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A multilevel approach to explore cross-cultural differences in motivations for contribution to open educational resources (OER)

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Abstract

Background & Aims: Understanding cultural values and their impact on human behaviour is important especially when we attempt to enhance certain engagement in a behaviour from a particular cultural group. Open Educational Resources (OER) are increasingly used in formal education and informal self-learning. This paper aims to summarise a series of studies that seek exploring cultural differences in engagement in open content learning activities (OCLA).

Methodology & Methods: Two cultures were studied: Arabic culture as a representative of Collectivist East, and English culture as a representative of Individualist West. Content Analysis was used to explore OERs, in order to choose appropriate study population. Web-based Survey was used to explore differences (and similarities) in OER motivation at universal level. Face-to-Face Questionnaires were used to explore views of individuals in motivations at cultural level. Online Interviews were conducted to further our understanding of OER motivations at the individual level.

Results & Findings: The content analysis revealed that Wikibooks, among 12 other OER projects, has a large number of published modules and a large users' base compared with other OER projects. The analysis of web-based survey data revealed that users of Wikibooks may be intrinsically and extrinsically motivated to write open textbooks; and 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 English participants. Such results suggest some degrees of universality in self-determination although the 'Western-based' self-determination theory (SDT). Analysis results from the face-to-face questionnaire data revealed that self-orientated reasons were more often reported as motivating users to contribute to Wikibooks which may imply that a cost-benefit analysis performed by those contributors. Interviews analysis revealed greater similarities in motivations among participants from the same culture: while collectivist Arabic participants reported being motivated by obligations and responsibilities toward community, individualist English participants felt motivated by enjoyment and values of information sharing.

Keywords: Open Content Educational Resources, Open Educational Resources, Wikis, Arabic, English, East, West, Motivations, Cross-Cultures, Open Content Learning Activities, Mixed-Methods, multilevel approach

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Introduction to culture and motivations in Web 2.0

Information and communication technologies (ICT) has become widely used in education [1]. Governments have allocated resources to make ICT accessible for students and staff in educational institutions, and to provide ICT training to support learning and teaching processes [2]. Engaging ICT in educational processes enhances traditional forms of education provision, disseminating learning and teaching materials among 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 [3]. ICT in education can clearly be recognised in distance learning, especially after the dissemination of the internet. 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 [4], 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.

Overview of social aspects in Web 2.0 technology

The current use of social software, or as widely called Web 2.0 technology, 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 [5]. 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 [6]. Students need adequate skills to engage with wikis in education [5]. Teachers are also required to moderate student activities, and support student collaboration outside classrooms hours [5]. Does the level of school, teacher and self-learner readiness affect individuals in their voluntary participation in open content educational resources? The formula stresses both interactivity and self-directedness.

While both developing and developed countries have reached established positions in relation to ICT policies [7], economic, social, and cultural considerations also have to be taken into account [8] 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 valued within a specific socio-cultural context? More accurately, can the impact of culture be reflected on motivations to participate in activities such as contribution to open educational resources?

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 [9] – and with both their design and their roll-out implemented within commercial enterprises, and distributed to global markets.

However, the market for educational provision, especially in non-majority-language regions, requires careful attention to the needs of Open Educational Resources' (OER) consumers who can also be called 'producers' [10]. *Producer* is a term invented by Bruns [10, 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.

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. It should be noted that although most developers of open source software (OSS) are from developed countries, the movement goes beyond developed countries [11]. Contributions from developing countries can be recognised from such instances as the language versions for the manifesto of GNU as open source software [12]. While individuals from developing countries are not active code contributors to OSS [13], they are active content contributors to OSS manuals. Similarly, the language versions of Wikipedia, as an example of Open Content Webpages (OCW), reflect the imbalance between major languages (English, French & Spanish) and other local languages of world nations. Moreover, there are differences of activities occur in talk pages of Eastern and Western Wikipedia with recognized patterns between task-oriented postings (such as quality and accuracy) and community well-being postings (such as courtesy) [14].

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? Studies have already revealed that volunteers in OSS, OCW, and OER can be very differently motivated. Motivations for participating in these kinds of OSOC activities include connecting with peers, developing prestige, achieving fame, and expressing oneself [15]. Indeed, volunteering in these kinds of virtual organisations, to a large extent, is close to reasons for volunteering in real world organisations (RWO). Motivations to volunteer in RWO differ among individuals from different countries.

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? In education sector, we 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? All of these rhetoric questions have motivated the author to research why individuals are participating in Open Educational Resources, and whether there are any differences among individuals.

It is argued that when people find an activity either interesting (intrinsic motivation) or important (well-internalised extrinsic motivation), they attempt to accomplish it [16]. Values and goals, however, differ from one culture to another, and so does need satisfaction. To understand needs across cultures [16, 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 motivations of OCER users from different cultures to use/contribute to – or not use/contribute to – open educational resources. The study postulates that wikis, key technological feature in open content educational resources, provide a new 'paradox of volunteering behaviour' can be examined and explained. The collaborative nature of Web 2.0 technology, especially in wikis, is seen as having the power to solve many problems in learning processes: a wiki acts as voices of students, builds academic skills and solves the problem of choosing the appropriate time for collaboration [17]. There are two main problems in engaging wikis in education: the problem of internet access, and the problem of skilled individuals [17]. The first problem is mainly economic, while the second problem concerns the lifelong learning skills that help in using new technologies. It is important, however, to go beyond socio-digital divide to explore tendencies of motivations for contribution to OER in that cultural differences (and similarities) can be seen. In other words, are motivations to open educational resources differ across cultures?

Culture, language, motivation and the issue of subjectivity

Language is a carrier of cultural meanings and a representative of cultural identity. With the globalisation, considering cultural identity or accommodating multiculturalism becomes a significant issue, especially in open content learning texts. Open textbooks are free educational texts that are available online, in where anyone can read, write, and edit. The collaboration of multicultural contributors to open textbooks may hinder having more identified culture-based texts that address local issues. However, open textbook authors can find in these open texts the opportunity to revive their own cultural identities, or to react against globalization of textbook publishing. Do individuals from different cultures have different priorities of the contents they need? Do individuals from different cultures respond differently to topics needed contributions and such responses are in accordance with their cultural preferences?

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 [18]. How then can those *cultural-value differences* be ‘captured’ within open educational resources participation? Beyond this question 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 [19].

However, these differences are crossed by differences in income, social class, gender, and age, and any number of ‘distinctions’. Awareness of these variables means that examining motivation, as a way of exploring culture, involves a level of subjectivity [20]. The issue of subjectivity poses certain limitations to the current research. This suggests that a number of complex factors might impact upon OER *producer* motivations. 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 subjective. Such categorisations can for instance be geographical (the East and the West) [20], and national, lingual and/or religious [19]. 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 research. The researcher stresses that methodologies and models selected for this study extended into a multilayered approach, to admit a broader set of possible ‘cultural’ positions – as further discussed below.

Motivation for voluntary contribution

Although it is claimed that open textbooks can provide educators, students and self-learners with digitised materials that help them in teaching, learning, and research [21], the term ‘digitised materials’ involves an assumption that these textbooks are complete and ready to use, like any physical textbook – which is not very accurate. Open content textbooks provide a free source of information [22; 23], provided that a certain topic has attracted a number of users who voluntarily contributed to enrich the topic. Open content projects depend on contributors in different areas of the arts and sciences to produce collectively the content of each textbook.

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 [24] 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. Are these differences reflect any sorts of socio-economic or digital inequalities, or they can be explained through different lenses toward cultural differences? 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 [25]. Indeed, ICT programs should focus not only on technical skills, but on strong linkages to existing (local) social services [25]. The skills that bring people to the internet intersect with technology – but also with the availability of culturally and linguistically-specific internet content [26].

There are social, psychological, cultural, and economic, as well as demographic and educational differences that contribute to the digital divide [27]. Although Partridge [28] 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 research aimed 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.

Studies show that volunteers, those who contribute coding or texts, to open source software (OSS: such as Firefox), open content webpages (OCW: such as Wikipedia), and open educational resources (OER: such as Wikibooks) can be very differently motivated [29; 30; 31; 32; 33; 34; 35]. 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 [15].

