

## Role of Culture Between Influencing Factors and Student Electronic Learning Satisfaction

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**Abstract** *The main goal of this paper is to show the role of culture in the Electronic Learning Environment. The diverse effect of influencing factors on student satisfaction in different cultures in Electronic Learning environment is proposed. A theoretical model has been proposed showing the moderating role of culture between the relationship of influencing factors and student e-learning satisfaction. Cultural differences change the perspectives of individuals; keeping in view; the Hofstede's cultural dimensions; power-distance, uncertainty avoidance, and individualism theoretical linkages are justified with the influencing factors namely Human Factor, Course Factor and Technological Factor using literature. Administration should consider the factors that have been pointed out in this study, for successful implementation of EL education system in different cultures. The proposed model can be justified by applying empirical research on the variables in different cultures. Individuals in different cultures have different perspective. The satisfaction level or criteria vary in different cultures in electronic learning environment. The cultural impact is not been measured yet considering the influencing factors.*

**Keywords:** *E-Learning, Student Satisfaction, Culture.*

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### Introduction

A new community model of communication is born due to the internet. The online learning environment builds social interaction and also the interaction among human and computer (Headlam-Wells, Gosland and Craig, 2006).

The use of internet and its implementation in organization has emerged so many challenges for the management. This is the requirement of internet that it must provide quality data and information variety for the individuals in their relevant context. Apart from the challenges, the new technology implementation in an effective way produce a required benefits for the organization (Teo, & Too, 2000). The new technology has transformed the learning and instructing method in universities (Poehlein, 1996). The incredible development of Internet as a prospective course deliverance dais, along with the escalating attention in quality learning and financial limitations, has formed a noteworthy inducement for universities to build up online educational programs (Volery & Lord, 2000).

In educational scenario EL is for improving learning and instructing experiences and used as a tool to instruct learners without any instructor using any form of new digital medium or via taking advantage of any ICT source (Laurillard, 2005).

Technology is gripping the new era and influencing the interaction between societies and individuals (Youngberg, Olsen, Hauser, 2009). The importance of information technology is acknowledge by many researchers, thus it is moving towards strategic side from support side (Teo, & Too, 2000). The resources available on internet or on learning communities provide the facility of easy access to useful information (Eun, Lamontagne, Perez, Melikhova, Bartlett, 2009).

The concept of Electronic Learning (EL) has changed the student's learning and teacher's instructing methods but there are a few social and cultural implications that remain unknown, especially in different workplace contexts and consequently influence appropriate usage (Khan, 2001). The direct implications suggest that learning takes on different forms and performs different functions in the different regions of the world (Olaniran & Agnello, 2008). In e-learning the technological power is being exercised in ways that are not "culture neutral" because they are based on the particular "epistemologies," learning philosophies, and orientations of the designers (McLoughlin & Oliver, 2000). There is distinction between the public and private

sector organizations which effects the use of information technology in different sectors. The cultural effects on technology evaluation can never be denied (Teo, & Koh, 2010). The education in online mode is facilitating the students in different parts of the world, like in Pakistan, Allama Iqbal Open University is offering e-learning approach using the "OLIVE Portal"; in India the Portal named "Lakshya" is offered for online students (Goel, Sharma, Rastogi, 2010).

This study is to explore the Student satisfaction towards e-learning with the role of three influencing factors namely, Human Factor, Course Factor and Technological Factor. To measure the cultural differences among students in e-learning environment, Hofstede's three cultural dimensions; power-distance, uncertainty avoidance and individualism is used as a moderator.

## Literature Review

### Influencing Factors

In literature the three main factors are discussed as the influencing factors for students' satisfaction towards E-Learning namely; Human Factor, Technological Factor and Course Factor.

