EFFECTS OF USE AND APPLICATION OF ONLINE REGISTRATION SYSTEM ON USER SATISFACTION AT THE INSTITUTIONS OF HIGHER LEARNING IN DEVELOPING ECONOMIES: A CASE OF UNIVERSITY OF EASTERN AFRICA, BARATON

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Abstract

Whereas a number of institutions of higher learning have embraced Information Systems (IS), many of such institutions in developing countries are still grappling with heavy manual processes and majority of these services do not effectively meet the intended purposes. Moreover, the adopted IS by such institutions in developing countries more often have failed to effectively meet the unique individual needs of these institutions. The main objective of this study was to assess the effects of use and application of Online Registration System on user satisfaction at the University of Eastern Africa, Baraton in Kenya. A total of 289 respondents out of 1047 were sampled. A two stage sampling method was used whereby stage one involved stratified sampling in which case respondents were stratified into students and lecturers at stage two, simple random sampling method was used to ensure that each eligible member in the population has an equal chance of being included in the sample. The findings from this study revealed that even though most users were satisfied with the services offered by Online Registration System, a deeper consideration of the dimensions of quality services needed to be improved and that involves support staff training, user communication and provision of prompt services.

Keywords: Information Systems, User satisfaction, System Application, System Use

Introduction

Information Systems (IS) are of vital importance to many institutions across a wide range of sectors of the economy (Duncombe & Molla, 2009). Many institutions of higher learning are embracing the use of IS to take advantage of the benefits that come with these systems. Most institutions are, however, characterized by poor technology and management competencies (Caldeira & Ward, 2002). These challenges make such institutions to lag behind in their use of IS. Institutions have poor IS implementation strategies because of poor managerial skills, and are often skeptical to adopt new technology which in return are translated into poor IS implementation strategies (Caldeira & Ward, 2002).

Institutions of higher learning in both developing and developed countries have significant role of creating employment, motivating growth and creating societal cohesion. In Kenya, these institutions have proved to have a lot of prospects to contribute significantly to the economy. With the reality of globalization, focus in these institutions of higher learning to train Kenyan workforce seems to be growing. Many of these institutions are demonstrating their abilities by harnessing the opportunities offered by Information and Communication Technology (ICT) (Kashangaki, 2008).

The extent of use and application of IS can be evaluated by looking at the level to which the system achieves the goals for which it was designed for (Lui & Arnett, 2000). In today's competitive world, however, IS are also expected to contribute towards achieving the institution's mission, improve productivity and facilitate service delivery (Elpez & Fink, 2006). DeLone and McLean's (2003) Model of

Information Systems Success explains the relationship between effects of IS on effectiveness and quality of IS. According to this model, effectiveness affects both the use of IS, and how satisfied the intended users are with its use. A higher IS effectiveness would lead to improved user satisfaction, and this in turn translate into positive impact on individual productivity and eventually resulting in organizational productivity improvements (DeLone & McLean, 2003). A study by Harindranath, Dyerson, and Barnes (2008), suggested that institutions of higher learning organizations are often driven by pressure of cost and efficiency, factors that can be addressed by having effective IS within these institutions.

While it is true that most institutions of higher learning in Kenya are embracing the use of IS, Francis and Susanna (2001) argues that the traditional challenges like: automation of manual processes, streamlining of such processes, reduction in the large number of workers among others still remain largely evident just as is the case with other institutions in sub-Saharan Africa. According to Duncombe and Molla (2009), this raises question on the quality of IS used by these institutions. Since the year 2000, the University of Eastern Africa, Baraton has experienced tremendous growth in IS investment. As of 2005 the University automated most of its major business operations that is Bookstore, supermarket, registry, Human resource office, Hospital, academic departments, business office, procurement office among others. These are either fully or semi-automated, however, in the midst of all these investments, there are complains that the university processes are still characterized by lots of paper work and the services are slow paced. This study therefore sought to assess the effects of use and application of online registration system on user satisfaction at the institutions of higher learning in developing economy a case of the University of Eastern Africa, Baraton in Kenya.

Research Methodology

Research Design

The study adopted a case study design where by data was collected from lecturers and students who were the major users of information systems at the University of Eastern Africa, Baraton in Kenya. The study utilized quantitative data collection method in which self- administered semi structured questionnaire was used to obtain information concerning the effects of use and application of online registration system on user satisfaction at the institutions of higher learning in developing economy: a case of the University of Eastern Africa, Baraton in Kenya.

Population and Sampling

A total of 289 respondents out of 1047 were sampled. A two stage sampling method was used. whereby stage one involved stratified sampling in which case respondents were stratified into students and lecturers, conversely at stage two, simple random sampling method was used to ensure that each eligible member in the population has an equal chance of being included in the sample.

Research Findings

A total of 267 users participated in the study. These had varied demographic characteristics namely gender, age and occupation of information system users as indicated in the sub-section that follows.

