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The Interacting Role of Optimism on Various Determinants of Instructors' Satisfaction: A Case Study of E-learning environment

ABSTRACT

Various efforts have been made to know the key factors affecting student satisfaction. But very few attempts have been made to know the key determinants of instructors' satisfaction particularly working in online environment. This study is an attempt in this regard as well as to explore the interacting effects of optimism on various hypothesized relationships. Through questionnaire survey 54 responses were collected from different instructors associated with elearning programme of Allama Iqbal Open University (AIU). Results confirmed system quality, system usefulness and, student performance & satisfaction as significant predictors towards instructors' satisfaction. The combined effect of system quality and instructors' satisfaction towards instructor satisfaction was also substantiated. Discussions and implications are presented based on the findings of the study.

Keywords: Instructor Satisfaction, System Quality, System Usefulness, Student Performance & Satisfaction

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■ Introduction

Education plays pivotal role in developing the attitude and behavior of a society (Eckersley 1999). The differentiating factor between developed and developing countries rest with the access to quality education (Elvira 2012; Graham 1991). Considering this fact, most of the developing countries are now making significant reforms at various levels of education. Universities and colleges are considered to be responsible to provide competent manpower to both public and private sectors (McClelland, 1966). On the other hand, the world has witnessed rapid technological developments in the field of teaching and learning during last few years (McPhee and Söderström, 2012). Recent advancements in telecommunication technologies have created new avenues for the educators to broaden the scope of their learning and training to widely separated cliental located across the globe. Universities and institutes who capitalized this opportunity are now catering the educational needs worldwide. This advancement has also reframed the definition of distance learning as "the acquisition of knowledge and skills through mediated information and instruction, encompassing all technologies and other forms of learning at a distance" (United States Distance Learning Association, 1998). This shows an explicit shift of distance learning towards ICT mediated learning which is called "elearning or online learning or web-based learning" e-learning is defined as "the automation of the processes of learning and training through the use of information technology" (Robson, 2002). Elearning has evolved quite dramatically due to various benefits which includes cost saving, time effectiveness, quality of learning, convenience or place utility etc (Forsyth, 2010; Pratt, 2002).

Notwithstanding the importance of elearning for universities, corporations and business world are also incorporating technology based learning especially elearning to inculcate knowledge to their widely separated employees (Jung, 2010).

At contrast, employees and other stakeholders usually resist whenever changes are brought in. This is the reason, various attempts have been made earlier to know the factors causing elearning success and acceptance (Selim, 2007; DeLone and McLean, 2004; Singh, O'Donoghue and Worton (2005). The success of elearning programmes demands a holistic and well-integrated approach duly aligned with the strategic objectives of the organization (Pratt, 2002). Moreover, quality remains the basic standpoint for any institute offering education being most parsimonious variable to enhance elearning acceptance. Quality attributes such as information

quality, service quality, system quality, and instructor quality are found to be strong predictor to elearning acceptance (Cheng, 2012).

To ensure quality, organizations should flourish a supportive culture and university governance. Proper mechanism to assist planning, departmental empowerment and interdisciplinary teams as well as appropriate infrastructure are a key to success for effective design and delivery of courses. Besides all these, no one can deny the role of instructors or faculty responsible to design, deliver and coordinate the elearning activities. They should be provided skills based training both technical and non-technical, in accordance with their respective need. By taking such measures distance education institutes may meet educational demands of contemporary era (Forsyth et al., 2010).

In short, to successfully implement and adopt elearning, organizations will have to create a supportive culture. A culture where all employees from top to bottom work together towards mutually settled goal and which encourages openness and creative ideas for the betterment of the universities. Openness implies that all stakeholders including employees and students could comfortably share their ideas for strengthening the elearning system (Leacock, 2005).

It has been observed that organizations and universities define quality for elearning within the context of experience faced by the students, however to uphold quality, instructors should also be taken on board who play a big role in the implementation and success of elearning (Jung, 2010).

