: Mike.Lifeguard@gmail.com
Subject: Re: Fw: Interviews
Sent: Monday, October 11, 2010 12:31 PM

Dear Amal Hanna:

I do not think it will be a problem to publish a site notice for your interviews. If you choose to announce your intentions in the near future in the Wikibooks reading room at http://en.wikibooks.org/wiki/Wikibooks:Reading_room/General it will provide visibility for your effort ahead of time and ensure that there are no objections to having the site notice up for a month (as well as prevent any surprises amongst the regulars when it does go up). I might forget about this between now and November, so if you send me a reminder email at that time I'll be happy to put up the notice if nobody is vehemently opposed to it.

Sincerely,

Aaron Adignola

From: Amal.Hanna@UniSA.edu.au
To: Aaron.Adignola@gmail.com
CC: Mike.Lifeguard@gmail.com
Subject: Fw: Interviews
Date: Mon, 11 Oct 2010 11:29:31 +1030

Dear Mr Aaron Adignola

I am doing a research on motivations of Wikibooks' contributors. Mr Mike Ingram have previously helped me to publish a site notice on Wikibooks website for the online survey

I also did twelve interviews for my research about motivations of Wikibooks' contributors. However, I am going to do more interviews in November. Although many were expressed their interests to be interviewed (in the online survey), only very few had responded; and I am going to send personalized emails to them once I receive the Research Ethics Approval for amendments to Research Ethics Application.

However, before submitting the application, is it possible to publish a Site Notice Invitation for Interviews on Wikibooks Arabic & English for one month (November) as Mike did support me for the Online Survey?

I look for your great support in this stage of my study

Looking forward to hearing from you

Amal Hanna

Tutor & PhD Candidate

School of Communication
University of South Australia
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Last update: 15 October 2010

From: Kate Hastwell

Sent: Tuesday, November 09, 2010 9:03 AM

To: Hanna, Amal Maher Batra

Subject: Request to vary ethics protocol approved 244/08 : " The impact of culture on incentives for contribution to wiki textbooks project "

Dear Amal

Re: Request to vary ethics protocol approved 244/08 : " The impact of culture on incentives for contribution to wiki textbooks project "

Thank you for submitting the additional information requested by the Chairperson of the University's Human Research Ethics Committee. Your request to vary your original protocol by varying the data collection method and recruitment techniques (including recruitment material, information sheet and letter of invitation provided) as detailed in your email dated 02.11.2010 are approved.

Please regard this email as formal notification of approval.

Ethics approval is always made on the basis of a number of conditions detailed in the attachment; it is important that you are familiar with, and abide by, these conditions. It is also essential that you conduct all research according to UniSA guidelines, which can be found at <http://www.unisa.edu.au/res/ethics/default.asp>

Best wishes for your research.

Kind regards

Kate Hastwell

Compliance Officer

Research and Innovation Services

University of South Australia

Mawson Lakes Campus

x26800

email: kate.hastwell@unisa.edu.au

CRICOS provider number 00121B

Appendix D

Amendment to Recruitment Method for the Face-to-Face Questionnaire

To : UniSA Divisional Research Ethics Committee (EAS)
From : Amal Hanna (PhD Candidate)
Date : 20 April 2010

Subject : Extension to Research Ethics P244/08 Approval

Dear Chair of the Human Research Ethics Committee

I received ethics approval for my research project (the impact of culture on incentives for contribution to wiki textbooks project), on the 12th December 2008. There were two further amendments approved; these amendments included: 1) an amendment to publish a recruitment notice on the *Wikibooks* website; and 2) an amendment to extend my research for another year.

The reason for this application for amendment is to extend my research further in light of findings that have not yet supported the initial hypothesis that people from individualist culture tend to be motivated by intrinsic values, while people from collectivist culture tend to be motivated by extrinsic values.

Prof Jacques Metzger, my Associate Supervisor, who is assisting me with statistical analysis of the data, has recommended that I conduct a further study to determine whether people from different cultural groups agree that each of the items included in the original survey represent either intrinsic or extrinsic orientation.

In the supervision meeting on 14 April 2010, my supervisors, Dr Denise Wood, Dr Jackie Cook, A/Prof Jacques Metzger and myself, agreed that this extension to the research is necessary to determine the extent to which individual are able to reliably differentiate between the intrinsic and extrinsic values.

This survey will be conducted using the same target cultural groups: Anglo, Arabic and Indian individuals. Those individuals will be approached in Rundle Mall, Central Market, Adelaide Airport and other public places and invited to participate in the survey.

Enclosed, you will find the proposed face-to-face questionnaire as well as the information sheet and the consent form.

Should the committee require any further information or documents, please contact me.

Thank you for your efforts
Kind regards

Amal Hanna

Tutor & PhD Candidate

School of Communication

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🌐 : <http://people.unisa.edu.au/Amal.Hanna>

Amendments to Ethics Application P244/08

Researcher's name	Amal Maher Batra HANNA
Researcher's School	School of Communication, International Studies, and Languages
Division	Division of Education, Arts, Social Science
Postal address	2-4 Gladstone St., Fullarton, Adelaide, South Australia 5063
Telephone number/s	(W) 08 830 24494 (H) 08 837 22531 (M) 0404131312
Email	Amal.Hanna@postgrads.unisa.edu.au
Type of research	PhD
Title of research project	The impact of culture on incentives for contribution to wiki textbooks project

The problem & solution Problem: The findings from my research thus far have not supported the initial hypothesis that people from individualist culture tend to be motivated by intrinsic values, while people from collectivist culture tend to be motivated by extrinsic values.

Prof Jacques Metzger, my Associate Supervisor who is assisting me with statistical analysis of the data, has recommended that I conduct a further study to determine whether people from different cultural groups agree that each of the items included in the original survey represent either intrinsic or extrinsic orientation..

Solution: My Associate Supervisor, A/Prof Jacques Metzger, has suggested a further study in which I ask people whether they consider each item in the survey (items that were originally included in the approved web-based survey) to be intrinsic or extrinsic value. In a supervision meeting on 14 April 2010, my Co-principal supervisors Dr Denise Wood and Dr Jackie Cook have agreed with Prof Metzger and me about the need to extend the research.

Researcher's signature *Amal Hanna*
16 April 2010

Supervisor's signature *Dr Wood*

Supervisor's name & contact details **Dr Denise Wood**
UniSA, School of Communication, Magill Campus
C2-33C, Tel: 830 24642 Denise.Wood@unisa.edu.au

Dr Jackie Cook
UniSA, School of Communication, Magill Campus
B2-24 , Tel: 830 24519 Jackie.Cook@unisa.edu.au

A/Pro Jacques Metzger (Adjunct)
Jacques.Metzer@unisa.edu.au

Dear Research participant

The aim of this research is to gain greater insight into the impact that culture has on the value orientation of people from different cultural backgrounds. Since this study is only focusing on three different cultural groups, I need to first ask you which country you have lived in most of your life to determine whether we should proceed with the survey.

What is the country you lived in most of your life?

Please read the following statement to help you understand the meaning of the terms **intrinsic** and **extrinsic orientation**.

Intrinsic orientation is when an individual seeks to achieve a goal because it is direct benefit for herself or himself. Individuals choose their goals without an impact of or consideration of others. **Extrinsic orientation** is when an individual sees that by achieving a goal others may also benefit from. Individuals usually consider (or are impacted by) others in the community when they choose their goals.

The following statements were used in a study of the value orientation of people who contribute to *Wikibooks* (like *Wikipedia* but for education and learning purposes and those who are unwilling to contribute to *Wikibooks* and expressed different reasons of their reluctance of contribution. Could you please classify the following statements as intrinsic, extrinsic or I do not know if you are unsure? Put ✓ in the right column.

Orientation	Intrinsic	Extrinsic	I do not Know
I want to have fun			
My friends do so			
Poor people can use these free books			
My teacher asked me to do so			
I believe that information should be free			
My religious teaching asks me to help others			
Others do not have the expert knowledge that I have			
I can not find other places to publish my work			
I'm lonely and have free time			
I want to express my personal opinions			
Logical and grammatical errors have to be corrected			
There is a lack of information resources in my language.			
I contribute because I want to learn			
No financial reward			
I can't use wiki			
This is un-helpful website			
Our educational system (institution) does not (or can not) adopt this technology as a part of learning process			
I don't have a knowledge base in any suitable topic			
Contribution is useless unless others know of this website			
Our society does not value voluntary work			
I prefer reading to writing			
There is no clear structure for textbooks			
I have other hobbies and interests that take up my time rather than contributing to wiki textbooks			
I prefer socializing with family and friends rather than setting on the computer to contribute			
Others do not have an internet access or do not know of this website			
I do not feel confident			
I prefer to write in my own language			
As this is voluntary work, orders to contribute are not acceptable to me			
This is not my job to write textbooks			

Thank you for your participation.

University of South Australia
Division of Education, Arts, and Social Sciences
School of Communication, International Studies and Languages

The purpose of this study is to gain greater insight into the impact that culture has on the value orientation of people from different cultural backgrounds.

Interested participants should be 18 years or older. Individuals participating in this study will not be identified. This survey will take approximately 10-15 minutes to answer. All data that will be collected and will be kept confidentially for five years and then it will be destroyed. No data will be made public. Participation in this survey is voluntarily and there is no obligation to participate. You are welcome to end this session and withdraw from the study at any time. If you have any questions or concerns regarding this study, please do not hesitate to advise me or my supervisors who are listed below.

Amal Hanna

PhD Candidate

Email: Amal.Hanna@unisa.edu.au

However, you may feel that you would like to contact my supervisors regarding any concerns, or regarding my project:

Dr Denise Wood

Denise.Wood@unisa.edu.au

Dr Jackie Cook

Jackie.Cook@unisa.edu.au

A/Professor Jacques Metzger

Jacques.Metzer@unisa.edu.au

This questionnaire will not cause the participant any distress or put them at risk. However, if the participants feel at any risk or that the study is not being conducted in an ethical manner, they can contact the Ethics Committee:

Ms Vicki Allen

RIS Ethics and Compliance Officer

Vicki.Allen@unisa.edu.au

Consent Form

Do you agree to take part in this study?

I have read carefully the information sheet; and understand the nature and purpose of the research.

I understand that I may withdraw from the research project at any stage and that this will not affect my status now or in the future.