**Human factor.** The first factor is related to the individuals who use this new technological paradigm in different cultures. Satisfaction of student from EL is based on the teacher's/student's attitude towards information and communication technologies (Arbaugh, 2002; Arbaugh & Duray, 2002). The individual's motivation or thirst for learning plays major role in absorbing knowledge from different resources (Lim, Lee, Nam, 2007). The experience or proficiency in computer act as a important aspect (Piccoli et al., 2001). The confidence of student to handle the technical problems in E-Learning environment and also the efficacy of computers (Lim et al, 2007), group communication (Liaw, Huang, & Chen, 2007). Teacher's instructing style and dealing behavior with students is very much related with student's satisfaction (Collis, 1995; Willis, 1994; Webster & Hackley, 1997; Volery & Lord, 2000). The knowledge transfer involves the behavior and facilitating level of instructor (Hsu, 2006).

Influence of computer anxiety on student's satisfaction can't be denied (Kanfer & Heggstad, 1997; Barbeite & Weiss, 2004). Liaw, Huang, and Chen (2007) explains that when teachers are more interested in the use of new EL technology then it is obvious that they have more constructive behavioral intent to use that. If the individuals have positive attitude towards using new technology then the implementation and success of new technology is not a big issue. The attitude and qualification of instructor has major influence on the success of E-Learning Environment. Instructor must know all the required directions of using and teaching in E-Learning environment (Lim et al, 2007).

**Course factors.** Commuting was the main problem for students in traditional classes. EL came with new virtual (anywhere, anytime, anyplace) class concept (Arbaugh, 2000). The online learning portals provide the facility of discussion forums, where students can share and explore new ideas during brainstorming with other students in different places of the world (Hsu, 2006).

The flexible nature of ELE increases learner's satisfaction (Arbaugh & Duray, 2002; Arbaugh, 2002). When considering implementation of any new environment, the level of quality comes first. Quality of course content is the most important attribute that leads towards student's satisfaction and successful implementation of EL. The quality of well-made EL course contents is the most important and essential factor that influence on satisfaction level of students (Piccoli et al., 2001). The content of the course meant that in actual what the student has learned from the course (Lim et al, 2007).

**Technological factor.** Students' adoption of EL system is influenced by PU and PEOU.

Predicting the technology usage perspective from student aspect is very important. We can ask question

about the usefulness of online learning portals and their components (Youngberg et al, 2009). The user friendly interface of the online course will affect student's satisfaction. Apart from all other factors in EL environment, interface quality or design of the online portal is very decisive factor (Volery & Lord, 2000). Design and interface of the learning portal should be according to the needs of students. The use of web content management system is recommended for the web publishing needs (Eun et al, 2009).

The worth of the system settle excellence of information and system, these concepts are essential for the victory of information system in this global world (DeLone & McLean, 1992). The important technical aspects that need to be considered for successful EL environment are the quality, media richness and reliability of technology. The training aspect also leads to the perceived ease of use (Youngberg et al, 2009). This is the general observation that more will be the compatibility of new technology with the learning environment; more the individuals adopt the new technology (Teo, Tan, & Wong, 1998).

Proper availability of technical resource and administrative support positively influence student's satisfaction towards ELE (Liaw, Huang, & Chen, 2007). The designers of the learning portal must consider the demanded technology by the users, this will help in the acceptance of new learning methodology (Richard, 1995).

### Culture and Student Satisfaction

Researchers agree on the point that, there is a visible cultural gap among the students of online education (Chase, Macfadyen, Reeder, & Roche, 2002). The rate of participation among students in different cultures varies (Macfadyen, Chase, Reeder, & Roche, 2003; John, & Brian, 2007; McLoughlin, 2001a, 2001b, 1999). They obtained results showing continuous learning culture has significant impact on training and application rate. The previous literature shows that the learning cultures significantly influence the learning and training aspect (Lim et al, 2007). For creating a learning organization in technology, culture, processes and people are considered as important factors (Goel, Sharma, Rastogi, 2010).