For instructors, elearning is a way to provide information to students through online discussion and other tools, and especially a platform to support knowledge-building tasks (González, 2010). They prefer to engage in distance education system due to various intrinsic or personal rewards. These rewards mainly includes new instructional design such as learning management systems and other technologically advanced instruments. Secondly, distance teaching also is a source of self-gratification and peer recognition. The ease and convenience provided by distance learning to the students also becomes a source of motivation to them. The basic motivation towards online mode comes from innovative and new teaching techniques available online. Instructor enjoys pleasure-seeking experience and a strong recognition of their contribution towards online teaching. A large majority of students can be benefited from elearning being advantageous due to place and time utility (Rockwell et al., 1999).

However, distance education becomes a threat and constraint for some of the faculty members due to skill gap, lack of support and assistance needed from time to time (Rockwell, 1999). Faculty may also feel reluctance

with online teaching due to various reasons including, fear of known, technophobia, unknown pedagogy, authenticity, impersonal teaching and may be more. Moreover, some faculty members like to have direct contact with the students which they lack in virtual environment. In online setting, they do not know who is in charge and who is interacting (Fredericksen et al., 1999). Yet there is a strong need to make elearning a true academically enriched platform. IS practitioners and administrators should focus their efforts at the non-technical issues especially academic matters. More importantly, online faculty should be engaged in choosing the right courseware for the students (Sørebø and Sørebø, 2009).

■ Literature Review;

Cambridge dictionary define satisfaction as, “A pleasant feeling which you get when you receive something you wanted, or when you have done something you wanted to do” (Cambridge-dictionary, 2012) whereas the definition of satisfaction given in the Oxford dictionary stated that “satisfaction is about fulfillment of one’s wishes, expectations, or needs, or the pleasure derived from this (Oxford-dictionary, 2012). Satisfaction is an individual’s feelings of pleasure or disappointment resulting from comparing the perceived performance (or outcome) of Web-based learning in relation to his or her expectations (Chiu et al., 2007).

Satisfaction with a particularly job, assignment or service may have strong effects on performance and motivation (Filley, House, & Kerr, 1976; Vroom 1964, p. 181, Schwab & Cummings, 1970; Petty, McGee and Cavender, 1984). This is the reason, satisfaction has been the core area of interest of many scholars and researchers in different domains. For example, job satisfaction and employee satisfaction (Abramis, 1994; Clark, 1993; Clark, and Oswald, 1995; Loveman, 1998; Matzler and Schubert, 2004), customer satisfaction (Choi, et al., 2008; Donio and Passiante, 2006; Szymanski and David, 2001; Wiley, 1991; Oliver, 1997), patient satisfaction (Leiter, Harvie, Frizzell, 1998; Oterhals et al., 2006; Zineldine, 2006; Otani et al., 2003) and student satisfaction (Douglas, Douglas and Barnes, 2006; Petruzzellis, D’Uggento and Romanazzi, 2006; Duque and Weeks, 2010; Gruber et al., 2010) has been examined in relation with different variables in view of their predominant importance. In virtual environment, e-learner satisfaction (Chen, Hsieh and Huang, 2011; Lim, 2001; Hong, Lai and Holton, 2003; Lee, 2010; Kort and Gharbi, 2008) has been given due importance being critical for elearning success and acceptance (Lee, 2010; Freeze, et al., 2010).

Literature shows a wide variety of research highlighting the factors contributing towards students' satisfaction under elearning environment. But the area pertaining to instructors' satisfaction or faculty satisfaction under elearning environment lacks prominence. Faculty satisfaction is considered as an important factor of quality in online offering of courses (Bolliger and Wasilik, 2009). As pointed out during Sloan Consortium (2002), faculty satisfaction is one of the five pillars of quality (Sloan Consortium, 2002). It also affects the consistent use of elearning and instructors' performance (Yengin , Karahoca and Karahoca, 2011).