I understand that while information gained during the study may be published, I will not be identified and my personal results will remain confidential.

I understand that the collected data will be retained for five years

I am over 18 years.

Please sign here -----

Date -----

From: Alice.Granger@unisa.edu.au
To: Amal.Hanna@unisa.edu.au
CC: Denise.Wood@unisa.edu.au; Jackie.Cook.unisa.edu.au
Date: Fri, 21 May 2010 10:26:35 +0930
Subject: Ethics Protocol P244/08 "The impact of culture on incentives for contribution to wiki textbooks project"

Dear Amal,

Re: Ethics Protocol P244/08 "The impact of culture on incentives for contribution to wiki textbooks project"

Thank you for submitting the variations to your original protocol for approval. The Chairperson of the University's Human Research Ethics Committee has assessed this request and approved the researcher conducting a further study to determine whether people from different cultural values are able to differentiate between intrinsic and extrinsic values (as detailed in your application dated 5th May 2010).

Please regard this email as formal notification of approval.

Ethics approval is always made on the basis of a number of conditions detailed in the attachment; it is important that you are familiar with, and abide by, these conditions. It is also essential that you conduct all research according to UniSA guidelines, which can be found at <http://www.unisa.edu.au/res/ethics/default.asp>

Best wishes for your research.

Kind regards

Alice

Alice Granger
Compliance Officer
Research and Innovation Services
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Mawson Lakes Campus
Tel: 08 8302 3523
email: alice.granger@unisa.edu.au

CRICOS provider number 00121B

Appendix E

Translation and Back Translation for the Online Questionnaire

English questionnaire online	English to Arabic translation for the online questionnaire	Back translation from Arabic to English for online questionnaire
Demographics	التركيبة السكانية	Demographics
Age	العمر	Age
Younger than 18 years	الذين تقل اعمارهم عن 18 عاماً	Under the age of 18 years
18-25	18-25	18-25
25-35	25-35	25-35
35-45	35-45	35-45
Older than 45 years	الذين تزيد اعمارهم عن 45 عاماً	Over the age of 45 years
Educational level	المستوى التعليمي	Educational level
Primary school	المدرسة الابتدائية	Primary school
Secondary school	المدرسة الثانوية	High school
Trade/ professional certificate	شهادة تجارية أو مهنية	Trade/vocational education
University- Underground degree	الدرجة الجامعية	University degree
Honors	مرتبة الشرف	Honours
Postgraduate Diploma	دبلوم الدراسات العليا	Postgraduate diploma
Masters	الماجستير	Masters
PhD/Professional Doctor	الدكتوراه المهنية أو دكتوراه الفلسفة	PhD or Professional Doctorate
Post doctoral	التعليم ما بعد الدكتوراه	Postdoctoral
Others	أخرى	Others
Educational field	المجال التعليمي	Educational field
Student with no specialization	طالب مع عدم وجود تخصص محدد	Student with unclear specialization
Manufacturing and Mechanical Engineering	هندسة الميكانيكا والتصنيع	Manufacturing and Mechanical Engineering
Commerce, Management and Marketing	الإدارة والتجارة والتسويق	Administration, commerce and marketing
Communication & Cultural Studies	علم الاتصالات والدراسات الثقافية	Communication and cultural studies
Computer and Information Science	علم الحاسوب والمعلومات	Computer science and information
Education : please specify -----	التعليم : رجاء التوضيح بالتفصيل	Education: Please elaborate
Electrical and Information Engineering	الهندسة الكهربائية والمعلوماتية	Electrical and information engineering
Health Sciences	العلوم الصحية	Health sciences
Law	القانون	Law
Media and Arts	الإعلام والآداب	The media and arts
Mathematics and Statistics	الرياضيات والإحصاء	Mathematics and statistics
Natural and Built Environments	البيئات الطبيعية والبنائية	Natural and built environments
Nursing and Midwifery	التمريض والقبالة	Nursing and midwifery
Pharmacy	الصيدلة	Pharmacy
Psychology	علم النفس	Psychology
Social Work and Social Policy	العمل الاجتماعي والسياسات الاجتماعية	Social work and social policy
Others -----	أخرى -----	
Are you a student or working in an Educational institution or academia	هل انت طالب أو ممن يعملون في مؤسسة تعليمية أو أكاديمية	Are you a student or working in academic or educational institution
No	لا	No
Yes. Please specify -----	نعم. وبالتحديد في ----	Yes, and more specifically in ----

Native Language	اللغة الرئيسية المطوق بها	Native language
Mandarin	لغة الماندارين الصينية	Mandarin Chinese
English	اللغة الإنجليزية	English
Hindi	اللغة الهندية	Hindi
Spanish	اللغة الأسبانية	Spanish
Arabic	اللغة العربية	Arabic
Russian	اللغة الروسية	Russian
Portuguese	اللغة البرتغالية	Portuguese
French	اللغة الفرنسية	French
Japanese	اللغة اليابانية	Japanese
German	اللغة الألمانية	German
Italian	اللغة الإيطالية	Italian
Others-----	لغات أخرى هي -----	Other languages are -----
Language at School	لغة الدراسة في المدرسة	Language of instruction
Mandarin	لغة الماندارين الصينية	Mandarin Chinese
English	اللغة الإنجليزية	English
Hindi	اللغة الهندية	Hindi
Spanish	اللغة الأسبانية	Spanish
Arabic	اللغة العربية	Arabic
Russian	اللغة الروسية	Russian
Portuguese	اللغة البرتغالية	Portuguese
French	اللغة الفرنسية	French
Japanese	اللغة اليابانية	Japanese
German	اللغة الألمانية	German
Italian	اللغة الإيطالية	Italian
Others-----	لغات أخرى هي -----	Other languages are -----
Mixed -----	لغات متعددة وهي -----	A number of language are ----
Language(s) that I use online in wikibooks.org	اللغة أو اللغات التي أتعامل بها عند إستخدامي لموقع ويكي الكتب	The language or languages that I use while interaction with Wikibooks website
Mandarin	لغة الماندارين الصينية	Mandarin Chinese
English	اللغة الإنجليزية	English
Hindi	اللغة الهندية	Hindi
Spanish	اللغة الأسبانية	Spanish
Arabic	اللغة العربية	Arabic
Russian	اللغة الروسية	Russian
Portuguese	اللغة البرتغالية	Portuguese
Bengali	اللغة البنغالية	Bengali
Malay	اللغة الماليزية	Malay
French	اللغة الفرنسية	French
Japanese	اللغة اليابانية	Japanese
German	اللغة الألمانية	German
Italian	اللغة الإيطالية	Italian
Others-----	لغات أخرى هي -----	Other languages are -----
Mixed -----	لغات متعددة وهي -----	A number of language are ----
Country where you live most of the time	البلد الذي تعيش فيه معظم الوقت	Country where you live most of the time
-----	-----	-----
Gender	الجنس	Gender
Male	ذكر	Male

Female	أنثى	Female
Other	أخرى	Other
Religion	الديانة	Religion
-----	-----	-----
Education System	نظام التعليم	Education System
Public	تعليم حكومي	Governmental education
Private	تعليم خاص	Private education
Others-----	نظم أخرى وهي -----	Other systems which are -----
Computer literacy and learning process	محو الأمية الحاسوبية والعملية التعليمية	Computer literacy and the educational process
I learned how to use computer and internet in school and/or university	تعلمت كيفية استخدام الكمبيوتر والإنترنت في المدرسة و (أو) الجامعة	I have been taught how to use the computer and internet while I was in school and (or) university.
I taught myself how to use a computer or I received a private training	علمت نفسي كيفية استعمال الكمبيوتر أو عن طريق دروس خصوصية	I taught myself how to use a computer or through private tuition
My teachers and lecturers asked me to study and do assignments using a computer.	طلب مني أساتذتي ومدرسيني أن أستخدم الكمبيوتر لعمل الواجبات	School teachers and university lecturers required me to use the computer to do my homeworks
Others -----	أخرى وهي -----	Others and they are -----
Currently, I contribute because:	في الوقت الحالي فإنني أساهم من أجل	Currently, I am contributing because of
Strongly agree	أوافق بشدة	Strongly agree
Agree	أوافق	Agree
Neutral	محايد	Neutral
Disagree	لا أوافق	Disagree
Strongly disagree	لا أوافق بشدة	Strongly disagree
I want to have fun	أرغب في الترفيه	I seek enjoyment
My friends do so	إن أصدقائي يقومون بذلك أيضاً	My friends also do that
Poor people can use these free books	الفقراء يحتاجون كتب مجانية	The poor need books for free
My teacher asked me to do so	إن أقوم بذلك بناء على تعليمات من أساذي	I do that because of teacher's instruction
I believe that information should be free	أؤمن بأن المعلومات يجب ان تكون مجانية	I believe that information should be at no cost
My religious teaching asks me to help others	إن المبادئ الدينية تحتم علي مساعدة الآخرين	Religion principles include helping other people
Others do not have the expert knowledge that I have	إن الآخرين لا يعرفون ما يعرفه خبير مثلي	Others do not know what I know as an expert
I cannot find other places to publish my work	أني لا أستطيع ان أجد مكانا آخر لنشر أعمالي	I could not find another place to publish my work
I'm lonely and have free time	أني وحيد ولدي الكثير من الوقت الفاضي	I am lonely and I have much of spare time
I want to express my personal opinions	أود أن أعبر عن آرائي الشخصية	I would like to express my personal opinion
Logical and grammatical errors have to be corrected	إن الأخطاء النحوية والمنطقية يجب أن يتم تصحيحها	Grammatical and logical mistakes must be corrected