Indeed, volunteering in these kinds of virtual organisations (OSS, OCW & OER), to a large extent, is close to reasons for volunteering in real world organisations (RWO), as discussed below. Motivations not only differ across individuals, but they differ across cultures. Patterns of contribution to OCW of Wikipedia, such as adding, editing, or deleting links or information, differ from one culture to another [36] – national culture as defined by Hofstede [19]. 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. The research problem involves the following research question: *How does culture impact upon motivation for contribution to open textbooks?*

Multilevel Model of Researching OER Motivations & Multi-Methods Approach

Since this research examines cross-cultural differences in OER motivations, there was a need to collect data from individuals from different countries/cultures. Such data are collected and analysed through a multilevel approach (Figure 1) – an individual level of analysis and a universal level of analysis, nested within a cultural level of analysis, where observations aggregate, of which sociological and psychological patterns have characterised as ‘individualist’ and ‘collectivist’ in their cultural orientation. These three levels were explored as follow:

- 1) The universal level was examined through web-based survey.
- 2) The cultural level was examined through face-to-face questionnaires.
- 3) The individual level was examined through online interviews.

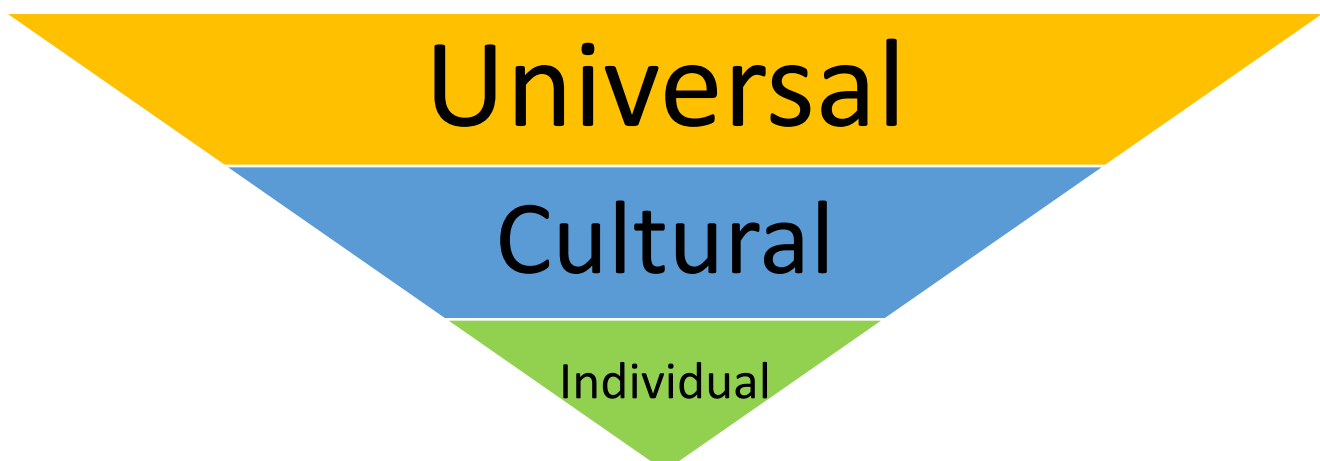


Figure 1: Multilevel Approach of Examination for OER Motivations

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 Eastern and English Western cultures, popularly – and perhaps superficially – held to involve the following features: Arabic culture is traditional; resistant to technology in education; less-developed; and located mainly in the Islamic nation; English culture is modern; interacts positively with technology; is more economically-developed, and focused on secular states with predominantly Christian history and values, but heavily oriented away from religion and to secular ethics [19].

These two ‘cultures’, English and Arabic, 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 [19; 20]. Within such *either-or* cultural coding, there are 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 poses some instabilities in such ‘cultural’ positions. These 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 English and Arabic cultural predispositions were used to manage data collection and analysis in this research, and with highlights to some complexities as the study proceeds.

Motivations at universal level: approach & avoidance

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. In approach motivation, behaviour is directed to/by a desirable/positive event, while in avoidance motivation behaviour is directed to/by undesirable/negative outcomes [37]. Although the distinctions seem clear, actual attribution of motivation within life experience remains problematic. 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.

Available models that explain motivation are still complex, despite attempts to simplify them; for example, while it was argued that the achievement goal framework can be extended [38, p. 517], it remains unknown how or why. Furthermore, current models are not adequate enough to explain, for instance, approaching and avoiding OER participation from cross-cultural perspectives. Adding to such complexity, 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 [39]. 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, at the same time, the 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’.

Within the approach motivation, individuals can be either intrinsically or extrinsically motivated to achieve a certain goal. Covington and Müeller [40] 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 [40] 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 [40] 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 quadrupolar 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. It can be argued the above taxonomy, despite its attempt to incorporate *intrinsic-extrinsic* motivation, does not recognise goal content: i.e. culture defines what is preferred and what is not preferred to do. 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?

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 *internal* versus *external personal goals*. Overall, however, results from goal framing studies fit well with the contentions of Self-Determination Theory [41], 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.

Motivations at cultural level: self-oriented & others-oriented

Linking approach-avoidance with indicators of wellbeing, van Yperen [42], in the assessment of Elliot and McGregor’s (2001) 2 x 2 framework, found that dominant mastery-approach goals tend to be associated with positive affectivity, self-oriented perfectionism, and the outcome variables of intrinsic motivation. On contrast, dominant performance-avoidance goals are found to be associated with negative affectivity, socially-prescribed perfectionism, and the outcome variables of extrinsic motivation and amotivation.

Although van Yperen [42] 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. More specifically, this valence model does not reflect the conflict between approach and avoidance. Moreover, a motivation 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.

Research within a multi-cultural environment has recently begun to raise issues of “universalizing” tendencies within motivation modelling such as that outlined above. It has argued that achievement, as addressed by McClelland, is Western, individualistic and ethnocentric in its biases [43]. However, previous research found that there are cultural difference in achievement motivation: Chinese students reported as more affiliation-oriented in achievement motivation than individualistic British students, while individualistic British students reported as more competitiveness-oriented in achievement motivation than Chinese students [43]. Similarly, it was found 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 [44].

Although it was argued that relatedness and autonomy are basic needs for individuals in all cultures [45], there is evidence that both autonomy and relatedness vary across individualist and collectivist cultures [46]. There is generally then a negative association between relatedness and autonomy across cultures. It was found that Indians’ responsiveness to others’ need (a core component of relatedness) is viewed as a moral mandate, while Americans, by contrast, tend to view such responsiveness as a matter of personal choice [47]. The matter of obligation/ choice is associated with collectivist/ individualist cultures [48]. It was found that while a Middle Eastern child values obligated responsiveness, a Western Israeli child values voluntarily responsiveness [49]. In collectivist societies, individuals emphasise obligation towards others and de-emphasise personal choice, while individuals in individualist societies tend to act according to their endogenous motivations [50]. 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 [51].

Previous studies aimed to explore cultural differences in volunteering motivations. These studies found that there are recognised differences between Western individualists (such as in the United States) and Eastern collectivists (such as in Hong Kong): while collectivists of Hong Kong are highly motivated by social reasons for volunteering [52], it found the lowest for individualist Americans [53] – as outlined in Appendix 1 [54]. Hustinx et al. [55, pp. 365-366] have taken a new perspective in assessing differences between those who volunteer across a number of nations. There are positive correlation between level of individualism (low, medium, high) and the means of volunteering reason orientations: the self-oriented reasons are positively correlated with individualism – as outlined in Appendix 2 [54]. In other words, collectivists are more others-oriented than the individualists, while individualists are more self-oriented.

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 [56] 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.