However, few attempts have been made in this regard, but the literature lacks any sufficient support identifying key predictors to instructors' satisfaction in online learning. Students opt online learning mode of education due to various reasons which may be the learning style, convenience etc. (Maguire, 2005) but their satisfaction is also important to generate faculty satisfaction. Bolliger and Wasilik (2009) claimed that faculty satisfaction largely depends on student satisfaction and, some instructor and institution related factors. Hartman, Dziuban & Moskal (2000) also validated this notion and claimed that faculty satisfaction is strongly correlated with student satisfaction therefore, instructor should be provided all necessary resources which may help to enhance student satisfaction for their interactive effects (Bolliger and Wasilik, 2009).

The study of Fredericksen et al., (1999) showed that faculty satisfaction largely depends on frequency of students' interaction, student performance, satisfaction with the institute, positive feelings about technology, minimizing technical difficulty and student familiarization. Among all, student performance is the key influencing factor towards faculty satisfaction. This implies that when online faculty have the perception that students engaged in online perform better than face-to-face mode of learning, this motivate them to teach in online environment (Fredericksen et al., 1999). Instructor satisfaction may generate further intentions to use learning management system (LMS) for distance education and especially evoke continuous use (Al-Busaidi and Al-Shihi, 2012).

Institutional support provided to the faculty at the time of course reconceptualization is also very important. In addition, on-going departmental coordination as well as the direct interaction of online faculty plays an important role in the success of online programs. Ultimately, these factors contribute to bring the quality in the institution's online courses and increase the satisfaction of online faculty. Another key element identified by Fetzner (2003) is peer-to-peer training sessions which provides an opportunity to share and listen to the experiences of other faculty members.

Adequate physical resources like technology tools and other resources, may also add to the satisfaction of the faculty (Keengwe, 2012; Fetzner, 2003). But above all administrators should strive to look ways to motivate them in the virtual environment and particularly provide opportunity to online instructors to develop their skills in teaching courses through elearning. Such measures may enhance the student participation and satisfaction of faculty members (Maguire, 2005). Moreover, Sørensen and Sørensen (2009) claimed teachers' perception about the usefulness of the elearning along with the congruency between their expected and actual expectations about the elearning may also help to enhance instructor satisfaction with elearning.

On the other hand, Yengin, Karahoca and Karahoca (2011) developed a comprehensive E-Learning Success Model for Instructors' Satisfaction" (Fig.1) comprising various factors under three categories i.e. system design, information quality and service quality with system delivery playing mediating role in bringing instructor satisfaction (Yengin, Karahoca and Karahoca, 2011).

In nutshell, Fetzner (2007) reported administrative support, faculty development support, technical infrastructure support, operational support, academic support, training coordination, instructional design/support, library support, technical support and student services as critical factors to generate and sustain faculty satisfaction while Al-Busaidi and Al-Shihi (2012) added personal innovativeness, computer anxiety, information quality, management support, incentives policy, system quality, and training as key factors to enhance instructors' satisfaction (Al-Busaidi and Al-Shihi, 2012). Moreover, quality of education, unique teaching skills with respect to online environment and consistent teaching experience in online environment are also reported as key influencing factors. The technical sophistication experienced by the students' cannot be ignored in this regard. Online learning process needs to be user friendly and easy to use to provide better adoption and satisfaction (Hadidi, Sung and Woken, 2005).

Based on all these arguments, following model of the study was developed which employ system quality, system usefulness and student performance and satisfaction as independent variables and instructors' satisfaction as dependent variable.