There is a lack of information resources in my language.	هناك عجز في موارد المعلومات في لغتي	There is a lack of information resources in my language.
I contribute because I want to learn	أشارك لأنني أريد أن أتعلم	I share because I want to learn
Topics that I contribute to in and/or like to read	موضوعات أحب قرائتها أو الكتابة فيها	Subjects that I like to read or write in
Natural sciences: Biology, Chemistry and Physics	العلوم الطبيعية: علم الأحياء والكيمياء والفيزياء	Natural sciences: Biology, Chemistry and Physics
Engineering	الهندسة	Engineering
Business & Economics	الأعمال والاقتصاد	Business & Economics
History	التاريخ	History
Language and literature	اللغات والآداب	Language and literature
Geography	الجغرافيا	Geography
Information technology and Programming Languages	تكنولوجيا المعلومات ولغات البرمجة	Information technology and Programming Languages
Religions	الديانات	Religions
Humanities	العلوم الإنسانية	Humanities
Politics	السياسة	Politics
Sports	الرياضة	Sports
Media and Arts	الإعلام والآداب	Media and Arts
Others----	أخرى وهي -----	Others and
I (whether always or sometimes) do not contribute because	أنا - سواء دائما أو في بعض الأحيان - لا أساهم بسبب	I, either always or sometimes, do not contribute because
No financial reward	لا يوجد أية مكافآت مالية	There is no financial rewards
I can't use wiki	لا أستطيع استخدام الويكي	I cannot use a wiki
This is an un-helpful website	هذا موقع غير مفيد	This website is unhelpful
Our educational system (institution) does not (or cannot) adopt this technology as a part of the learning process	إن مؤسساتنا التعليمية ونظامنا التعليمي لا يعتمد على هذه التكنولوجيا على اعتبارها جزء من عملية التعلم	Our educational institution and system does not adopt this technology as part of learning process
I don't have a knowledge base in any suitable topic	ليس لدي قاعدة المعرفة المناسبة لأي موضوع	I do not have the suitable knowledge base for any subject
Contribution is useless unless others know of this website	المساهمة في هذا الموقع غير مجدية ما لم يعرف الآخرون عن هذا الموقع	The contribution to this website is useless because others do not know about it.
Our society does not value voluntary work	مجتمعنا لا يعطي قيمة تذكر للعمل التطوعي	Our society devalues voluntary activities
I prefer reading to writing	إنني أفضل القراءة عن الكتابة	I prefer reading more than writing
There is no clear structure for textbooks	ليس هناك هيكل واضح للكتب المدرسية	Textbooks have no clear structures
I have other hobbies and interests that take up my time rather than contributing to wiki	لدي هوايات وإهتمامات أخرى التي تستغرق من وقتي الكثير وتحد من قدرتي على المساهمة في الويكي	I have other hobbies and businesses that take much of my time and limit my ability to contribute to wiki
I prefer socialising with family	أنا أفضل الأنشطة الاجتماعية مع الأسرة	I prefer social activities with

and friends rather than sitting on the computer to contribute	والأصدقاء بشكل أكبر من الجلوس على الكمبيوتر والمساهمة	family and friends more than using the computer and contribute
Others do not have internet access or do not know of this website	إن الآخرين لا يستطيعون الوصول إلى الإنترنت أو التعرف على هذا الموقع	Others do not have access to the internet or do not know about this website
I do not feel confident	أنا لا أشعر بالثقة	I do not feel confident
I prefer to write in my own language	أنا أفضل أن أكتب بلغتي	I prefer to write in my language
As this is voluntary work, orders to contribute are not acceptable to me	حيث أن هذا عملاً تطوعياً فأوامر الإسهام ليست مقبولة بالنسبة لي	As this is a voluntary work, so contribution orders are not acceptable by me
This is not my job to write textbooks	هذه ليست وظيفتي لكتابة الكتب المدرسية	This is not my job to write textbooks
Do you have any other comments you would like to add	هل ترغب في إضافة أية تعليقات	Do you want to add any comments?
-----	-----	-----

Appendix F

Indices of Cultural Dimensions

Scores of Cultural Values

Country	PDI	IDV	MAS	UAI
	score	score	score	score
Arab Countries*	80	38	53	68
Argentina	49	46	56	86
Australia	36	90	61	51
Austria	11	55	79	70
Bahrain	46	38	53	77
Belgium	65	75	54	94
Brazil	69	38	49	76
Canada	39	80	52	48
Chile	63	23	28	86
Columbia	67	13	64	80
Costa Rica	35	15	21	86
Denmark	18	74	16	23
East Africa	64	27	41	52
Ecuador	78	8	63	67
Egypt	70	25	45	80
Emirates (UAE)	90	25	50	80
Finland	33	63	26	59
France	68	71	43	86
Germany FR	35	67	66	65
Great Britain	35	89	66	35
Greece	60	35	57	112
Guatemala	95	6	37	101
Hong Kong	68	25	57	29
India	77	48	56	40
Indonesia	78	14	46	48
Iran	58	41	43	59
Iraq	95	30	70	85
Ireland	28	70	68	35
Israel	13	54	47	81
Italy	50	76	70	75
Jamaica	45	39	68	13
Japan	54	46	95	92
Kuwait	51	31	43	103
Lebanon	75	40	65	50
Malaysia	104	26	50	36
Mexico	81	30	69	82
Morocco	70	25	53	68
Netherlands	38	80	14	53
New Zealand	22	79	58	49
Norway	31	69	8	50
Oman	60	52	45**	72
Pakistan	55	14	50	70
Panama	95	11	44	86
Peru	64	16	42	87
Philippines	94	32	64	44
Portugal	63	27	31	104
Qatar	59	40	43	89
Salvador	66	19	40	94
Saudi Arabia	61	41	53	88
Singapore	74	20	48	8
South Africa	49	65	63	49
South Korea	60	18	39	85

Spain	57	51	42	86
Sweden	31	71	5	29
Switzerland	34	68	70	58
Syria	80	35	52	60
Taiwan	58	17	45	69
Thailand	64	20	34	64
Turkey	66	37	45	85
Uruguay	61	36	38	100
USA	40	91	62	46
Venezuela	81	12	73	76
West Africa	77	20	46	54
Yugoslavia	76	27	21	88

* Arab countries include Egypt, Iraq, Kuwait, Lebanon, Libya, Saudi Arabia, and the United Arab Emirates (UAE).

** The original of this score is 12; however, it was replaced by the mean, calculated by At-Twajiri & Al-Muhaiza (1996).

Source: These scores came adapted from three sources; and the shad colours demonstrate the sources.



Hofstede, G 1997, *Cultures and Organizations: Software of the Mind: intercultural Cooperation and its Importance for Survival*, McGraw Hill, New York.



From <http://geert-hofstede.com/countries.html>, last visited 10 April 2010. Scores reported in this website are said to be reported in Hofstede, G. H., Hofstede, G. J. & Minkov, M. 2005, *Cultures and organizations: Software of the mind*, 3rd edn, McGraw Hill, New York.

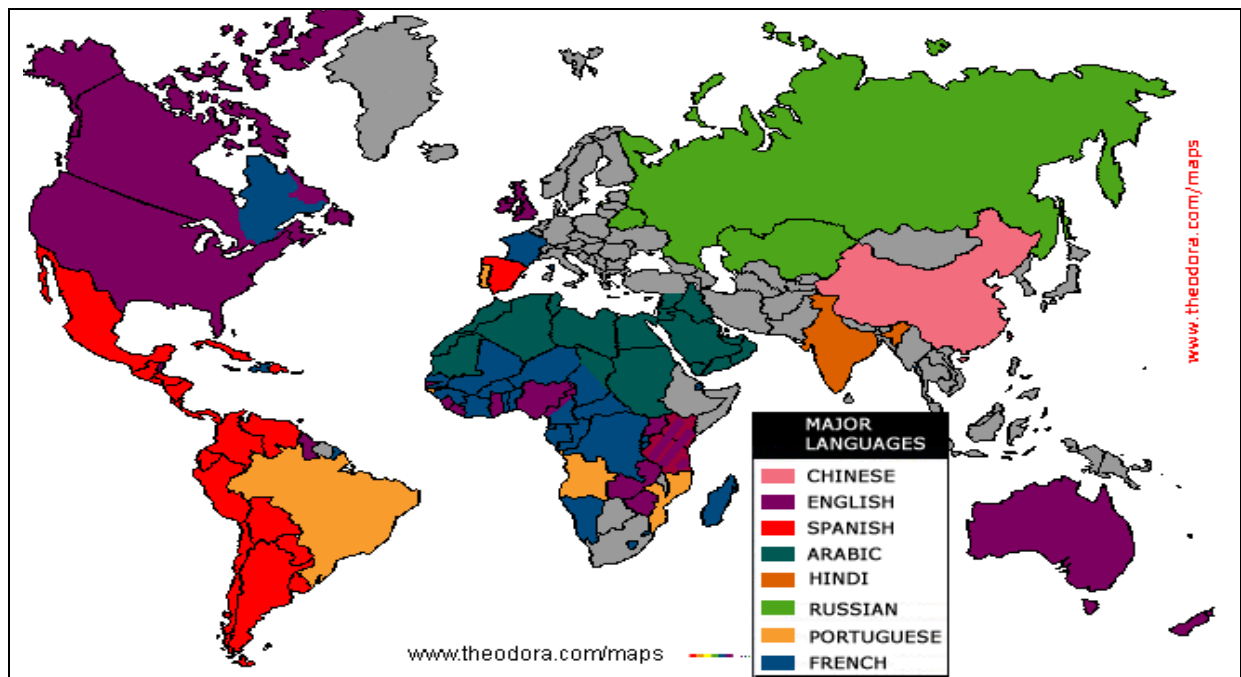


At-Twajiri, M.I. & Al-Muhaiza, I. A. 1996, 'Hofstede's cultural dimensions in the GCC countries: An empirical investigation', *International Journal of Value-Based Management*, vol. 9, no. 2, pp. 121-131.

Appendix G

Geography of Languages

Languages around the world



Source: THEODORA 2005, last visited 15 May 2011, < http://www.allcountries.org/maps/world_language_maps.html >

Figure 1: Languages around the world

This map, although it is from non-academic source (THEODORA 2005), represents the first languages of the world countries, and is consistent with the CIA Factbook, as reported in Appendix H.