These studies, mentioned above, do agree with what Hofstede [19] have found: individuals from individualist cultures are more self-oriented, while those from collectivist cultures are more community-oriented. 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 [19]. Such cultural differences cannot be reduced, however, to differences in cognitive content. Values, meanings, and practices of a culture are *lived* [57], and thus the socio-cultural context is all-important. Cultural values expressed in core philosophical, religious and historical texts, and observations are significantly different between East and West; and shape individual behaviours [58]; so individuals select from a wide array of cultural choices and options that meet with (and indeed form) their 'personal' desires [58]. There are, however, problems in categorising the values-system which framed by 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 that indeed 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 [59], providing support for a bicultural self-model (individual-oriented and social-oriented) [60]. Therefore, it can be argued that there are difficulties in assessing individual-oriented and social-oriented practices in OER motivations.

In an assessment of autonomy in different cultures, Chirkov *et al.* [61] draw on work by Triandis [20], 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. Results suggest that autonomy is a basic need that individuals from all cultures experience, and thus autonomy should not to be confused with independence.

This critical re-examination of motivational modelling suggests the need to adapt a model to be able to recognize cultural differences at different levels. Such a need is driven from the complexity in understanding any differences especially when there is a spread of information sharing among individuals around the world, and thus locating responsive behavioural patterns to 'local' cultural contexts. In understanding the cultural contexts, there as a set of human-made objective and subjective elements that occurred in the past and affect behavioural patterns [20]. 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. The subjective elements are organised into unique local patterns that affect social behaviour within a specific social ecology [20]. It is evident that motivation is culture-specific, and influenced by thoughts and actions in 'localised' ways.

A number of researchers [63; 64] 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 [63]. 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. 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. The self-orientation and the other-orientation are, however, shadowing each other, making exploring the values behind these orientations are complex to assess, especially when collectivism and individualism sharing two pairs of distinction: the horizontal and vertical orientations [65, p. 323]. These complexities mentioned above have alerted the need to explore differences at the individual level, and taking individuals' contexts into account when understanding reasons behind explored variance.

Motivations at Individual Level: motivations in RWO, OSS, OCW & OER

Many people, every year, spend their time and effort in volunteering activities. Voluntarism is one of many forms of helping others whether directly or indirectly. 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 [53]. Usually understanding people’s behaviour requires direct inquiry into people’s needs and their social processes; this is a functional approach [66]. There are six identified functions of volunteers in real-world organisations (RWO) [53]. Within each function, a number of reasons motivate volunteers to help others [53]. These functions are:

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

Under each of the above functions, there are a number of reasons for volunteering. These reasons can, based on what have been discussed above, be theoretically classified into intrinsic & extrinsic reasons and also can reflect the self and others orientations – as outlined below.

Table 1: Intrinsic and extrinsic motivations to volunteer and their self and others orientations

Motivation*	Intrinsic	Extrinsic	Self-oriented	Others-oriented
1. Protective				
Avoid bad feeling		✓	✓	
Avoid loneliness		✓		✓
Avoid being guilty		✓		✓
Solving personal problem(s)		✓	✓	
Escaping from troubles		✓	✓	
2. Values				
Help needy people	✓			✓
A concern with people in need	✓			✓
It is important to help others	✓			✓
The importance of an activity for oneself	✓		✓	
3. Career				
An aspiration to work in a field		✓	✓	
Make new contacts		✓		✓
Explore options		✓	✓	
Success in chosen profession		✓	✓	
Good in résumé		✓	✓	
4. Social				
Friends are volunteering		✓		✓
Someone asked a person to volunteer		✓		✓
Relative(s) and/or neighbour(s) volunteer		✓		✓
Volunteering is important to known people		✓		✓
5. Understanding				
Learning	✓		✓	
Gaining new perspective(s)	✓		✓	
Gaining experience		✓	✓	
Learning dealing with others	✓	✓		✓
Exploring strengths		✓	✓	
6. Enhancement				
Feeling important		✓	✓	
Increasing self-esteem		✓	✓	
Feel needed		✓		✓
Feeling better		✓	✓	
Making new friends		✓		✓

*Note: The reasons for volunteering under each functions are abstracted from Clary et al.’s [53, p. 1520].

However, it must be noted, however, that enjoyment as a reason to volunteer [67] was not unedified in the volunteer functions mentioned above [53]. Ryan and Deci [68] have identified enjoyment as the only intrinsic motivation dimension that motivates people to behave without any external kind of reinforcement. Moreover, not all volunteers have the freedom to make a decision to volunteer. 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 [69; 70], 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 [70]. Furthermore, helping behaviour is not always a planned action, in which volunteers are responding to sudden needs of others (known as spontaneous helping [71]). Helping others is fundamental in many religions [72], and volunteers are likely to attend religious services more frequently than others [73]. However, it is argued that in some cases individuals experience some sort of moral obligation to volunteer. While some individuals volunteer because they find it as opportunity to get recognized [74] or gain respect [75], others volunteer because they want to feel satisfaction [76]. Among reasons to volunteer, individuals sometimes have nothing else to do [67].

Regardless of the variation in motivations for volunteering among individuals, motivations also differ across cultures [18; 19; 63; 77; 78; 79]. Volunteer functions differ among volunteers from the United States and Hong Kong. Figure 2 illustrates that the ranking of motivations is different in Western individualist society such as in the United States [53] and in an Eastern collectivist society such as in Hong Kong [52] – these rankings are ranged from 6 (the largest mean) to 1 (the lowest mean). As can be understood from the Figure 2, 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.

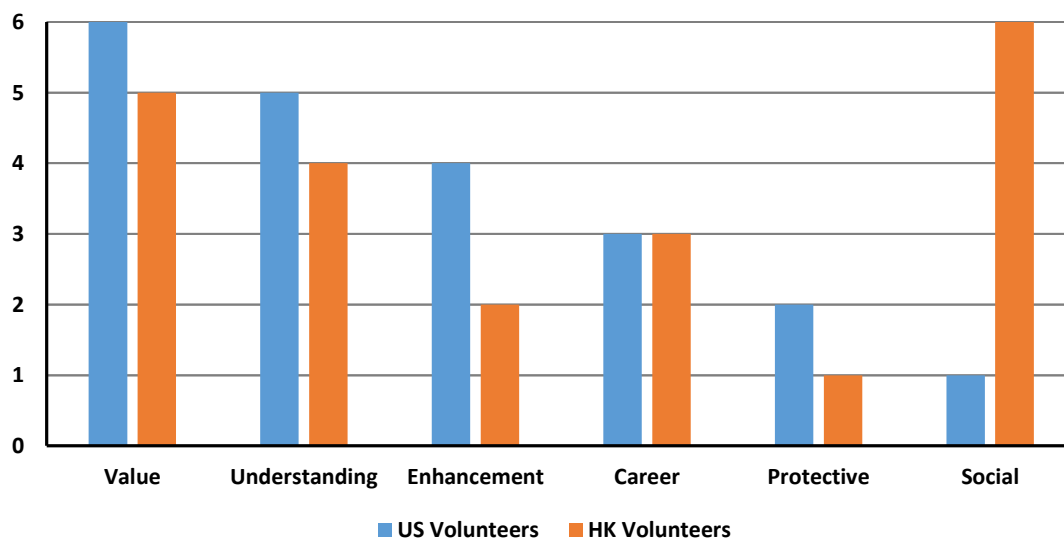


Figure 2: Ranking of volunteer functions across individualist and collectivist nations

As discussed above, 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). Beyond motivations to volunteer in real-world organisations (RWO), there are motivations for contribution to open source software (OSS), open content webpages (OCW) and open educational resources (OER). These reasons for contribution to OSS, OCW and OER are sorted, according to the conceptualisation of motivation, into intrinsic and extrinsic motivations. Furthermore, Table 2 not only includes reasons relate to Clary et al.'s [53] 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 2: Intrinsic and extrinsic reasons for contributing to OSS, OCW, and OER