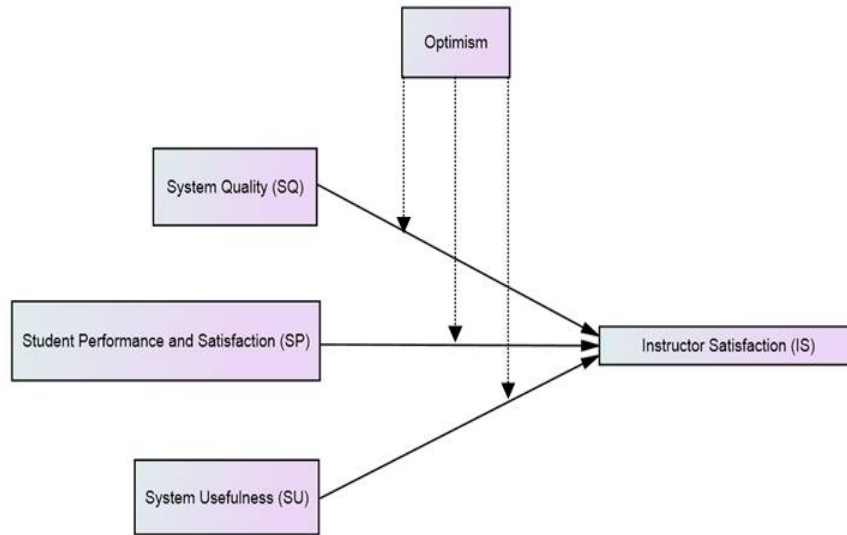


Fig 1. Research Model of the study

■ **Hypothesis of the study;**

- H1: System quality has strong influence on instructor's satisfaction.*
- H2: System usefulness has strong influence on instructor's satisfaction.*
- H3: Student performance and satisfaction has strong influence on instructor's satisfaction.*
- H4: Optimism has moderating effects on the relationship between system quality and instructor's satisfaction.*
- H5: Optimism has moderating effects on the relationship between system usefulness quality and instructor's satisfaction.*
- H6: Optimism has moderating effects on the relationship between student satisfaction and instructor's satisfaction.*

■ **Objectives of the study;**

- To examine the predicting qualities of system quality, system usefulness and student performance & satisfaction towards instructor's satisfaction.
- To understanding the moderating effects of optimism on the relationship between system quality and instructor's satisfaction.
- To understanding the moderating effects of optimism on the relationship between system usefulness and instructor's satisfaction.

- To understanding the moderating effects of optimism on the relationship between student performance & satisfaction and instructor's satisfaction.

■ Methodology

■ Participants;

Allama Iqbal Open University (AIOU) started its elearning efforts in 2008 by offering some of its programmes online. AIOU elearning platform is based on moodle (learning management system) and is named as *Open Learning Institute of Virtual Education (OLIVE)*. There exist few examples wherein Olive system has been studied (olive success by Riaz and Husain, 2011) by Riaz, 2010) and particularly students enrolled online in various programmes of AIOU, have been studied in terms of evaluating students' satisfaction, students' attitude etc. This study particularly examine the instructor satisfaction being vital for the whole elearning system.

In this context, instructors engaged in different programmes of AIOU were treated as the population of the study. Keeping in view the limited strength of the instructors, all faculty members fresh and old engaged in any of the online course treated as the population.

■ Procedure;

Data was collected with the help of questionnaire. In total 58 online faculty members (called etutors under Olive) were forwarded questionnaires preferably through emails and where required, a hard copy were also given. Since the questionnaire was precise in nature, therefore, etutors were required to fill in and forward the questionnaire within three days. Since the instrument was administered using university machinery therefore, response rate was quite high and encouraging. In total 54 usable questionnaires were punched and subsequently analyzed using SPASS 15.0.

■ Measures;

Nearly all the items were opted from previous studies. Only student performance and satisfaction was measured with the help of six items. Some items were rephrased in view of the local environment. Instructor Satisfaction was measured with the help of seven items from the study of

Bolliger and Wasilik (2009). System quality was measured with the help of six items taken from the study of Liaw (2008). Perceived system usefulness implies the degree to which the subject believes that the use a technology will enhance performance (Davis, 1989). This construct was measured with the help of five items adopted from the study of (Ajjan and Hartshorne, 2008). All the items were based on five point likert scale ranging from 1. Strongly Disagree to 5. Strongly Agree.

■ *Optimism as Moderator;*

Optimism refers to an individual difference variable that reflects the extent to which people hold generalized favorable expectancies for their future (Carver, Scheier, & Segerstrom, 2010, p. 879). It is about positive affective evaluation of a person about future (Marko & Savickas, 1998, p. 107). Optimism was measured to know any synergistic effects with system quality, system usefulness and student performance & satisfaction on instructors' satisfaction. It is assumed that instructors high at optimism will be more satisfied while experiencing the effects of system quality, system usefulness and students' performance.