Appendix H

CIA Factbook of some countries

The digital, economic, educational and cultural divide between Arabic and Anglo nations

Country	Population (approx.)	Ethnic groups	Language(s) ¹	Literacy	Internet users	GDP per capita (PPP)	Religions	Education expenditures (of the GDP)
Algeria	35,000,000	Arab-Berber 99%, European less than 1%	Arabic (official), Berber dialects, French	69.9%	4,700,000	\$7,400	Sunni Muslim (state religion) 99%, Christian and Jewish 1%	4.3%
Bahrain	1,215,000	Bahraini 62.4%, non-Bahraini 37.6%	Arabic (official), Farsi, Urdu, English	86.5%	419,500	\$40,400	Muslim (Shia and Sunni) 81.2%, Christian 9%, other 9.8%	2.9%
Djibouti	757,000	Somali 60%, Afar 35%, other 5%	French (official), Arabic (official), Somali, Afar	67.9%	25,900	\$2,800	Muslim 94%, Christian 6%	8.4%
Egypt	82,000,000	Egyptian 99.6%, other 0.4%	Arabic (official), English and French widely understood by educated classes	71.4%	20,136,000	\$6,200	Muslim (mostly Sunni) 90%, Coptic 9%, other Christian 1%	3.8%
Gaza Strip	1,660,000	Palestinian Arab	Arabic, Hebrew (spoken by many Palestinians), English (widely understood)	92.4%	1,380,000	N/A	Muslim (predominantly Sunni) 99.3%, Christian 0.7%	N/A
Iraq	30,400,000	Arab 75%-80%, Kurdish 15%-20%, Turkoman, Assyrian, or other 5%	Arabic (official), Kurdish (official in Kurdish regions), Turkoman (a Turkish dialect), Assyrian (Neo-Aramaic), Armenian	84.1%	326,000	\$3,600	Muslim 97% (Shia 60%-65%, Sunni 32%-37%), Christian and other 3%	N/A

Source: CIA Factbook for countries included in the study. Last updated in 15 May 2011

¹ Language percentages [for "first language" speakers only] across the globe are in order as follow: Mandarin Chinese 12.65%, Spanish 4.93%, English 4.91%, Arabic 3.31%, Hindi 2.73%, Bengali 2.71%, Portuguese 2.67%, Russian 2.16%, Japanese 1.83%, Standard German 1.35%, Javanese 1.27%.

Country	Population (approx.)	Ethnic groups	Language(s) ²	Literacy	Internet users	GDP per capita (PPP)	Religions	Education expenditures (of the GDP)
Jordan	6,500,000	Arab 98%, Circassian 1%, Armenian 1%	Arabic (official), English (widely understood among upper and middle classes)	95.1%	1,645,000	\$5,300	Sunni Muslim 92%, Christian 6% , 2% Shia Muslim and Druze	N/A
Kuwait	2,595,000	Kuwaiti 45%, other Arab 35%, South Asian 9%, Iranian 4%, other 7%	Arabic (official), English widely spoken	93.3%	1,100,000	\$51,700	Muslim 85% (Sunni 70%, Shia 30%), other (includes Christian, Hindu, Parsi) 15%	3.8%
Lebanon	4,145,000	Arab 95%, Armenian 4%, other 1%	Arabic (official), French, English, Armenian	93.1%	1,000,000	\$14,200	Muslim 59.7% , Christian 39%, other 1.3%	1.8%
Libya	6,600,000	Berber and Arab 97%, other 3%	Arabic, Italian, English. Note: all are widely understood in the major cities.	82.6%	355,000	\$13,800	Sunni Muslim 97%, other 3%	N/A
Mauritania	3,280,000	mixed Moor/black 40%, Moor 30%, black 30%	Arabic (official), Pulaar, Soninke, Wolof (all national languages), French, Hassaniya	51.2%	75,000	\$2,100	Muslim 100%	4.4%
Morocco	32,000,000	Arab-Berber 99.1%, other 0.7%, Jewish 0.2%	Arabic (official), Berber dialects, French (business, government, and diplomacy)	52.3%	13,500,000	\$4,900	Muslim 98.7%, Christian 1.1%, Jewish 0.2%	5.6%

² Language percentages [for "first language" speakers only] across the globe are in order as follow: Mandarin Chinese 12.65%, Spanish 4.93%, English 4.91%, Arabic 3.31%, Hindi 2.73%, Bengali 2.71%, Portuguese 2.67%, Russian 2.16%, Japanese 1.83%, Standard German 1.35%, Javanese 1.27%.

Country	Population (approx.)	Ethnic groups	Language(s) ³	Literacy	Internet users	GDP per capita (PPP)	Religions	Education expenditures (of the GDP)
Oman	3,000,000	Arab, Baluchi, South Asian, African	Arabic (official), English, Baluchi, Urdu, Indian dialects	81.4%	1,500,000	\$25,800	Ibadhi Muslim 75%, other 25%	3.9%
Qatar	850,000	Arab 40%, Indian 18%, Pakistani 18%, Iranian 10%, other 14%	Arabic (official), English commonly used as a second language	89%	565,000	\$145,300	Muslim 77.5%, Christian 8.5%, other 14%	3.3%
Saudi Arabia	26,000,000	Arab 90%, Afro-Asian 10%	Arabic (official)	78.8%	9,775,000	\$24,200	Muslim 100%	5.6%
Somalia	10,000,000	Somali 85%, Bantu and other non-Somali 15%	Somali (official), Arabic, Italian, English	37.8%	106,000	\$600	Sunni Muslim 100%	N/A
Sudan	45,000,000	black 52%, Arab 39%, Beja 6%, foreigners 2%, other 1%	Arabic (official), English (official), Nubian, Ta Bedawie, diverse dialects of Nilotic, Nilo-Hamitic, Sudanic languages. Note: Arabization in process	61.1%	4,200,000	\$2,200	Sunni Muslim 70% (in north), Christian 5% (mostly in south and Khartoum), indigenous beliefs 25%	N/A
Syria	22,500,000	Arab 90.3%, Kurds, Armenians, and other 9.7%	Arabic (official), Kurdish, Armenian, Aramaic, Circassian (widely understood); French, English (somewhat understood)	79.6%	4,500,000	\$4,800	Sunni Muslim 74%, other Muslim 16%, Christian 10%, Jewish (tiny communities)	4.9%

³ Language percentages [for "first language" speakers only] across the globe are in order as follow: Mandarin Chinese 12.65%, Spanish 4.93%, English 4.91%, Arabic 3.31%, Hindi 2.73%, Bengali 2.71%, Portuguese 2.67%, Russian 2.16%, Japanese 1.83%, Standard German 1.35%, Javanese 1.27%.

Country	Population (approx.)	Ethnic groups	Language(s) ⁴	Literacy	Internet users	GDP per capita (PPP)	Religions	Education expenditures (of the GDP)
Tunisia	10,630,000	Arab 98%, European 1%, Jewish and other 1%	Arabic (official & commerce), French (commerce)	74.3%	3,500,000	\$9,500	Muslim 98%, Christian 1%, Jewish and other 1%	7.1%
United Arab Emirates	5,150,000	Emirati 19%, other Arab and Iranian 23%, South Asian 50%, other expatriates 8%	Arabic (official), Persian, English, Hindi, Urdu	77.9%	3,450,000	\$40,200	Muslim 96% (Shia 16%), other (includes Christian, Hindu) 4%	1.2%
West Bank	2,570,000	Palestinian Arab and other 83%, Jewish 17%	Arabic (official), English (widely understood among upper and middle classes)	92.4%	1,380,000 (includes Gaza Strip)	\$2,900	Muslim 75% (predominantly Sunni), Jewish 17%, Christian and other 8%	N/A
Western Sahara	500,000	Arab, Berber	Hassaniya Arabic, Moroccan Arabic	N/A	N/A	\$2,500	Muslim 100%	N/A
Yemen	34,000,000	Muslim including Shafi (Sunni) and Zaydi (Shia), small numbers of Jewish, Christian, and Hindu	Arabic (official)	50.2%	2,350,000	\$2,600	predominantly Arab; but also Afro-Arab, South Asians, Europeans	5.2%

⁴ Language percentages [for "first language" speakers only] across the globe are in order as follow: Mandarin Chinese 12.65%, Spanish 4.93%, English 4.91%, Arabic 3.31%, Hindi 2.73%, Bengali 2.71%, Portuguese 2.67%, Russian 2.16%, Japanese 1.83%, Standard German 1.35%, Javanese 1.27%.

Country	Population (approx.)	Ethnic groups	Language(s) ⁵	Literacy	Internet users	GDP per capita (PPP)	Religions	Education expenditures (of the GDP)
Australia	21,770,000	white 92%, Asian 7%, aboriginal and other 1%	English 78.5%, Chinese 2.5%, Italian 1.6%, Greek 1.3%, Arabic 1.2%, Vietnamese 1%, other 8.2%, unspecified 5.7%	99%	15,800,000	\$41,300	Catholic 25.8%, Anglican 18.7%, Uniting Church 5.7%, Presbyterian and Reformed 3%, Eastern Orthodox 2.7%, other Christian 7.9%, Buddhist 2.1%, Muslim 1.7%, other 2.4%, unspecified 11.3%, none 18.7%	4.5%
Canada	34,000,000	British Isles origin 28%, French origin 23%, other European 15%, Amerindian 2%, other, mostly Asian, African, Arab 6%, mixed background 26%	English (official) 58.8%, French (official) 21.6%, other 19.6%	99%	27,000,000	\$39,600	Roman Catholic 42.6%, Protestant 23.3% (including United Church 9.5%, Anglican 6.8%, Baptist 2.4%, Lutheran 2%), other Christian 4.4%, Muslim 1.9%, other and unspecified 11.8%, none 16%	4.9%

⁵ Language percentages [for "first language" speakers only] across the globe are in order as follow: Mandarin Chinese 12.65%, Spanish 4.93%, English 4.91%, Arabic 3.31%, Hindi 2.73%, Bengali 2.71%, Portuguese 2.67%, Russian 2.16%, Japanese 1.83%, Standard German 1.35%, Javanese 1.27%.