Volunteer Functions ¹	Motivations for contribution to OSS, OCW & OER ²		Reference	Project
	Intrinsic motivations	Extrinsic motivations		
Benefit		Pragmatic Motives	[32; 80; 81]	OSS
		Pride	[82]	OCW
		Making Money	[83]	OCW
		Selling Products	[32; 81; 84]	OSS
Career		Enhancing Job Opportunities	[84]	OSS
		Career Networking	[35]	OCW
		Self-Marketing	[32]	OSS
Enhancement		Feeling Needed	[35]	OCW
		Learning	[85]	OER
Enjoyment	Hedonistic Motives		[80]	OSS
	Enjoyment/Fun		[35; 82; 86]	OCW
	Enjoying Storytelling		[87]	OER
	Innovation		[88]	OSS
	Love & Passion		[83]	OCW
	Stimulating Coding		[81]	OSS
Killing time		Time Loss	[80]	OSS
		Use of Time	[82; 89; 90]	OCW
Obligation		Community	[82]	OCW
		Ownership Feeling	[83]	OCW
		As Friends Write	[83]	OCW
		Community Identity	[32]	OSS
		Obligation to OSS Community	[81]	OSS
		Avoid Loneliness	[35; 89]	OCW
Protective Recognition		Reputation	[81; 84; 91]	OSS
		Fame	[83]	OCW
		Prestige	[31]	OCW
		Publishing Work	[85; 92; 93]	OER
		Expressing Opinions	[94]	OER
		Peer Assessment	[95]	OER
		Peer Recognition	[32; 96]	OSS
		Responding to Ideologies	[97]	OCW
Request		Request	[35]	OCW
		Tool to create creative thing	[98; 99; 100]	OER
		Requested for learning purposes	[17; 101; 102]	OER
Social		Social motives	[80]	OSS
		Meeting Others	[86]	OCW
	Engaging with other developers		[81]	OSS
Sudden need	Correcting Vocabulary		[30]	OCW
Understanding	Receiving Feedback		[82; 86]	OCW
	Curiosity & Learning		[92]	OER
	Personal Growth		[85]	OER
	Self-Exploration		[85]	OER
	Explore Ideas		[85]	OER
	Self-Development		[32; 84; 91]	OSS
	Gaining New Perspectives		[35]	OCW
	Improve Programming Skills		[81]	OSS
Values	Freedom of Information		[35; 82]	OCW
	Quality Improvement		[82; 103]	OCW
	Sharing Knowledge		[85]	OER
	Desire to 'give back'		[83]	OCW
	Make a difference others' life		[83]	OCW
	Self-Determination		[32]	OSS
	Importance of Helping Others		[35]	OCW
	Source code should be open		[81]	OSS
	Software should be free		[81; 84]	OSS
	Solving Problems of Others		[32; 84; 91]	OSS
	Producing current information		[95]	OER

Note1: These are extended volunteer functions

Note2: The classification of intrinsic & extrinsic motivations may differ from the classification in the original sources.

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. However, there are some differences between the reasons for contribution to OER and OSS & OCW, and reasons to volunteer in RWO.

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. There are a number of reasons that lead volunteers to leave organisations, and they include: increasing time demands, lack of commitment, responsibilities towards family, lack of leaders' support, and volunteering is not meeting needs [67]. Furthermore, full time employment may direct people not to volunteer or to commit towards volunteering due to time constraints [104]. However, although time constraints, it can be argued that volunteers are busy people who are less likely to be distracted, and they appear to be oriented towards activities that offer them a sense of enjoyment from social engagement [105]. Without such engagement, whether real or potential, individuals may not be involved in volunteering activities. Participants in a study about Wikipedia engagement revealed that 'without readers, there would be little incentive for editors to devote significant time and effort to their contributions' [83, p. 136].

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 [106]. All of these factors have encouraged educational institutions to be part of the 'open' movement, not only to improve teaching and learning experiences, but also to promote institutions' reputation and enhancing recognition – a strategy that allows them to earn direct or indirect revenues [107]. While learners contribute to OER because their desire to acquire and share knowledge with others for the purpose of increase their understanding and peers' recognitions [85; 107; 108; 109; 110; 111], teachers use OER to enable students' collaboration and enhance their reflective learning outcomes [94; 95; 101; 112; 113; 114; 115; 116; 117; 118; 119; 120; 121; 122; 123; 124; 125; 126; 127].

However, to be able to study cultural differences in OER motivations, the author has surveyed 13 OER websites through website content analysis [107; 128], and has found that only two websites are providing support to two languages, the author administers, Arabic and English, and these two websites are Connexions and Wikibooks [128]. These two groups, Arabic and English are representing two cultures Arabic for Eastern collectivist culture and English for Western individualist culture. It was decided to approach Wikibooks users since there are significant differences between the number of modules/published articles in these two languages within these two websites.

To conclude, the author has proposed a model that plays as a methodological vehicle. This model is organized into a number of layers – each layer leads the assessment of cultural differences in OER motivation at certain levels: cultural and universal [129]. While the individual level of evaluation is qualitative, it is also guided by findings of the quantitative assessments. The proposed model reflects self-vs-others orientations in the approach and avoidance motivations – as follow:

- 1) Approach motivation
 - A) Intrinsic motivation
 - a) Interest-based motivation (enjoyment)→ self-orientation
 - b) Values-based motivation (usefulness)→ others-orientation
 - B) Extrinsic motivation
 - c) Introjected regulations (ego enhancement vs guilt reduction)→ self-orientation
 - d) External regulations (rewards vs punishments)→ others-orientation
- 2) Avoidance motivation
 - a) Inability beliefs (task characteristics)→ self-orientation
 - b) Unwillingness beliefs (task outcomes)→ others-orientation

Table 3: Examples of OER read-writers' goals

	Intrinsic motivation	Extrinsic motivation	Avoidance motivation
Self-oriented goals	Enjoyment Learning and understanding Developing critical thinking	Career (and rewards) Making use of time Learning requirements	Lack of confidence Lack of technical skills Excuses (including lack of time)
Others-/ community- goals	Helping others Making resources available for others Religious/ humanitarian goals	Learning requirement Community obligation Socialising and networking	Demanding Efforts Other interests Unsupportive Education System

Methodology & Methods

To explore the differences between the English individualist culture and Arabic collectivist culture, three series of investigation were undertaken at three levels: individual, collective and universal. Such a multi-level approach of investigation is especially important in the current study, because previous studies highlight the issue that people from collectivist cultures tend to rate higher especially in questionnaire scales [62] – which suggests that questionnaires alone are not the best approach to study cultural differences.

Universal level of investigation

This level of investigation aims to explore how far the dimensions of the proposed OER motivational model is adequate to explore cultural differences in relation to motivations for approaching contribution (intrinsic and extrinsic motivations) and motivations for avoiding contribution (unwillingness and inability beliefs). Web-based survey was used to collect data from English and Arabic Wikibooks users [54]. There are differences between the nature of engagement with Wikibooks – as illustrated in Figure 3.