Background Characteristics

The study findings showed that nearly two thirds (62.50%) of system users were males (167) while slightly over a third (37.50%) were females. Both groups had at least a 30.00% representation in the study. Of those studied, over two thirds (77.90%) system users were aged between 20 and 30 years while only (6.40%) were below 20 years, (12.70%) were aged between 30 – 40 years and only (3.00%) were above 40 years. Table 1 further indicates that 88.00% of the system users studied were students while only 12.00% were lecturers.

Table 1

Respondents' Background Characteristics

Characteristics	Frequency	Percentage
Gender		
Male	167	62.50
Female	100	37.50
Age		
< 20 years	17	6.40
20 – 30 years	208	77.90
30 – 40 years	34	12.70
> 40 years	8	3.00
Occupation		
Lectures	32	11.00
Students	235	88.00

Computer Usage Experience

Characteristics	Frequency	Percentage
Computer usage experience	43	16.10
< 2 years	133	49.80
2 – 6 years	61	22.80
11 – 15 years	14	5.20
16 – 20 years	15	5.60
< 20 years	1	0.40
Total	167	100.00

Table 2 shows that nearly half of the respondents (49.80%) had less than two years of experience in using computers, while slightly less than a quarter (22.80%) of system users had two to six years of experience, (5.20%) of users had experience between eleven to fifteen years, (5.60%) of users were between sixteen to twenty years of experience and only (0.40%) registered had more than 20 years of experience.
Utilization of Information Systems
The study adapted DeLone and McLean's IS success model which uses System Quality, Information Quality, Service Quality, use and Intention to use, User Satisfaction as independent and dependent constructs and each part had a listing of related behaviors and the respondents were asked to indicate their level of satisfaction concerning Online Registration System based on DeLone and McLean IS success Model.

Table 3
User Information System Knowledge

Variables	SA	A	U	D	SD
Decision making	(24)	(77)	(13)	(90)	(63)
	9.00%	28.80%	4.90%	33.70%	23.60%
System user friendly	(65)	(134)	(17)	(31)	(20)
	24.30%	50.20%	6.40%	11.60%	7.50%
System usage	(35)	(149)	(16)	(52)	(15)
	13.10%	55.80%	6.00%	19.50%	5.60%
ORS training	(41)	(111)	(19)	(54)	(42)
	15.40%	41.60%	7.10%	20.20%	15.70%
Familiariality with ORS	(67)	(137)	(19)	(26)	(18)
	25.10%	51.30%	7.10%	9.70%	6.70%

As shown in table 3, study findings indicated that a third (33.70%) of the respondents had never been properly involved in decision regarding the acquisition of online registration system, about a half (50.20%) of respondents agreed that ORS is user friendly, slightly more than half (55.80%) of the system users had used ORS for long over a third (41.60%) of the respondents had received training on how to use ORS and slightly more than half (51.30%) of the system users were familiar with the features and functions of ORS.

Table 4
Quality of Information Offered by Online Registration System

	SA	A	U	D	SD
ORS accuracy	(58)	(130)	(28)	(38)	(13)
	21.70%	48.70%	10.50%	14.20%	4.90%
ORS report promptness	(53)	(105)	(33)	(53)	(23)
	19.90%	39.00%	12.40%	19.90%	8.60%
ORS adressing needs well	(31)	(122)	(37)	(58)	(19)
	11.60%	45.70%	13.90%	21.70%	7.10%
Getting report from ORS in the tright format	(50)	(129)	(29)	(38)	(21)
	18.70%	48.30%	10.90%	14.20%	7.90%

Table 4 shows that nearly half (48.70) of the users studied were satisfied with the accuracy of the information offered by ORS, whereas over a third (39.00%) of the users agreed that reports from online registration system were usually prompt and available at the time when needed. Almost half (45.70%) of the respondents agreed that ORS addressed their needs on the other hand, nearly half of the respondents (48.30) agreed that they got information from ORS in the right format.

Table 5 indicates that close to half (46.40%) of the users studied were satisfied with the quality of services offered by ITS support team, slightly more than a third (34.50%) of the users agreed that support staff responded in timely manner when called to address any technical problem, almost half (47.20%) of the respondents agreed that support staff are offered good services. 42.30% of the respondents agreed that support staff were conversant with their work.

Table 5
Service Quality

	SA	A	U	D	SD
Technical support staff available to assist users	(34) 12.70%	(124) 46.40%	(23) 8.60%	(49) 18.40%	(37) 13.90%
Support staff responds in a timely manner	(36) 13.50%	(92) 34.50%	(23) 8.60%	(75) 28.10%	(41) 15.40%
Support staff provides good services	(37) 13.90%	(126) 47.20%	(36) 13.50%	(44) 16.50%	(24) 9.00%
Support staff conversant with their work	(40) 15.00%	(113) 42.30%	(54) 20.20%	(39) 14.60%	(21) 7.90%

Table 6 indicates that close to two thirds (62.90%) of system users studied used ORS frequently, almost half (48.70%) of the systm users studied agreed that there are features present in the system that can help them but they don't know how to use them. Nearly two thirds (60.30%) of system users reported that they were happy to continue using ORS. Half (50.60%) of the system user agreed that they would recommend some changes made on ORS especially restructuring system user interface. Further, nearly (49.40%) of the respondents system studied indcated that they were using ORS frequently.