Country	Population (approx.)	Ethnic groups	Language(s) ⁶	Literacy	Internet users	GDP per capita (PPP)	Religions	Education expenditures (of the GDP)
Ireland	4,670,000	Irish 87.4%, other white 7.5%, Asian 1.3%, black 1.1%, mixed 1.1%, unspecified 1.6%	English (official, the language generally used), Irish (Gaelic or Gaeilge) (official, spoken mainly in areas along the western coast)	99%	3,000,000	\$37,600	Roman Catholic 87.4%, Church of Ireland 2.9%, other Christian 1.9%, other 2.1%, unspecified 1.5%, none 4.2%	4.9%
New Zealand	4,390,000	European 56.8%, Asian 8%, Maori 7.4%, Pacific islander 4.6%, mixed 9.7%, other 13.5%	English (official) 91.2%, Maori (official) 3.9%, Samoan 2.1%, French 1.3%, Hindi 1.1%, Yue 1.1%, Northern Chinese 1%, other 12.9%, New Zealand Sign Language (official)	99%	3,400,000	\$28,000	Anglican 13.8%, Roman Catholic 12.6%, Presbyterian, Congregational, and Reformed 10%, Christian (no denomination specified) 4.6%, Methodist 3%, Pentecostal 2%, Baptist 1.4%, other Christian 3.8%, Maori Christian 1.6%, Hindu 1.6%, Buddhist 1.3%, other religions 2.2%, none 32.2%, other or unidentified 9.9%	6.1%

⁶ Language percentages [for "first language" speakers only] across the globe are in order as follow: Mandarin Chinese 12.65%, Spanish 4.93%, English 4.91%, Arabic 3.31%, Hindi 2.73%, Bengali 2.71%, Portuguese 2.67%, Russian 2.16%, Japanese 1.83%, Standard German 1.35%, Javanese 1.27%.

Country	Population (approx.)	Ethnic groups	Language(s) ⁷	Literacy	Internet users	GDP per capita (PPP)	Religions	Education expenditures (of the GDP)
United Kingdom	62,700,000	white (of which English 83.6%, Scottish 8.6%, Welsh 4.9%, Northern Irish 2.9%) 92.1%, black 2%, Indian 1.8%, Pakistani 1.3%, mixed 1.2%, other 1.6%	English	99%	51,450,00	\$35,100	Christian (Anglican, Roman Catholic, Presbyterian, Methodist) 71.6%, Muslim 2.7%, Hindu 1%, other 1.6%, unspecified or none 23.1%	5.5%
United States of America	313,000,000	white 79.96%, black 12.85%, Asian 4.43%, Amerindian and Alaska native 0.97%, native Hawaiian and other Pacific islander 0.18%, two or more races 1.61%	English 82.1%, Spanish 10.7%, other Indo-European 3.8%, Asian and Pacific island 2.7%, other 0.7%	99%	245,000,000	\$47,400	Protestant 51.3%, Roman Catholic 23.9%, Mormon 1.7%, other Christian 1.6%, Jewish 1.7%, Buddhist 0.7%, Muslim 0.6%, other or unspecified 2.5%, unaffiliated 12.1%, none 4%	5.5%

⁷ Language percentages [for "first language" speakers only] across the globe are in order as follow: Mandarin Chinese 12.65%, Spanish 4.93%, English 4.91%, Arabic 3.31%, Hindi 2.73%, Bengali 2.71%, Portuguese 2.67%, Russian 2.16%, Japanese 1.83%, Standard German 1.35%, Javanese 1.27%.

Appendix I

Interview Guide and snapshots for interview
scripts and interviews analysis

Interview Guide

Demographic data: Country, Gender, Age, Employment and/or Education, Religion.

Reasons for Contribution

- Enjoyment (self-entertainment, social connections, hobby, etc)
- Caring of others (information sharing, free source of information, religious teaching, free book, quality of content, etc)
- Self-development (learning, understanding, innovation, opinion, writing skills, etc)
- Rewarding (financial, recognition, career, named publishing, etc)
- Protection (loneliness, make use of time, etc)
- Other reasons for (benefits of) contribution
- Views about others and their reasons for contribution

Reasons for non-Contribution

- No benefits (rewards, recognition, usefulness, etc)
- Lack of confidence (technical [wiki], writing skills, knowledge about a topic, textbook itself [structure, quality], etc)
- Unreachability/uselessness (access to the internet, awareness about the website, perceived usefulness, views about education technologies)
- Other barriers (or challenges) for contribution
- Views about others and their reasons for non-contribution

Technical improvement and social promotion

- How they define their culture and see their surrounding environment
- Technical issues and suggestions for improvement
- Social issues and suggestion for promotion

Snapshots of some interviews

Interview with Ahmed* ¹ On 07 February 2010 From 00:45AM to 01:50 AM Using MSN Messenger	
Amal	: What topic you like to write in <i>Wikibooks</i> and in what language(s)?
Ahmed	: I am working on writing about infectious diseases in Arabic. I wrote more than 30 relevant articles in <i>Wikipedia</i> and I'm trying to modify them to be part of a clinical manual for general doctors and students.
Amal	: Great
Amal	: So all the articles are in Arabic!
Ahmed	: Yes
Amal	: Why you choose to write in Arabic while medicine is mainly in English?
Ahmed	: Because there is a concerning lack of original Arabic resources in the medical field. And because I feel obliged to write in my native language
Amal	: but why "obliged"?
Ahmed	: Obligated because someone needs to do the job I described and no one did. I have the means of doing it and I can't see why I should not.

Interview with Faraj ² On 8 Dec 2010 using YAHOO From 5:15 AM to 6:30 AM	
Amal	: Why do you want to write about history?
Faraj	: Date of Prophet Muhammad
Amal	: Why not what
Faraj	: Deafening the silence of the Prophet of mercy and love
Amal	: Why you do care about that?
Faraj	: Because the Prophet Muhammad is my prophet and I love him because he is a symbol of world peace
Amal	: Ok
Amal	: Did you (or do you) do any voluntarily work?
Faraj	: I do not know what you mean?
Amal	: التطوع (voluntarism)
Faraj	: Yes
Amal	: In what?
Faraj	: I worked as a volunteer in a computer office

Interview with Philip* ³ On 05 February 2010 From 05:30 PM to 6:45 PM Using GTALK Messenger	
Amal	: Do you think you enjoy contribution?
Philip	: I do so tremendously. I feel great to be able to contribute. You know, helping others gain usefulness by getting to a similar level of understanding.
Amal	: Do you enjoy the feeling of having contacts of contributors (around the world)? In other words, do you enjoy discussing with others different issues related to contributions?
Philip	: Not at this stage. If I spent more time on Wikibooks to become more involved with the community then that would be a different story. I do enjoy discussing with others about issues relating to contributions. Sometimes the details about certain techniques can become quite tricky, and it's great to be able to come to a common consensus regarding misunderstood issues
Amal	: Is contribution the only hobby you practice?
Philip	: There are other hobbies, like juggling, reading fiction, solving the cube (and Sudoku cube) and such like. Computer games are a really good hobby as well.

¹ Ahmed is a nick name that the researcher gave to the interviewee to represent his culture (Arabic) as well as the gender (male).

² Faraj is a nick name given to an Iraqi man

³ Philip is a nick name that the researcher gave to the interviewee to represent his culture (Anglo) as well as the gender (male).

Interview with Steve* ⁴ On 05 February 2010 From 06:45 PM to 07:45 PM Using SKYPE Messenger	
Amal	: In two or five years, how do you wish open textbooks to be?
Steve	: I'm simply hoping that more universities see open texts as a reasonable source of textbooks that students don't have to pay huge prices for. Textbook prices are must plain ridiculous...
Amal	: How open textbooks can be improved?
Steve	: I can't think of anything immediately. The current techniques in <i>Wikibooks</i> , with validated revisions being the immediately visible ones for most users and the vandal protections in place, seem to cover everything I could think of.
Amal	: In your opinion, what can be done to promote the dissemination and the use as well as the contribution to open textbooks?
Steve	: Simply, more university professors have to become aware that they exist, and that they are generally of decent quality. A good start is the professors that actually have their classes write the textbook as they proceed through the year...

Interview with Susan* ⁵ On 04 September 2009 From 06:30 PM to 07:20 PM Using Yahoo Messenger	
Amal	: How did you get involved in contribution? I mean, did the company ask you to do so or it was your idea?
Susan	: No, it was the company's idea
Amal	: Which book are you editing at the moment?
Susan	: It is called <i>***Manual***</i>
Amal	: Is the software manual the only book you are contributing to?
Susan	: At present yes. However, I did add a couple of recipes to the cookbook
Amal	: If the company's pay stops, will you continue editing?
Susan	: Probably not, as I won't be in receipt of the information about the product. But, there was the cookbook which I mean to contribute to if I ever get the time!
Amal	: Can you tell me your experience in writing?
Susan	: In the UK, I worked in Social Housing and wrote all sorts of documents (letters, reports, handbooks, information leaflets, and presentations etc). In the UK, there is a huge emphasis on keeping tenants and housing applicants informed about all aspects of housing. So, it means a lot of writing.
Amal	: Is that mean, you already know 'professional writing' before you are contributing to Wikibooks? In other words, did you get any new experience from writing to Wikibooks?
Susan	: Working out How Wikibooks work was a new experience; I found it very counter-intuitive.

Interview with Raj* ⁶ On 16 Nov 2010 by GTALK From 6 PM to 6:30 PM	
Raj	: I started almost a month back.
Amal	: What is the kind of activities you do in Wikibooks? Do you write or read?
Raj	: My professor suggested me to read from Wikibooks to learn more when asked him about LATEX. He asked me to search in Wikibooks.
Amal	: Your professor suggested you to read or to write to Wikibooks?
Raj	: He suggested to read the Wikibooks.
Amal	: Did you write while reading?
Raj	: No
Amal	: Why?
Raj	: I found the information more than I want. I just copied the information. One thing is, I do not know how to write by my own in Wikibooks.

⁴ Steve is a nick name that the researcher gave to the interviewee to represent his culture (Anglo) as well as the gender (male).

⁵ Susan is a nick name that the researcher gave to the interviewee to represent his culture (Anglo) as well as the gender (female).

⁶ Raj is nick name to be given to an Indian man.