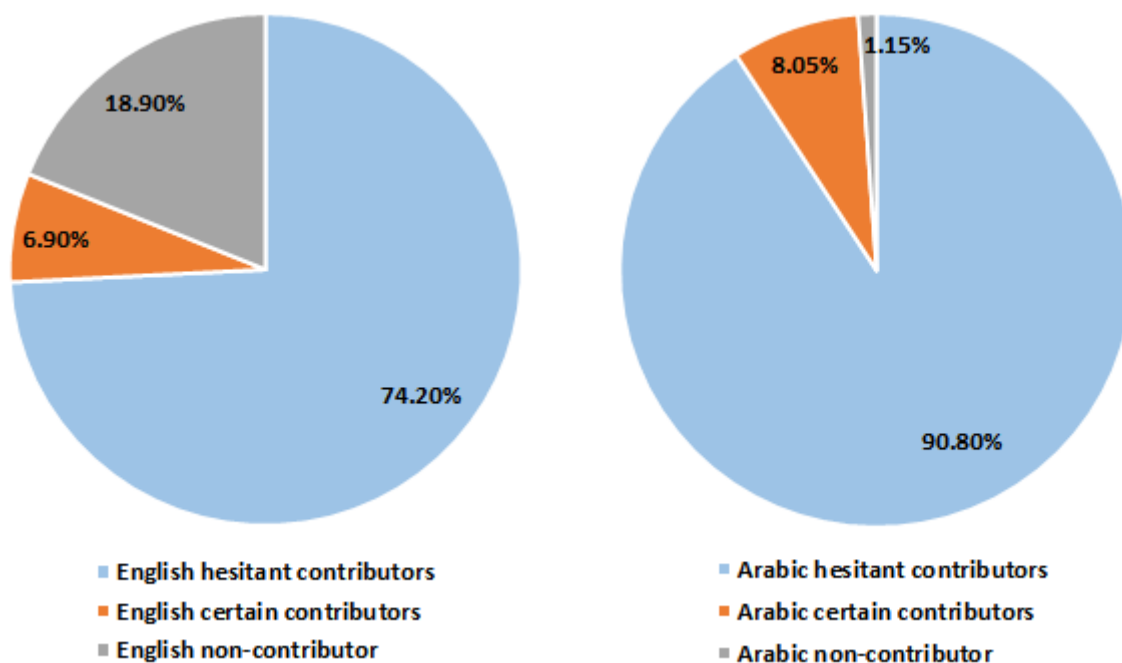


Figure 3: Nature of engagement with Wikibooks

Moreover, while Arabic Wikibooks contributors prefer, in general, human & social sciences compared to English counterparts, English Wikibooks contributors are especially interested in information technology and life sciences compared to Arabic counterparts [54].

Results [54] of data analyses revealed that both approach and avoidance motivations co-exist since there are participants who answered the motivations for contribution scale and the motivations for non-contribution scale. Moreover, answering the motivations for contribution scale demonstrates that intrinsic and extrinsic motivations co-exist. Results demonstrate that approach-avoidance ranges on a continuum from pure approach to pure avoidance with in between double approach-avoidance – which imply that dealing with reasons for non-contribution enhance the level of motivation and thus contribution. Results support, to the large extent, that the proposed model is an adequate methodological tool to measure differences in OER motivations between Arabic and English users. The model as evidently supported include: Reasons for contribution (Motivation) which include 1) Intrinsic motivation [A) Enjoyment & B) Endorsed values] and 2) Extrinsic motivation [A) External regulation & B) Ego enhancement (a) & Moral rewards b) Problem Solving]. The empirical finding resulted in six factors impacting motivation, and these six can be grouped into two: 1) Negative beliefs, and include: A) negative views toward contextual system, B) negative views toward volunteering and C) irrelevant excuses, and B) Inability beliefs which include A) lack of confidence, B) negative views toward wikis and C) distracting interests. Moreover, findings provide support to why the number of Arabic articles are less than English articles in Wikibooks – and this is because Arabic (high approach – high avoidance) < English (medium approach – low avoidance). The differences between Arabic and English OER read-writers can be presented in the following Figure 4 (see the source in Appendix 1).

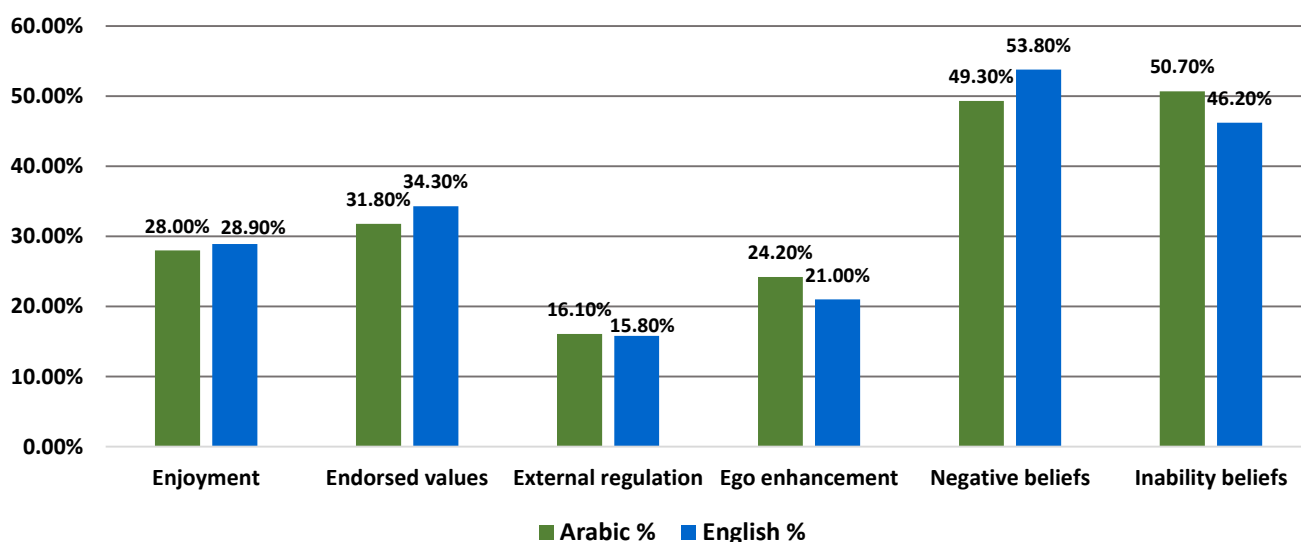


Figure 4: Differences between Arabic and English OER read-writers' approach & avoidance motivations

From Figure 4, it can be concluded that intrinsic motivations are more powerful than extrinsic motivations. Moreover, while English OER read-writers are more intrinsically motivated, Arabic OER read-writers are more extrinsically motivated. Furthermore, while English OER read-writers are more avoiding contribution due to negative beliefs, Arabic OER read-writers are more avoiding contribution due to inability beliefs.

Cultural level of investigation

This level of investigation aims to explore how individuals from the same cultures (individualists & collectivists), regardless of their spoken languages, view motivations as self-oriented or others/community-oriented. F2F questionnaire were used, and the participants were asked to identify whether a reason for contribution/non-contribution (a scale item) can be regarded as: 1) self-oriented motivation/self-focused amotivation, 2) others-oriented motivation/eco-focused amotivation, or 3) an ambiguous reason orientation [54].

Based on the results from F2F questionnaire, data from the online questionnaire were re-analysed [54]. Results [54] reveal that self-oriented reasons for contribution include motivations relating to mutual benefit and those relating to 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 are relating to social issues or to issues relating to information sharing.

Results [54] reveal that self-focused reasons for non-contribution include issues relating to selfishness, lack of confidence, and other interests that distract people from contribution, while eco-focused reasons for non-contribution include issues relating to the system or to people around. Reasons for avoidance that appeared to be ambiguous are those relating to Wikibooks website itself. Ambiguous orientation of approach and avoidance reasons are neglected in the presentation. Results show that there are differences in motivational orientations between Arabic and English OER read-writers – these differences are presented in the following Figure 5 (see the source in Appendix 2).

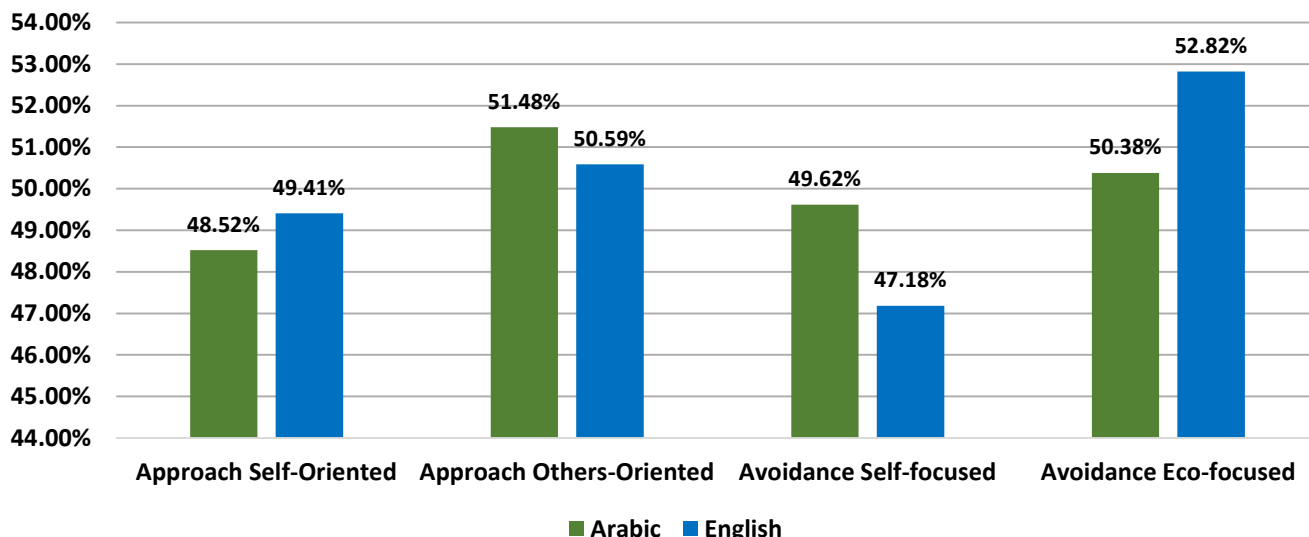


Figure 5: Self-Orientation & Eco/Others-Orientation for Approach & Avoidance Motivations of OER Read-Writers