Seven items were adopted from the revised Life Orientation Test (LOT-R; Scheier et al., 1994) to measure optimism and based on five point likert scale ranging from 1. Strongly Disagree to 5. Strongly Agree.

■ **Results;**

Results showed positive results in favor or each variable of the study. Descriptive statistic showed positive trend of explanatory and criterion variables. System quality (4.16, 0.46) was reported as having highest mean value whereas instructor satisfaction was found as (4.05, 0.48) and optimism as (4.10, 0.50) although the mean value for system usefulness (3.73, 0.82) and student performance (3.86, 0.58) was not as much high but still it showed favorable responses of the respondents.

Variables	Mean	Std. Deviation	1	2	3	4	5
1 Instructor Satisfaction	4.05	0.48	1				
2 System Quality (SQ)	4.16	0.46	0.624**	1			
3 System Usefulness (SU)	3.73	0.82	0.312*	0.110	1		
4 Student Performance and Satisfaction (SP)	3.86	0.58	0.162	0.076	0.006	1	
5 Optimism	4.10	0.50	0.431	0.399	0.056	0.109	1

*p<0.01; **p<0.05; ***p<0.001

Table-I “Descriptive Statistics and Correlation Results”

Correlation analysis was carried to know the relatedness between variables. Highly significant relationship was observed between system quality and instructor satisfaction ($r=0.624$, $p<0.001$). Another significantly high relationship was found between system usefulness and instructor quality ($r=0.312$, $p<0.01$).

Dependent Variable (Y) : Instructor Satisfaction						
Predictors	B	t	R	R2	Adj.R2	F
System Quality (SQ)	0.637***	6.03	0.702	0.492	0.462	16.58
System Usefulness (SU)	0.143**	2.40				
Student Performance and Satisfaction (SP)	0.173**	2.06				

*p<0.01; **p<0.05; ***p<0.001

Table-II “Regression Results”

Simple regression analysis showed high interdependence of the variables. All the three predictors system quality, system usefulness and student performance & satisfaction were found to be key explanatory variables towards instructor satisfaction. All the explanatory variables helped to explain 46.2% variation in the instructor satisfaction while 53.8% remained unexplained. Coefficient values were reported as system quality ($\beta=0.637$,

$p < 0.001$), system usefulness ($\beta=0.143$, $p < 0.01$) and student performance & satisfaction ($\beta=0.173$, $p < 0.01$).

Variables	Dependent Variable : Instructor Satisfaction					
	B	R	R ²	Adj R ²	ΔR^2	F
Step-1						
System Quality (SQ)	0.542	0.734	0.538	0.500		14.26***
System Usefulness (SU)	0.141					
Student Performance and Satisfaction (SP)	0.188					
Optimism	0.227					
Step-2						
System Quality (SQ)	NA					
System Usefulness (SU)	NA					
Student Performance and Satisfaction (SP)	NA					
Optimism	NA					
SQ X OP	0.535**	0.786	0.590	0.528	0.028	9.540***
SU X OP	0.079					
SP X OP	0.075					
Notes: * $p < 0.01$; ** $p < 0.05$; *** $p < 0.001$						

Table-III “Step-wise Regression Measuring interactive effects of Optimism”

Hierarchical multiple regression analysis was conducted on the data, to know the moderating effects of optimism on the relationships between system quality, system usefulness and student performance & satisfaction with instructors’ satisfaction as dependent variable. In the first step, Instructors’ satisfaction was regressed with all three independent variables and the moderator i.e. optimism. All the variables explained 50% variance in the dependent variable. In the second step, interaction terms were generated by multiplying system quality, system usefulness and student performance & satisfaction with optimism (SQ X OP, SU X OP and SP X OP) and entered into the regression equation. These interaction variables contributed another 2.8 percent to the variance explained. Results of hierarchical regression analysis are given in Table IV, which reveals that a two-way interaction between service

quality and optimism ($\beta=0.535$, $p < 0.001$) contributed significantly to the regression model predicting instructor satisfaction. The unique contribution of this synergistic relationship is although too small as 2.8% but significant above and beyond the main effects.