Snapshot on interviews analysis

Motivations: How participants see themselves

		career	community support	Discussion	Rewards and financial gains	enhancement	enjoyment	help disadvantaged	help others to learn (information sharing)	Increasing the quality	lack of resources	learning	obligation	publishing	recognition	request	solving problem	use space time	value of freedom	value of knowledge	value of volunteerism	writing skills
Adrian	Adrian was looking for learning resources for his certification and he found some ways to improve these information technology subjects based on his previous knowledge, and then he extended his efforts to the rest of the site								1		1	1										
	Adrian is hoping to be able to help others out by sharing knowledge he has.								1													
	Adrian considers that Wikibooks improves his ability to interact with others by collaboration											1										
David	Although he makes minimal contribution to Wikibooks, he likes Wikibooks very much as a project for children																			1		
	Information should be free																		1			
	A child in a country which has limited resources should be allowed and empowered to learn maths, geography, and language							1	1													
Roy	The liberal culture that makes people share information amongst community members is an important part of Western culture								1										1			
	Contribution to Wikibooks is published immediately and it is a lot easier than publishing in academic journals													1	1		1					
Anglo		6	5	8	3	18	13	7	31	2	3	16	6	5	15	4	7	7	10	15	1	10

		career	community support	Discussion	Rewards and financial gains	enhancement	enjoyment	help disadvantaged	help others to learn (information sharing)	Increasing the quality	lack of resources	learning	obligation	publishing	recognition	request	solving problem	use space time	value of freedom	value of knowledge	value of volunteerism	writing skills
Ahmed	He writes about infectious diseases								1													
	In Arabic for Arabic people because the lack of original Arabic resources in medical field										1											
	Because he feels obliged to write												1									
	Because he has all the means while no one else wants to do the task																			1		
Abdul	Abdul sees that Algerian culture suffers from a significant deterioration in front of secularisation, and all what is left of it is just a lie on TV.								1				1									
	All people fall into the same mistakes repeatedly because they do not understand and learn from the history		1						1				1							1		
Ali	Ali will write in popular literature, religious ethics, poetry, and narration; and if he has knowledge he will write in IT, history and politics						1		1													
Aziz	Aziz does not recognise any differences between Wikipedia and Wikibooks, but he writes in history of Oman cities and places to let others know about the great history of his city								1													
	He writes about his city because he would like to receive a reward from God as he benefits others				1	1																
Essam	Essam decided to write because he sees many problems in Egypt and other Arab countries, so by writing he is trying to play a role in helping people					1				1			1				1			1		
	Essam enjoys writing because he can express what is in his mind						1															
Arabic		5	3	1	4	8	5	2	19	4	4	2	17	0	4	0	10	2	4	7	3	3

Motivations: How interviewees see others

Interviewee	Sentence	Help others to learn (information sharing)	Value of knowledge	Enhancement	Learning	Publishing	Recognition	(Business) collaboration	Financial reward	Enjoyment	Increasing the quality	Discussion	Show off
Adrian	There are some classes that have made use of Wikibooks who have done their projects on their own	1			1			1					
	Adrian believes that users contribute to Wikibooks for altruistic reasons	1											
	Adrian continued: everyone at Wikibooks is a volunteer, so it would not make sense to contribute if they do not feel that their time was being well spent in creating material	1	1	1						1			
Philip	Philip discuss with others the tricky issues related to programming techniques	1			1					1		1	
	By discussion, common consensus regarding misunderstood issues is reached				1								
Steve	He sees that others contribute because they want to show off of what they know and how well they write.			1			1						1
Anglo		10	1	3	9	1	4	2	1	3	3	2	2

Interviewee	Sentence	Help others to learn (information sharing)	Value of knowledge	Enhancement	Learning	Publishing	Recognition	(Business) collaboration	Financial reward	Enjoyment	Increasing the quality	Discussion	Show off
Ahmed	The conversation and discussion between Ahmed and his peers about contribution have encourage them to follow his steps	1	1	1									
	Students in Arabic schools use (not contribute) wikis to do their homework and projects (which indicates that upon their contribution they do that for learning).				1								
	Many students are willing to contribute if they know how.	1			1								
Arabic		2	1	1	4	1	1	0	0	0	0	0	0

Amotivation: How interviewees see themselves

Interviewee	Sentence	Amount of efforts needed (and laziness)	Efforts considered useless (knowledge is unappreciated)	Entrance barriers	Lack of awareness	Lack of confidence (including lack of knowledge)	No financial rewards	Other interests	Poor quality content	Vandalism & openness	Responsibilities and time constraints	Selfishness and free riding	Technical difficulties (no technical help)	Valueless efforts
Adrian	The syntax used in a wiki to produce formatted output can be difficult to learn. It is almost trying to learn HTML for creating web pages												1	
Clinton	It is more difficult to write for Wikibooks because it is reviewed by others with greater knowledge of a given topic					1								
	Clinton sometimes write to other open content websites because they are informal and usually satirical	1												
	Clinton likes amateur astronomy							1						
David	He does proofreading when he has time										1			
Steve	Sometimes he feels that what he is doing is not useful		1			1								
	In case they would offer financial rewards, he would not contribute because that makes contribution less valuable													1
Susan	If the payment to edit the software manual stops, she will stop writing into the manual						1							
Anglo		4	4	1	0	8	1	2	1	0	3	0	8	1

Interviewee	Sentence	Amount of efforts needed (and laziness)	Efforts considered useless (knowledge is unappreciated)	Entrance barriers	Lack of awareness	Lack of confidence (including lack of knowledge)	No financial rewards	Other interests	Poor quality content	Vandalism & openness	Responsibilities and time constraints	Selfishness and free riding	Technical difficulties (no technical help)	Valueless efforts
Ahmed	He has faced some hopeless troubles												1	
	Wikibooks is very poor and needs a lot of work which one man cannot do	1							1					
Ali	Although Ali created two open access website, one to teach primary school students English using educational games (as ongoing charity) and the other website open access poets in Arabic, he does not write to Wikibooks because of laziness	1												
	He does not write because he does not have much information to write on wikis						1							
	Ali finds Wikibooks an amazing website and he finds what he searches for (he gets books he needs and it helps him at work as it is easy to use)											1		
	Omar loves playing football and reading novels							1						
Arabic		5	0	0	2	5	1	13	2	1	9	7	6	0

Amotivation: How interviewees see others

Interviewee	Sentence	Feeling of demanding (amount of efforts needed)	Lack of writing skills	Lack of technical skills	Selfishness & free riding	Lack of awareness	Vandalism	Copy left	Lack of recognition	Effort is useless	Lack of valuing knowledge and information sharing	Lack of valuing volunteerism	No reward	Lack of confidence	Poor quality	Time constrains	Other interests	Other barriers (including laziness)	Infrastructure and digital barriers
Adrian	Adrian commented that they have not wikis in their teaching and learning activities					1													
	Adrian commented that not using wikis is a missed opportunity to develop skills for collaboration with others.					1													
Clinton	Many people do not contribute because they are not academically qualified to contribute		1											1					
	Others may have lack of sufficient spare time															1			
	Greater awareness of Wikibooks is required and the outreach to the academic community					1													
Philip	People feel that contributing to books is sacrosanct process	1																	
Anglo		3	5	7	5	13	2	3	0	2	8	5	5	5	1	3	0	3	0

Interviewee	Sentence	Feeling of demanding (amount of efforts needed)	Lack of writing skills	Lack of technical skills	Selfishness & free riding	Lack of awareness	Vandalism	Copy left	Lack of recognition	Effort is useless	Lack of valuing knowledge and information sharing	Lack of valuing volunteerism	No reward	Lack of confidence	Poor quality	Time constrains	Other interests	Other barriers (including laziness)	Infrastructure and digital barriers
Abdul	Abdul sees that the main reason that hinder people from contribution is the lack of internet access as although schools and universities are equipped with PCs, they are not connected to the internet																	1	
Ahmed	Writing a book is much harder than writing an article	1	1																
	Users prefer reading than writing	1			1														
Ali	The internet is available for most people but most abuse it like any other new technologies																1		
Arabic		2	3	3	1	8	2	1	1	1	6	0	0	1	3	1	2	4	4

Appendix J

Site Notice for research recruitment on Wikibooks Homepages

Site Notice for Online Questionnaire

Site Notice on Arabic Wikibooks

تسجيل / إنشاء حساب

صفحة | نقاش | عرض المصدر | تاريخ

أنت مدعو للمشاركة في إستقصاء لمعرفة ماهية الدوافع المشتركة بين المساهمين للمشاركة في ويكي الكتب.

لقد تمت الموافقة على إجراء هذا البحث بواسطة مجلس أخلاقيات البحث بجامعة جنوب أستراليا. للمشاركة في الإستبيان، اضغط هنا علماً بأن اسم المستخدم هو *motivations* وكلمة السر هي *wikiproject*.

الصفحة الرئيسية

من ويكي الكتب
(تم التحويل من Main Page)

مرحباً بكم في ويكي الكتب

هذا المشروع من مؤسسة ويكيميديا تأسس سنة 2004 ويهدف إلى إنشاء مكتبة تعليمية عربية مفتوحة المصدر، يستطيع الجميع المشاركة في كتابتها وتحديثها بحرية. منذ تأسيسها إلى وقتنا الحاضر، يحتوي ويكي الكتب على 433 فصل في مجالات مختلفة ومتنوعة للثقافة البشرية. إذا كنت تؤمن بالمصادر المفتوحة للتعليم والثقافة والمعرفة فشارك في العمل هذا وكن على قدر المسؤولية والموضوعية. لديك الحرية في تعديل كتاباتك وكتابات الآخرين دون قيود، ولكن كن حريصاً على عدم إتلاف مجهودات غيرك. وعلى أية حال فلا تقلق، كل التعديلات قابلة للإسترجاع. إذا كانت هذه مساهمتك الأولى في أنظمة ويكي فيمكنك تجربة تحرير النصوص في ساحة اللعب.

هذا مشروع شغيق يدعى ويكي مصدر لوضع الكتب التراثية أو تلك الموضوعية من قبل مؤلفيها تحت رخصة الوثائق الحرة. لكتابة المقالات الموسوعية الصغيرة يرجى التوجه لويكيبديا.

إذا كنت تريد كتابة تعليق أو طرح سؤال أو ما شابه فالرجاء القيام بذلك في صفحات النقاش المخصصة لهذا الغرض. يمكنك أيضاً التواصل معنا وطرح إستفساراتك في ميدان ويكي الكتب ... أهلاً بك !



هنا الكتب بلغات أجنبية

السبت
28 مارس 2009

إبحار

- الصفحة الرئيسية
- تصفح
- أحدث التغييرات
- صفحة عشوائية

صفحات تنظيمية

- الميدان
- ويكيبديا

إنشاء كتاب

- إضافة صفحة ويكي
- مساعدة الكتب

بحث

مستوى الأدوات

ماذا يصل هنا

Site Notice on English Wikibooks

Log in / create account

main page | discussion | draft source | history

You are invited to participate in research that aims to explore the motivations among Wikibookians' participation. To take the survey, use *motivations* as your username and *wikiproject* as your password. The study has been approved by UNISA Human Ethics.