As demonstrated from Figure 5, while Arabic OER read-writers are more approaching contribution due to others-oriented reasons, English OER read-writers are more approaching contribution due to self-oriented reasons. However, Arabic OER read-writers are more avoiding contribution due to issues relating to the self, while English OER read-writers are more avoiding contribution due to issues relating to their community.

Individual level of investigation

The purpose of online text-chat interviews is to examine and report OER read-writers’ 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. Participants were asked to provide their reasons for contribution and non-contribution as well as their perception about others’ reasons for contribution and non-contribution. Participants were more specified and detailed when they explained their reasons for contribution and have not given much details about their reasons for non-contribution; and on contrast, participants were more specified about others’ reasons for non-contribution, while they have not provided much details about others’ reasons for contribution [130]. Therefore, this paper represents reasons for contribution as explained by participants and their views about others’ reasons for non-contribution (data source is in Appendix 3).

Results show that the intrinsic reasons for contribution include community support, discussion, enjoyment, help disadvantaged, learning, use space time, value of freedom, value of information sharing, value of volunteering, and writing skills. The extrinsic reasons for contribution include career, enhancement, increasing the quality, lack of resources, obligation, publishing, recognition, request, rewards and financial gains, and problem solving. However, there are cultural differences in these intrinsic and extrinsic reasons for contribution to OER – as illustrated in Figure 6. Figure 6 demonstrates that Arabic OER read-writers are more extrinsically motivated than extrinsically motivated, while English OER read-writers are more intrinsically motivated than extrinsically motivated. Moreover, intrinsic motivation is higher for English OER read-writers compared to the Arabic counterparts, while extrinsic motivation is higher for Arabic OER read-writers compared to the English counterparts.

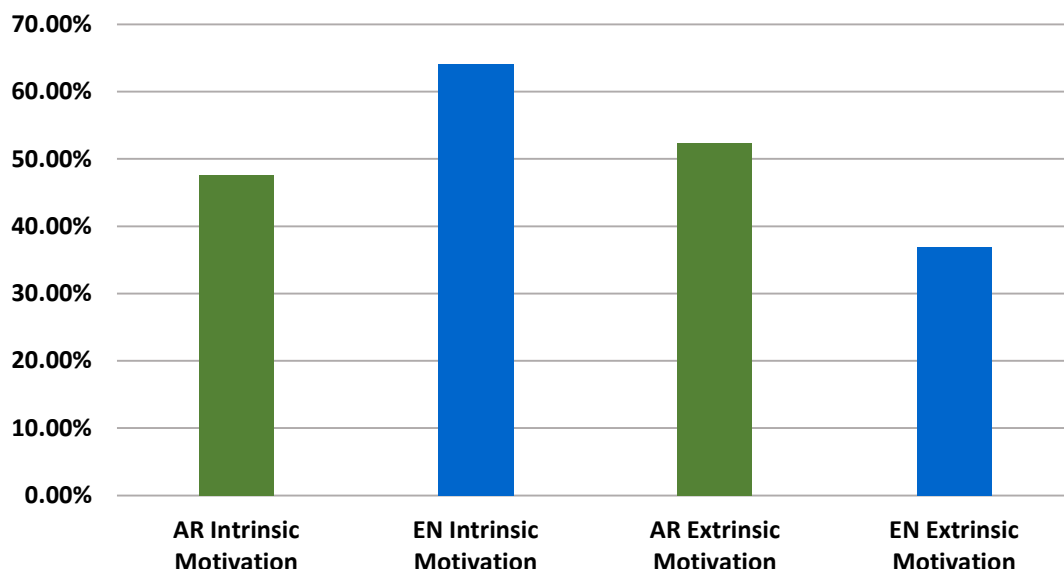


Figure 6: Intrinsic & extrinsic motivations for Arabic & English OER read-writers

Results show that reasons for non-contribution can be related to oneself as well as the community / contextual system. Reasons for avoiding contribution that are relating to the self include lack of valuing knowledge, lack of writing skills, lack of technical skills, amount of effort needed, other interests, selfishness and free riding, considering effort is useless, lack of confidence, and lack of valuing voluntarism. Reasons to avoid contribution that are related to the community or contextual system of participants include lack of awareness, vandalism, copy left, lack of recognition, no reward, poor quality, time constraint, other barriers, infrastructure and digital barriers. However, there are cultural differences between Arabic and English OER read-writers in relation to the reasons for non-contribution – as illustrated in Figure 7.

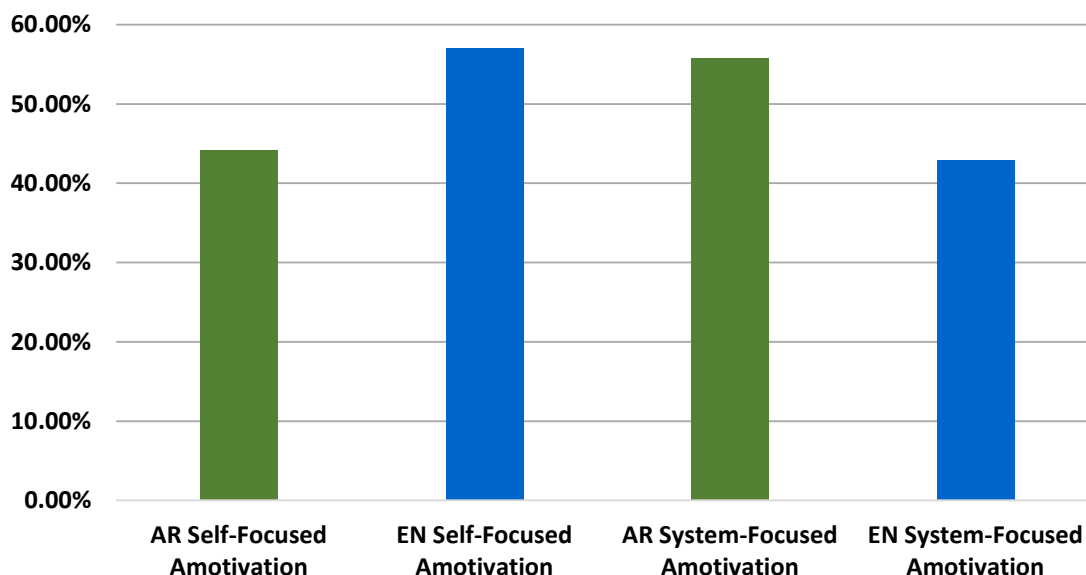


Figure 7: Self-focused & System-focused amotivational reasons for non-contribution

Figure 7 illustrates that while Arabic participants are more amotivated due to issues relating to the system, English participants are more amotivated due to issues relating to the self. Moreover, the self-focused reasons for non-contribution are higher for English participants compared to the Arabic counterparts, while the system-focused reasons for non-contribution are higher for Arabic participants compared to the English counterparts.