■ Discussion;

Results of the study showed almost expected results. Instructors are found satisfied with the elearning offerings (*Open Learning Institute of Virtual Education*). Which reveals not only the current contentment of faculty with elearning but also future intentions to carry on online teaching. Moreover, they are also found satisfied with the quality of the system and its usefulness as well as with the performance of their students. The findings of the study support nearly all of hypothesis H1-H2 except H5-H6.

Hypothesis	Status
H1: <i>System quality significantly have strong influence on instructor's satisfaction.</i>	Accepted
H2: <i>System usefulness significantly have strong influence on instructor's satisfaction.</i>	Accepted
H3: <i>Student performance and satisfaction have strong influence on instructor's satisfaction.</i>	Accepted
H4: <i>Optimism has moderating effects on the relationship between system quality and instructor's satisfaction.</i>	Accepted
H5: <i>Optimism has moderating effects on the relationship between system usefulness quality and instructor's satisfaction.</i>	Rejected
H6: <i>Optimism has moderating effects on the relationship between student satisfaction and instructor's satisfaction.</i>	Rejected

Table-IV "Hypothesis Testing"

Correlation results showed strong relationship mainly between two explanatory variables with the dependent variable. Highest correlation is observed between system quality and instructor satisfaction which shows

that when instructors are satisfied with system quality and its different features i.e. learning management system, internet speed and other technicalities, then it helps to enhance overall satisfaction with elearning system of learning. Moreover, another strong relationship between system usefulness and instructors' satisfaction reveals the significance of system usefulness. When instructors have the perception that students can learn more by using online mode of education then it also gives them strong satisfying feelings.

Regression analysis also highlighted the parsimonious role of all three predictors. But precisely it emphasizes to improve the performance of system quality which is found to be most striking variable among two others. Therefore, management should work to streamline the technical problems associated with the system quality. Learning management system should be properly selected and executed in view of students' level. Moreover, efforts should be made to eliminate any power break down, which is the main problem of Pakistan. Some alternate power sources should be available to provide continuous services.

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Lastly, student performance is also found to be a key predictor towards instructor satisfaction. Students understanding the material comfortably through online chat session and discussion forums, and especially when they are getting good grades, may have strong positive effects on the overall instructors' satisfaction.

Another contribution of the study is the synergistic effects of system quality with optimism towards instructors' satisfaction. Optimism is about the positive feelings and confidence about the successful outcome of something. Optimistic individuals are quite hopeful about the future. Highly optimistic instructors have heightened satisfaction when system quality is high. In nutshell, when system quality is up to mark then it further lead towards instructors' satisfaction but when instructors' are highly optimistic, an incremental increase in system quality may have significant impact on instructors' satisfaction.

■ **Conclusion;**

This study contributes to the existing literature by providing evidence about instructors' satisfaction from a developing country. Majority of instructors associated with different online programmes are found satisfied with system quality and system usefulness. Furthermore, they feel that their respective students are doing good and highly satisfied with this advanced way of learning. Moreover, all three explanatory variables i.e. system quality, system usefulness and student performance & satisfaction are found as key predictors towards instructors' satisfaction. In addition, hierarchical multiple regression analysis confirmed the moderating effects of optimism on the relationship between system quality and instructors' satisfaction. It reveals the fact that optimistic instructors have quite high satisfaction with the provision of better system quality.

■ **Practical Implication;**

The results of the study accentuate the elearning administrators to focus at the following aspects;

- System quality should be improved and any technical problem arising from time to time needs to be addressed at the earliest. The most important factor is the power break-downs. Students should get uninterrupted elearning services which is the key feature of online education.
- Instructors' should make an excellent blend of all the features of learning management system. Chat sessions, discussion forums and web-links should be optimally designed and executed.
- Students' performance needs to be properly monitored to look for any discrepancy. Feedback surveys can also be carried to know the students'

problem and their current satisfaction level. Elearning administrator should also take prompt action in case of any problem reported by the students both academic and administrative.

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