This is the latest **quality** revision, approved on 26 January 2009. The draft has template/image changes awaiting review. (+/-)

Welcome to Wikibooks!

Wikibooks is a Wikimedia community for creating a free library of educational textbooks that **anyone can edit**. Wikibooks began on July 10, 2003; since then Wikibooks has grown to include over **35,088 pages** in a multitude of textbooks created by volunteers like you!

- Have questions or comments? **Contact us**.
- Need a quick introduction to get you started? See our **welcome page**.
- Explore, play in the **sandbox**, have fun, be **bold** and good luck!

 **Wikijunior** Books for Children

 **Simple English** Simplified English Books

Other languages/FAQ

Search and Browse

BROWSE: SUBJECTS | CATEGORIES | ALPHABETICALLY | BY DEWEY DECIMAL CLASSIFICATION | BY LIBRARY OF CONGRESS CLASSIFICATION

Featured Books

See all our featured books



Acoustics

Acoustics is the science that studies sound, in particular its production, transmission, and effects.



Knowing Knoppix

Knoppix is a Linux distribution that runs completely from a CD or DVD. There is no need to install. It bypasses all the software already installed on your PC or laptop and automatically detects the hardware in your computer.



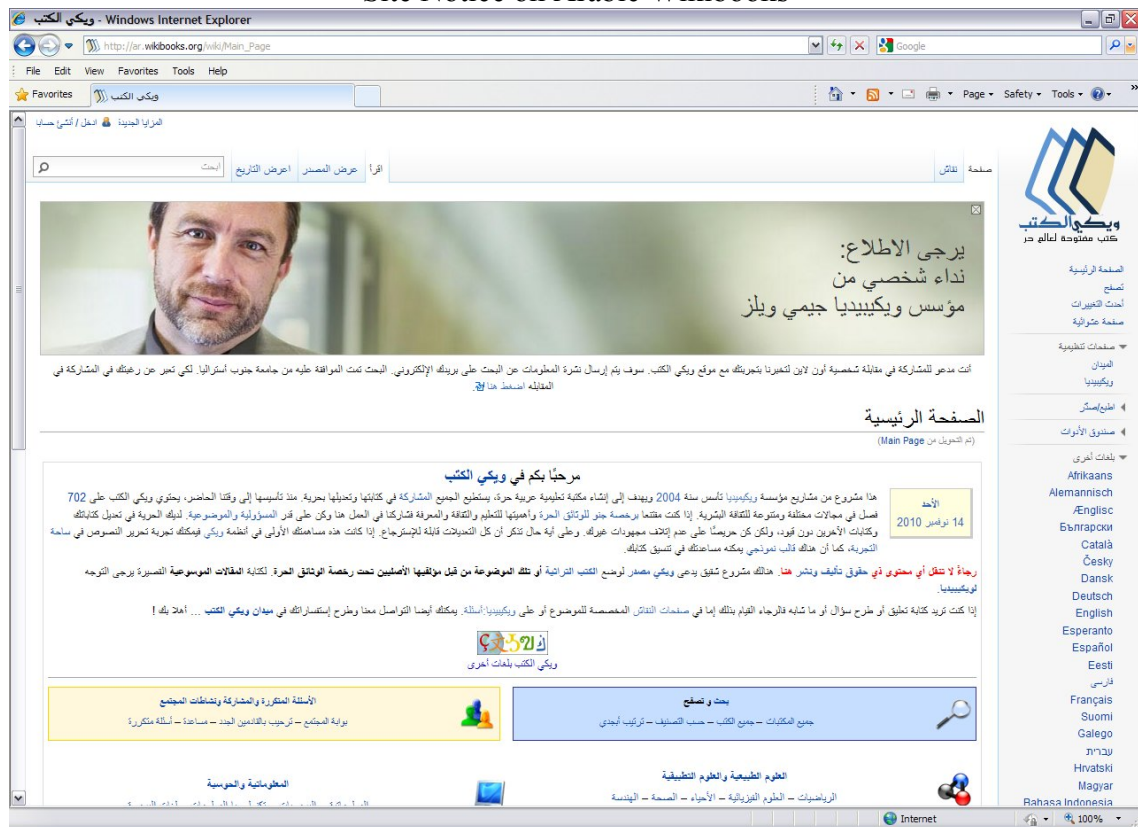
Wikijunior Solar System

Outer space is perhaps the final frontier for man. Even though the rest of the solar system objects may seem like tiny dots from Earth, our celestial neighbors are still important to learn about.

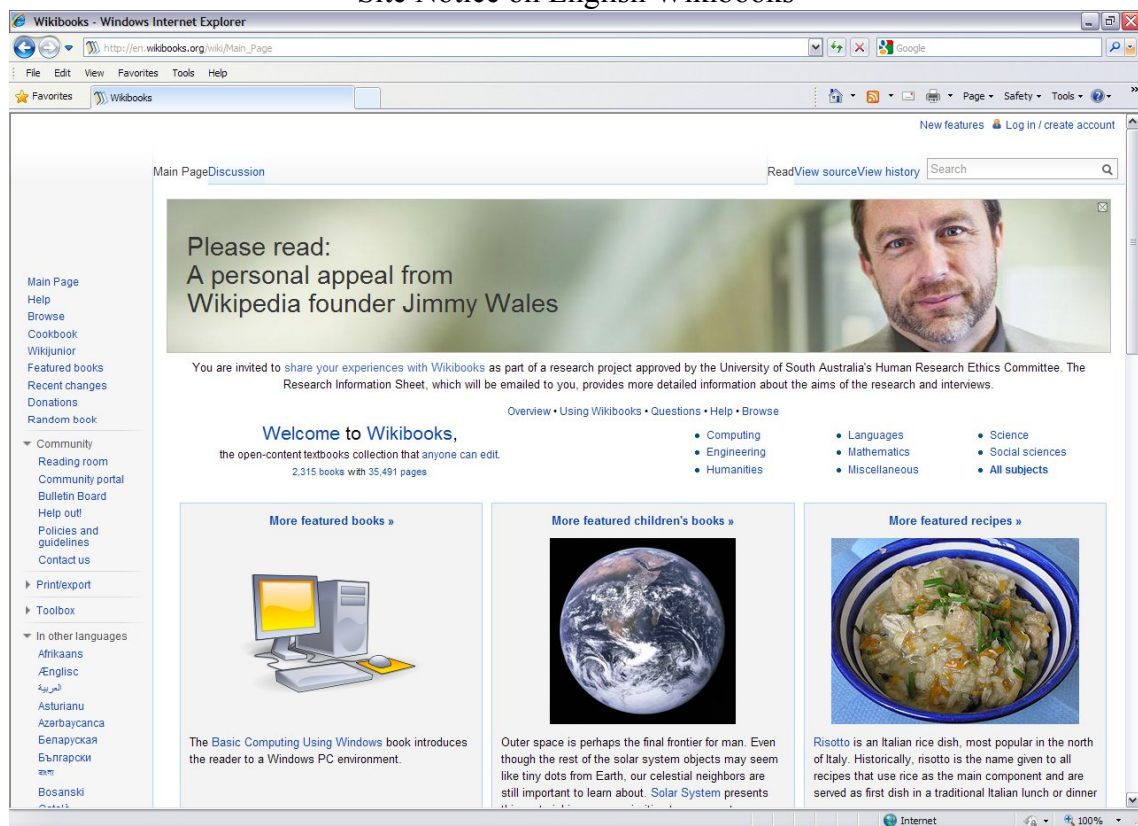
1

Site Notice for Online Interview

Site Notice on Arabic Wikibooks



Site Notice on English Wikibooks



Appendix K

Results of Standard Regression Analysis

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	2.985	.735		4.062
	Age Group	-.036	.073	-.037	.624
	Educational Levels Group	-.018	.102	-.013	.859
	Level of Computer-related Education Field	-.012	.065	-.013	.852
	Education-related Occupation	-.077	.156	-.038	.621
	Native Language	-.021	.027	-.060	.430
	Language at School	.001	.025	.004	.956
	Culture	-.152	.145	-.084	.298
	Gender	.225	.163	.097	.171
	Religions Group	.000	.061	.000	.996
	Education System	.418	.177	.166	.019
	ICT Equiped School	.171	.155	.084	.269
	ICT Self-Learning	.265	.216	.090	.221
	ICT Teacher encouragement	-.186	.168	-.085	.269

a. Dependent Variable: Enjoyment-based intrinsic motivation

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	5.349	.436		12.277
	Age Group	-.104	.043	-.178	.017
	Educational Levels Group	-.015	.060	-.017	.806
	Level of Computer-related Education Field	.024	.038	.043	.535
	Education-related Occupation	-.113	.092	-.090	.223
	Native Language	.009	.016	.043	.561
	Language at School	-.029	.015	-.135	.052
	Culture	-.214	.086	-.194	.014
	Gender	-.010	.097	-.007	.917
	Religions Group	-.009	.036	-.017	.807
	Education System	-.027	.105	-.017	.799
	ICT Equiped School	.042	.092	.034	.644
	ICT Self-Learning	.089	.128	.050	.487
	ICT Teacher encouragement	-.224	.100	-.167	.025

a. Dependent Variable: Endorsed values-based intrinsic motivation

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	
1	(Constant)	4.171	.484		8.624
	Age Group	-.070	.048	-.110	-1.462
	Educational Levels Group	-.016	.067	-.017	-.239
	Level of Computer-related Education Field	.006	.043	.010	.140
	Education-related Occupation	-.095	.103	-.069	-.923
	Native Language	-.006	.018	-.025	-.338
	Language at School	-.014	.017	-.059	-.840
	Culture	-.183	.096	-.152	-1.911
	Gender	.106	.107	.069	.986
	Religions Group	-.005	.040	-.008	-.113
	Education System	.194	.117	.116	1.663
	ICT Equiped School	.107	.102	.078	1.049
	ICT Self-Learning	.177	.142	.090	1.246
	ICT Teacher encouragement	-.206	.110	-.140	-1.862