Discussion & Conclusion

This research aimed to explore cultural differences in motivations for contribution to open content educational resources; and it also explore any differences in avoiding contribution to OER. Such findings from this research help in suggesting open content learning activities (OCLA) that are suitable for individuals from collectivist and individualist cultures – whether they are formal students or informal learners. There are a number of research findings that are discussed in this paper. These findings are discussed from the holistic perspective, can be briefly summarised as follows:

Contributions extending motivation theory

Motivations for contribution to OER are, to a large extent, relevant to motivations for contribution to open source software (OSS), open content webpages (OCW), or to real world organisations (RWO). However, motivations in relation to open educational resources (OER) includes more than learning orientation (Table 2). More interesting, those OER producers share humanitarian motivations with those volunteering to RWO. Empirical research has shown that self-determination theory (intrinsic & extrinsic motivation and amotivation) and goal valence theory (approach and avoidance motivation) can be integrated – supporting the view that motivation and amotivation co-exist in the virtual sphere of ‘open educational resources’. Results support 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 encouraging learners and students to contribute or “pushing” them (extrinsic motivation) can be used especially when they lack feeling enjoyment/ playfulness or even the importance/integrated values of their activities (intrinsic motivation). 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 research does establish that there are differences between Arabic and English participants' contributions to Wikibooks, and such differences suggest cultural differences in motivation. Results (Figure 4) show that intrinsic motivations are more powerful than extrinsic motivations – in general. This finding is especially important because individuals, regardless of their cultures, are engaged in OCLA they find enjoyable, important, or meeting with their values and beliefs. Having concluded that, findings also suggest, however, that Arabic users need to be encouraged/pushed more than the English users to contribute. Creating the awareness of the importance of OCLA is essential for English OER read-writers, while enhancing the technical skills is essential for Arabic OER read-writers to avoid inability beliefs.

Results suggest that motivations for contributing to open educational resources (OER) is culturally oriented (Figure 5): while Arabic OER read-writers are more approaching contribution due to others-oriented reasons, English OER read-writers are more approaching contribution due to self-oriented reasons. Moreover, Arabic OER read-writers are more avoiding contribution due to issues relating to the self, while English OER read-writers are more avoiding contribution due to issues relating to their community. This suggest that to encourage contributions to OER from Arabic students, OCLA should be designed around resolving problems within their communities, while English students prefer more enjoyable activities that are useful to develop their skills.

This research explored that there are a number of motivations for contribution to OER – which are not have been explored in previous studies. These motivations are explored through interviewing OER read-writers. These motivations include the *intrinsic reasons* for contribution include community support, discussion, enjoyment, help disadvantaged, learning, use space time, value of freedom, value of information sharing, value of volunteering, and writing skills; while the *extrinsic reasons* for contribution include career, enhancement, increasing the quality, lack of resources, obligation, publishing, recognition, request, rewards and financial gains, and problem solving.

Previous studies did not attempt to explore what barriers hinder or reduce contribution to OER – these hindrance barriers are, however, explored in this study which can be related to oneself as well as to the community / contextual system. Reasons for avoiding contribution that are relating to the self include lack of valuing knowledge, lack of writing skills, lack of technical skills, amount of effort needed, other interests, selfishness and free riding, considering effort is useless, lack of confidence, and lack of valuing voluntarism. Reasons to avoid contribution that are related to the community or contextual system of participants include lack of awareness, vandalism, copy left, lack of recognition, no reward, poor quality, time constraint, other barriers, infrastructure and digital barriers.

Findings show that there are cultural differences in these intrinsic and extrinsic reasons for contribution to OER (Figure 6): Arabic OER read-writers are more extrinsically motivated than extrinsically motivated, while English OER read-writers are more intrinsically motivated than extrinsically motivated. Intrinsic motivation is higher for English OER read-writers compared to the Arabic counterparts, while extrinsic motivation is higher for Arabic OER read-writers compared to the English counterparts. Moreover, there are cultural differences between Arabic and English OER read-writers in relation to the reasons for non-contribution (Figure 7): while Arabic participants are more amotivated due to issues relating to the system, English participants are more amotivated due to issues relating to the self. Self-focused reasons for non-contribution are higher for English participants compared to the Arabic counterparts, while the system-focused reasons for non-contribution are higher for Arabic participants compared to the English counterparts. These results that came from the individual level of investigation support findings from the universal and cultural levels of investigation. The use of multi-level approach (Figure 1) of investigating cultural differences in OER motivation appears successful. The integration of results of the online questionnaire (universal level), F2F questionnaire (cultural level) and online interviews (individual level), has allowed the development of a clearer picture of motivations across individualist and collectivist OER read-writers as illustrated as in the following Figure 8.

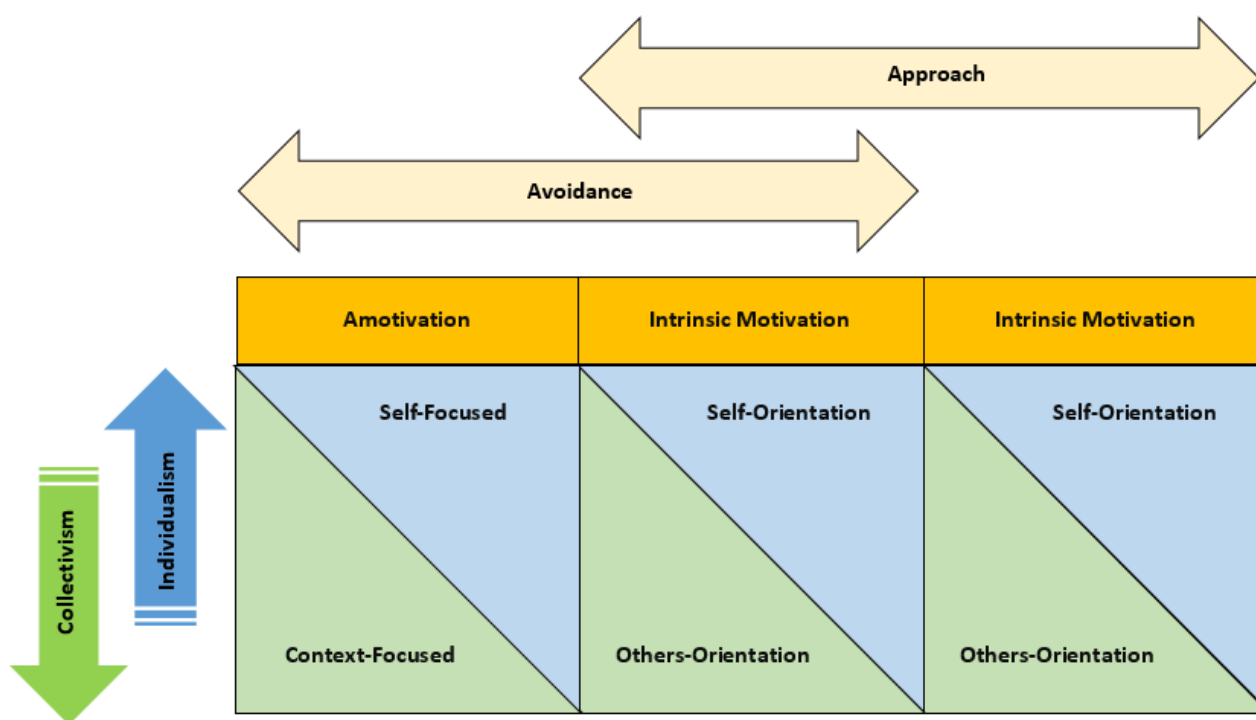


Figure 8: Orientations of approach & avoidance motivations across individualist & collectivist cultures

Contributions improving OER applications

The findings from this study suggest that OER motivation is cultural-driven. Therefore, when designing any open content learning activities, more attention should be given to considerations of cultural differences. These considerations are summarized in Table 4.