Scollon, Diener, Oishi, and Biswas-Diener (2004) said in a study that the cultural environment of an individual where he lives, impact on the person's thinking, feeling and working style. It is noticed that the people of America and Hispanic are cool minded and experience positive emotions frequently instead of negative. While the Asian are opposite, due to cultural and environmental strains they experience and show more negative feelings. Cultural variability influence students' expectations, satisfaction and learning (Blanchard, & Frasson, 2005).

The distinction among students and teachers from different culture vary (Hannon, & D'Netto, 2007). Use of information technology works well for bridging the gap between the needs of users and the online learning portal designer (Richard, 1995). The issue of motivation varies between different values of national culture. (Hsu, 2006). According to the Hofstede cultural dimensions, individual from different cultures have distinct thinking and perceptions. Culture is "the collective programming of the mind which distinguishes the members of one group or category of people from another" Hofstede, (1997). Students from different cultural environment perceive the learning technologies according to their efficacy and cultural influence. The same learning and technological methodologies cannot be implemented in different cultural environments. The interface with complex menus and procedures will not work in the society where students are less computer literate. The high capacity multimedia components embedded in online learning portal will be suitable for areas where high bandwidth is available but not for the others. The cultural and pedagogical neutrality in the online education system will not be fruitful and institutions will not be able to achieve quality in learning in diverse cultures (Hannon, & D'Netto, 2007).

Culture has a strong impact on the learning and satisfaction of the students. The perceptions, way of interaction, perceived use and usefulness of technology, communication with teachers, considering the course content and level of computer efficacy depends on the environment (Scollon et al, 2004). Understanding cultural differences is not useful for the students of online education, but it matters a lot when

institutions are going to implement same technologies and learning portal in diverse cultures. This would reduce the chances of e-learning success (Blanchard, & Frasson, 2005).

*Proposition 1. Student satisfaction varies according to the diverse cultural values.*

### Culture and Influencing Factor

Several cultural differences are experienced by students when they start using online education portal. Daniels, Berglund, & Petre (1999) had shown a clear difference among the behaviors of US, Korean and Finish online students. Hofsteds three cultural dimensions; Low Power Distance vs. High Power Distance (LPD vs HPD), Individualism vs. Collectivism, High Uncertainty Avoidance vs. Low Uncertainty Avoidance (HUA vs LUA) are explained in accordance with the influencing factors of student satisfaction in online education.

**LPD vs. HPD.** When institutions start implementing online education then consideration of power distance is very important. This would help in understanding the learning, expecting behavior of students in different cultures. The students in LPD societies are less initiatives as compare to HPD. They prefer the teacher to initiate and speak up in the class. While the students of HPD take more participation in class and has spontaneous responses. They can critique and question teachers freely while this aspect comes in the area of disrespect in HPD cultures. Communication among teacher-student and student-student leads to the effective learning in LPD, while excellence of teacher is only important on other side (Vatrapu, & Suthers, 2007).

The students from LPD societies are more satisfied from the technological facilities provided in online educational mode. They use online forums communication portals frequently as compare to HPD students. The students of LPD go to forums and consult online learning resources to enhance their skills. In contrast, HPD students show mild affection with the online educational. LPD consider quality instead of quantity especially in the case of online learning course materials, which is not the case in HPD. The reason for high variance in satisfaction and perception among students of LPD and HPD is the less teacher and administrative support. In HPD students always complain about ineffective feedback from teacher and administrative side on course and technological issues. These issues are not noticed in LPD that enhance the satisfaction of online students (Koh, & Lim, 2007).

*Proposition 2. The influencing factors influence differently in LPD and HPD societies on student satisfaction.*

**Individualism vs. collectivism.** This dimension explains the importance of student reliance on group level and self study in different cultures. According to the hofstede the Asian are more collectivist and in these societies individuals have strong association with their roots Hofstede, (1997). The idea of online education is very innovative for them and they rarely accept innovations. Traditional educational method is rooted in both teacher and student mind, accepting new way of learning and teaching is difficult for them. On the other hand individualistic students and teachers prefer new innovations. Learning is more preferable for them instead of method. Collectivist students take education for making good social position in environment; therefore consider it as very important. They spent more money and time on the institution name instead of education quality. Replacement of traditional course content with the web-based media is not acceptable. Collectivist students prefer to work with their same cast group students Bauer, Chin, & Chang, 2000).