a. Dependent Variable: Intrinsic motivation

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	
1	(Constant)	4.201	.705		5.962
	Age Group	.064	.070	.068	.921
	Educational Levels Group	-.259	.098	-.189	-2.651
	Level of Computer-related Education Field	-.043	.062	-.048	-.685
	Education-related Occupation	.042	.150	.021	.278
	Native Language	-.008	.026	-.024	-.323
	Language at School	.008	.024	.022	.315
	Culture	-.082	.139	-.046	-.585
	Gender	-.237	.157	-.105	-1.516
	Religions Group	-.095	.059	-.114	-1.614
	Education System	-.007	.170	-.003	-.041
	ICT Equiped School	-.058	.148	-.029	-.394
	ICT Self-Learning	-.394	.207	-.137	-1.902
	ICT Teacher encouragement	-.027	.161	-.012	-.166

a. Dependent Variable: External regulation

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	3.568	.693		.000
	Age Group	-.085	.069	-.092	.220
	Educational Levels Group	-.107	.096	-.080	.266
	Level of Computer-related Education Field	-.105	.061	-.120	.089
	Education-related Occupation	.088	.147	.045	.552
	Native Language	-.006	.025	-.016	.828
	Language at School	-.004	.024	-.013	.856
	Culture	-.127	.137	-.074	.356
	Gender	.229	.154	.104	.138
	Religions Group	-.092	.058	-.114	.112
	Education System	-.023	.167	-.010	.891
	ICT Equiped School	.001	.146	.001	.993
	ICT Self-Learning	.042	.204	.015	.838
	ICT Teacher encouragement	-.169	.158	-.081	.287

a. Dependent Variable: Problem Solving

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	5.735	.703		.000
	Age Group	-.101	.070	-.095	.148
	Educational Levels Group	-.019	.097	-.012	.843
	Level of Computer-related Education Field	.015	.062	.014	.815
	Education-related Occupation	.085	.149	.037	.571
	Native Language	-.007	.026	-.018	.788
	Language at School	.013	.024	.033	.588
	Culture	-.582	.139	-.290	.000
	Gender	-.125	.156	-.049	.423
	Religions Group	-.279	.059	-.296	.000
	Education System	.130	.169	.047	.442
	ICT Equiped School	.167	.148	.073	.261
	ICT Self-Learning	-.085	.206	-.026	.679
	ICT Teacher encouragement	-.490	.161	-.201	.003

a. Dependent Variable: Moral rewards

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	4.654	.568		.000
	Age Group	-.093	.056	-.113	.100
	Educational Levels Group	-.063	.079	-.053	.423
	Level of Computer-related Education Field	-.045	.050	-.058	.370
	Education-related Occupation	.086	.121	.049	.478
	Native Language	-.006	.021	-.020	.767
	Language at School	.004	.020	.014	.822
	Culture	-.354	.112	-.228	.002
	Gender	.052	.126	.026	.681
	Religions Group	-.187	.047	-.257	.000
	Education System	.054	.137	.025	.696
	ICT Equiped School	.084	.119	.048	.481
	ICT Self-Learning	-.021	.167	-.008	.901
	ICT Teacher encouragement	-.329	.130	-.175	.012

a. Dependent Variable: Ego enhancement

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	4.432	.537		.000
	Age Group	-.015	.053	-.020	.785
	Educational Levels Group	-.161	.075	-.148	.032
	Level of Computer-related Education Field	-.044	.047	-.062	.358
	Education-related Occupation	.064	.114	.040	.575
	Native Language	-.007	.020	-.026	.712
	Language at School	.006	.019	.022	.747
	Culture	-.218	.106	-.155	.042
	Gender	-.094	.119	-.052	.433
	Religions Group	-.139	.045	-.211	.002
	Education System	.024	.130	.012	.854
	ICT Equiped School	.013	.113	.008	.907
	ICT Self-Learning	-.208	.158	-.091	.188
	ICT Teacher encouragement	-.181	.123	-.106	.141

a. Dependent Variable: Extrinsic motivation

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	
1	(Constant)	4.302	.412		10.436
	Age Group	-.043	.041	-.076	-1.045
	Educational Levels Group	-.088	.057	-.107	-1.537
	Level of Computer-related Education Field	-.019	.036	-.036	-.527
	Education-related Occupation	-.015	.087	-.013	-.176
	Native Language	-.007	.015	-.032	-.438
	Language at School	-.004	.014	-.019	-.282
	Culture	-.200	.082	-.189	-2.452
	Gender	.006	.092	.005	.068
	Religions Group	-.072	.034	-.145	-2.104
	Education System	.109	.099	.074	1.095
	ICT Equiped School	.060	.087	.050	.698
	ICT Self-Learning	-.015	.121	-.009	-.121
	ICT Teacher encouragement	-.195	.094	-.152	-2.073

a. Dependent Variable: Reasons for contribution (Motivation)

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	
1	(Constant)	3.119	.683		4.565
	Age Group	.083	.068	.088	1.225
	Educational Levels Group	-.084	.095	-.061	-.888
	Level of Computer-related Education Field	-.024	.060	-.026	-.394
	Education-related Occupation	-.283	.145	-.139	-1.950
	Native Language	.014	.025	.039	.544
	Language at School	-.038	.024	-.109	-1.625
	Culture	.223	.135	.125	1.650
	Gender	-.033	.152	-.014	-.218
	Religions Group	-.015	.057	-.018	-.267
	Education System	.126	.165	.051	.766
	ICT Equiped School	.271	.144	.134	1.883
	ICT Self-Learning	-.180	.201	-.062	-.897
	ICT Teacher encouragement	.315	.156	.145	2.018

a. Dependent Variable: Negative views toward contextual system

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	
1	(Constant)	2.329	.637		3.657
	Age Group	.140	.063	.158	2.210
	Educational Levels Group	.152	.088	.118	1.719
	Level of Computer-related Education Field	.099	.056	.118	1.765
	Education-related Occupation	-.135	.135	-.071	-.998
	Native Language	-.006	.023	-.020	-.276
	Language at School	.008	.022	.024	.358
	Culture	.126	.126	.076	.999
	Gender	.259	.142	.122	1.831
	Religions Group	-.057	.053	-.072	-1.065
	Education System	.154	.154	.066	1.002
	ICT Equiped School	-.114	.134	-.060	-.850
	ICT Self-Learning	-.330	.187	-.122	-1.765
	ICT Teacher encouragement	.099	.146	.049	.683

a. Dependent Variable: Lack of confidence

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	
1	(Constant)	3.482	.602		5.787
	Age Group	-.027	.060	-.033	-.454
	Educational Levels Group	-.022	.083	-.019	-.269
	Level of Computer-related Education Field	.047	.053	.060	.880
	Education-related Occupation	-.248	.128	-.141	-1.943
	Native Language	.038	.022	.124	1.719
	Language at School	-.031	.021	-.102	-1.505
	Culture	.166	.119	.107	1.393
	Gender	.007	.134	.004	.053
	Religions Group	-.093	.050	-.127	-1.850
	Education System	.150	.145	.070	1.037
	ICT Equiped School	-.039	.127	-.022	-.311
	ICT Self-Learning	.158	.177	.063	.895
	ICT Teacher encouragement	.043	.137	.023	.315

a. Dependent Variable: Unvaluing volunteerism or lack of reward for oneself

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	
1	(Constant)	4.429	.621		7.128
	Age Group	.049	.062	.057	.793
	Educational Levels Group	-.155	.086	-.125	-1.802
	Level of Computer-related Education Field	.068	.055	.083	1.230
	Education-related Occupation	-.291	.132	-.160	-2.207
	Native Language	.022	.023	.069	.953
	Language at School	-.024	.021	-.075	-1.101
	Culture	-.308	.123	-.192	-2.505
	Gender	.019	.138	.009	.138
	Religions Group	-.028	.052	-.037	-.536
	Education System	.096	.150	.043	.639
	ICT Equiped School	.017	.131	.009	.131
	ICT Self-Learning	-.108	.182	-.042	-.594
	ICT Teacher encouragement	-.088	.142	-.045	-.623

a. Dependent Variable: Distracting interests

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	
1	(Constant)	3.657	.580		6.303
	Age Group	-.021	.058	-.027	-.369
	Educational Levels Group	-.117	.080	-.102	-1.450
	Level of Computer-related Education Field	.004	.051	.005	.077
	Education-related Occupation	-.208	.123	-.124	-1.690
	Native Language	.037	.021	.127	1.737
	Language at School	-.017	.020	-.059	-.857
	Culture	.054	.115	.036	.467
	Gender	.187	.129	.099	1.450
	Religions Group	-.029	.048	-.042	-.597
	Education System	.134	.140	.065	.960
	ICT Equiped School	.089	.122	.053	.726
	ICT Self-Learning	.037	.170	.016	.220
	ICT Teacher encouragement	.200	.133	.111	1.509

a. Dependent Variable: Negative views toward wikis

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.889	.666		2.837	.005
	Age Group	.003	.066	.003	.039	.969
	Educational Levels Group	-.197	.092	-.136	-2.137	.034
	Level of Computer-related Education Field	-.013	.059	-.014	-.220	.826
	Education-related Occupation	-.029	.141	-.014	-.205	.838
	Native Language	.070	.024	.191	2.875	.004
	Language at School	-.035	.023	-.094	-1.506	.134
	Culture	.597	.132	.320	4.534	.000
	Gender	.022	.148	.009	.148	.882
	Religions Group	-.008	.055	-.009	-.148	.882
	Education System	-.017	.160	-.007	-.107	.915
	ICT Equiped School	.326	.140	.154	2.328	.021
	ICT Self-Learning	-.061	.196	-.020	-.311	.756
	ICT Teacher encouragement	.203	.152	.089	1.332	.184

a. Dependent Variable: Irrelevant excuses

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.152	.424		7.434	.000
	Age Group	.037	.042	.063	.886	.376
	Educational Levels Group	-.070	.059	-.080	-1.182	.238
	Level of Computer-related Education Field	.030	.037	.054	.809	.419
	Education-related Occupation	-.200	.090	-.158	-2.217	.028
	Native Language	.029	.016	.133	1.886	.061
	Language at School	-.023	.015	-.104	-1.567	.119
	Culture	.142	.084	.127	1.696	.091
	Gender	.076	.094	.053	.810	.419
	Religions Group	-.038	.035	-.073	-1.080	.281
	Education System	.106	.102	.068	1.041	.299
	ICT Equiped School	.091	.089	.072	1.020	.309
	ICT Self-Learning	-.080	.125	-.044	-.639	.523
	ICT Teacher encouragement	.128	.097	.094	1.321	.188

a. Dependent Variable: Reasons for non-contribution (Amotivation)