Table 4: Considerations of open content learning activities (OCLA) across cultures

Activities	Individualist	Collectivist
Self-oriented activities	Activities should be designed around gaining new skills and experiences that are needed in future careers	Activities should be designed around addressing personal problems that are contributing to the community
Others-oriented activities	Activities should be designed around sharing knowledge that is driven from personal experience.	Activities should be designed around sharing knowledge that is driven from collective experience.
Intrinsically-driven activities	Activities should be enjoyable according to each individual's preference in learning	Activities should be important according to the collective priorities
Extrinsically-driven activities	Activities should be rewarding and developing the recognition	Activities organized around the feeling of obligations to help others in their communities
Topic preferences	Natural sciences	Social sciences
Self-focused issues	Enhancing the value of knowledge and information sharing. Enhancing the technical and writing skills in Web 2.0 applications. Develop the value of "giving-back".	Enhancing the value of knowledge and information sharing. Enhancing the technical and writing skills in Web 2.0 applications. Develop the value of "no pain no gain"
Context-focused issues	Find ways of rewarding OER participations. Resolving issues related to the educational system readiness.	Enhance the context awareness of the importance of OER Resolving issues related to the digital infrastructure.

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 was found that the multilevel approach is useful approach to examining OER motivation across cultures in formal education settings. Moreover, the "multilayered" model, and its multi-dimensionality, that integrates between approach & avoidance motivations and intrinsic/extrinsic motivation & amotivation, as well as the self-orientation versus the others/context-orientation is efficient to explore cultural differences. The multi-layered model was supported by the findings generated from quantitative assessment at the universal level and cultural level [54; 129], and the qualitative evaluation at the individual level [130]. Researchers from a range of disciplines could consider applying such a model to the examination of different phenomena across cultures. 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.

Since this research assess and evaluate motivations quantitatively and qualitatively, there was a need to have some sort of connections between the online questionnaire and online interviews. The inclusion of open-ended questions in the questionnaire provides rich data that was used for content validity of items included in the online questionnaire scale – since these items were concluded and proposed from both the literature review and the OER website content analysis. Moreover, answers to these open-ended questions in the online questionnaire in relation to reasons for contribution and non-contribution has informed widening the boundaries in the online interviews to include any possible un-mentioned reasons. Although methodologists recommend content validity, such a technique was not used beyond the psychology discipline to validate the design questionnaire items.

The use of online text chat interviews helps avoid the time involved in transcribing and interpreting responses in audio/video interviews. All-in-one messengers, such as Trillian Astra, allowed an easy management for long contact lists of research participants and those who have different IM providers. Such software manages filing and time-stamping of interview transcripts.

Using an independent coder to check the reliability of qualitative data was found to be 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, especially when quantitative and qualitative data analysis have been linked together.

These different motivations, as explored in this research, suggest that OCLA suit different OER read-writers with different needs and different cultural backgrounds. 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 [131; 132; 133; 134; 135]. 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 [136]. Adding to that, there are individual differences such as attitudes, traits, gender, age and education [137], as well as influences from their surrounding environment, including cultural values, politics and the education system [18; 138]. Culture specifically, as bounded by political borders [19; 139], is strongly linked to motivational differences [44; 63; 77; 78; 140; 141]. 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 English), affiliation to such groupings is subjective and can be negotiated. However, incorporating different contextual factors in examining OER motivation is argued to strengthen the results of cultural differences [54].

Results of current research also show that individualist OER read-writers are more likely to be intrinsic self-orientated, while collectivist OER read-writers 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 simplifies complex cultural formations. Introducing the multilayered model to assess differences in motivation across cultures helped deal with above limitation, although it cannot entirely overcome it. More specifically, examination conducted through interviews assessed cultural effects from a more dynamic perspective.

The multi-layer 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 [142; 143]. Future research should also give more attention to the self-orientated and others-orientated OER read-writers, especially who use OER 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.

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 [144]. 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.

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 English western cultures and Arabic eastern cultures. 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.

Future directions and recommendations

The findings of the current research reported in this research 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. Despite the acknowledged limitations of the current research, this paper has summarised the significant contributions to the field, including contributions to theory, methodology, and OER applications. Results of the analysed data suggest the following recommendations, in relation to improving levels of active OER read-writers across cultures:

1. More support to open content learning activities (OCLA) in schools and university. Teachers and lecturers should be made aware of the benefits of OER for both instructors and students.
2. Curriculum designers should work to increase the playfulness in the use of OER and that activities should be seen important to OER read-writers.
3. OER providers should turn from open access educational resources (OAER) to open content educational resources (OCER).
4. Access restrictions should be minimal to increase the participation.
5. Users need recognition, so maintaining a history of activities for each user may increase contribution.
6. 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.
7. Longitudinal study before and after applying culturally-specific promoting interventions should be conducted.
8. Open content learning activities (OCLA) can be used in the professional development and in patient education and in any other venue where there is a need to further the knowledge and skills.
9. Instructors, learning designers, educational psychologists, business/market planners, and IT technicians have to work together to achieve not only best learning outcomes but meeting the individual, community and market needs.
10. Monitoring OCLA is time consuming. There is, however, a need to visualising OCLA and to generate usable and meaningful reports.

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Appendices

Appendix 1

Differences between Arabic and English OER read-writers' motivations for contribution and non-contribution

Factor	Culture	Arabic (Ar)		English (En)	
		<i>M</i>	%	<i>M</i>	%
Reasons for contribution (Motivation)					
Interest-based (enjoyment)		3.95	28.0%	3.57	28.9%
Endorsed values (usefulness)		4.49	31.8%	4.24	34.3%
External regulation (rewards)		2.27	16.1%	1.95	15.8%
Introjected regulation (ego)		3.42	24.2%	2.59	21.0%
Reasons for non-contribution (Amotivation)					
Unwillingness/ negative beliefs (task outcomes)		9.93	49.3%	11.52	53.8%
Inability beliefs (task characteristics)		10.22	50.7%	9.9	46.2%

Appendix 2

Self Orientation & Others/Eco Orientation for Approach & Avoidance Motivations

Approach & Avoidance	Culture	Arabic		English	
		<i>M</i>	%	<i>M</i>	%
Approach Self-Oriented		3.77	48.52%	3.36	49.41%
Approach Others-Oriented		4.00	51.48%	3.44	50.59%
Approach (total)		7.77		6.80	
Avoidance Self-focused		3.30	49.62%	3.34	47.18%
Avoidance Eco-focused		3.35	50.38%	3.74	52.82%
Avoidance (total)		6.65		7.08	

Appendix 3

Percentages of interviewees' intrinsic and extrinsic reasons for contribution to Wikibooks

Motivation	Arabic culture		English Culture	
	Intrinsic	Extrinsic	Intrinsic	Extrinsic
Community support	2.8		2.6	
Discussion	0.9		4.2	
Enjoyment	4.7		6.8	
Help disadvantaged	1.9		3.7	
Learning	1.9		8.3	
Use space time	1.9		3.7	
Value of freedom	3.7		5.2	
Value of information sharing	24.2		24	
Value of volunteering	2.8		0.5	
Writing skills	2.8		5.2	
Career		4.7		3.1
Enhancement		7.5		9.4
Increasing the quality		3.7		1.0
Lack of resources		3.7		1.6
Obligation		15.9		3.1
Publishing		0.0		2.6
Recognition		3.7		7.8
Request		0.0		2.1
Rewards and financial gains		3.7		1.6
Problem solving		9.4		3.7
Total	47.6	52.4	64.1	36.9

Percentages of interviewees' perception of others' self-reflective and system-reflective reasons of avoidance

Amotivation	Arabic %		English %	
	Self	System	Self	System
Lack of valuing knowledge	14.0		11.4	
Lack of writing skills	7.0		7.1	
Lack of technical skills	7.0		10.0	
Amount of effort needed	4.7		4.3	
Other interests	4.7		0.0	
Selfishness and free riding	2.3		7.1	
Effort is useless	2.3		2.9	
Lack of confidence	2.3		7.1	
Lack of valuing voluntarism	0.0		7.1	
Lack of awareness		18.6		18.6
Vandalism		4.7		2.9
Copy left		2.3		4.3
Lack of recognition		2.3		0.0
No reward		0.0		7.1
Poor quality		7.0		1.4
Time constraint		2.3		4.3
Other barriers		9.3		4.3
Infrastructure and digital barriers		9.3		0.0
Total	44.2	55.8	57.1	42.9