In collectivist culture student prefer "How to do" instead of "How to learn". In collectivist culture student speak on teacher invitation not voluntarily. Class is divided in small ethnic groups and they prefer to do communication with particular parsons only. Collectivist students are very face conscious; they want face to

face communication with teacher instead of virtual teacher. in contrast the individualistic societies are very spontaneous and prefer to learn by any way (Vatrapu, & Suthers, 2007).

**Proposition 3:** *In individualistic and collectivist cultural environment influencing factors impact on student satisfaction differently.*

**High Uncertainty Avoidance vs. Low Uncertainty Avoidance.** This dimension is more related to the concept of risk averse and risk taker or the level of ambiguity acceptance by individuals. The societies with HUA prefer formal learning methods, they are very risk averse. They prefer to study in tradition way, with specific objectives, traditional assignments on specific time. In HUA teachers must have to answer all the questions of students (Vatrapu, & Suthers, 2007; Hofstede, 1986).

In a study by Marcus (2006) has shown that the students of HUA societies take strong influence of change in interface of online education system. Using new media or interface for learning is difficult for them due to their risk averse nature. The perceived usefulness of enhanced graphical interface is not acceptable in HUA societies as compare to the LUA (Sears, Jacko, & Dubach, 2000). The strong relationship between ease of use and uncertainty avoidance can be seen (Youngberg et al, 2009).

**Proposition 4:** *The influencing factors influence differently in LUA and HUA environments on student satisfaction.*

#### Theoretical model

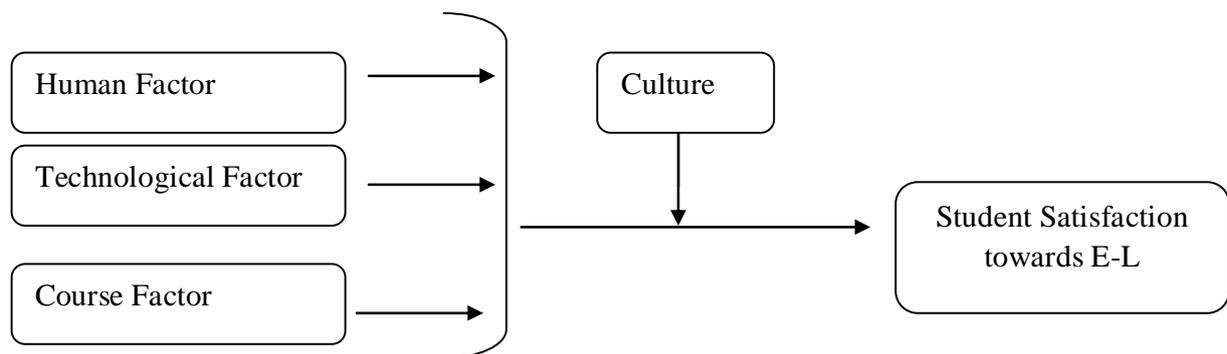


Fig. 1. Moderating role of culture between influencing factors and student e-learning satisfaction

#### Conclusion and Further Research Directions

The implementation of web-based learning environment is very useful for students and teachers. Both, the time and money, can be saved by implementing new technologies. The role of Hofstede three cultural dimensions in case of three factors influencing student satisfaction in e-learning environment namely; Human Factor, Course Factor, Technological Factor. The justification proposed variables in this paper will be useful for the educational institutions before implementing EL environment in diverse cultures. Administration should consider the factors that have been pointed out in this study, for successful implementation. The role of personality and trust is suggested for future research.

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