Table 6
Use and Intention to Use the Information System

	SA	A	U	D	SD
Always use Information System to carry out tasks	(48) 18.00%	(169) 62.90%	(19) 7.10%	(22) 8.20%	(9) 3.40%
Features in ORS that can help though don't know how to use them.	(43) 16.10%	(130) 48.70%	(26) 9.70%	(40) 15.00%	(28) 10.50%
Happy to continue using this information system	(42) 15.70%	(161) 60.30%	(26) 9.70%	(25) 9.40%	(13) 4.90%
Would recommend some changes to ORS .	(51) 19.10%	(135) 50.60%	(32) 12.00%	(30) 11.20%	(19) 7.10%
Use of ORS frequently	(47) 17.60%	(138) 49.40%	(18) 6.70%	(55) 20.60%	(9) 3.40%

Discussion

The information below presents the discussion of the study findings.

Information Systems Usage

Study findings revealed that most system users were never properly involved in decision regarding the acquisition of ORS, a situation. Ruohonen (2011) agrees by stating that IS planning was previously the work of technology and system professionals. It has now changed to be collaborative planning including all the relevant parties that is top managers, middle level managers, lower level managers and other relevant stakeholders. This study agrees with Ruohenen's findings that most organization plan without the involvement of all the relevant stakeholders and that the intended users of IS and those that will be served by the systems should be properly involved in the acquisition of such systems. The study findings further indicated that most users were familiar with the features and functions of both systems and had received training on how to use the systems. User satisfaction on ORS was attributed to the familiarity and usage of the systems and also training.

When the use or intention to use IS is poor, it will negatively affect the level of user satisfaction in any organization. Consequently both use and intention to use, and user satisfaction have a bearing on each other, they both eventually translate to net benefit for the organization. This net benefit in turn influences user satisfaction. This means that if there is limited use and intention to use of IS there will be low level user satisfaction.

Information Systems Applicability

The study findings revealed that user information system knowledge, information quality, system quality, and service quality of ORS seriously affect the level of user satisfaction.

DeLone and McLean (2003) recommend on modification of the dimensions of the instrument to suit a particular situation or circumstance. Contexts such as individual characteristics of the system, the technology, and the size and structure of the organization should be taken into account (Gable, Sedera, & Chan, 2008).

Despite the instrument gaining wide acceptance in IS domain, a few questions have been raised regarding its validity. Seddon (1997), for example, argues that the combination of both causal and process explanations in the D and M model is potentially confusing. The interplay between the constructs used in the D and M model, however, is quite evident and there is a logical flow of these constructs DeLone and McLean (2003). Moreover, IS quality cannot only be measured based on IS as a product, but the impacts of the system on the individual and the organization as a whole is equally helpful in assessing the effects of IS on user satisfaction.

Effects of Information Systems on User Satisfaction

The study findings showed that there was a significant relationship between user satisfaction and all constructs used to evaluate user satisfaction on ORS. There was a positive relationship between user satisfaction and the five constructs under study. Further study findings indicated that information and system quality presented the strongest relationship as compared to other constructs.

Conclusion

The study findings showed that users of ORS at the university of Eastern Africa, Baraton were satisfied with the services offered by ORS, adapting D and M IS success model to evaluate user's satisfaction; it was evident that users were satisfied. Well over half of the system users who participated in this study indicated their satisfaction in virtually all dimensions used to evaluate their satisfaction by registering over 50% satisfaction. This was in agreement with an open ended question number seven, which required users to suggest any improvement on the Online Registration System, the findings further indicated that even though most users were satisfied with the services offered by Online Registration System such findings revealed that there were some dimensions of quality services that the department of Information Technology Services (ITS) at the University of Eastern Africa, Baraton needed to work on, that is support staff training, user communication and providing prompt services. The study further indicated that there was a relationship between user satisfaction and all the dimensions used to evaluate their satisfaction as suggested by Delone and Mclean (2003). The study used a Pearson correlation coefficient which showed a weak relationship between user satisfaction and the constructs used to evaluate

their satisfaction.

Recommendations of the Study

As institutions of higher learning are faced with challenges of embracing the extraordinary opportunities that IS bring about, institutional ICT departments are challenged to provide leadership and guidance for strategic investment in IS, as well as providing day-to-day support to the users in a customer oriented approach. It is important for Information Technology Services (ITS) department to understand the implications of customer satisfaction. Institutions of higher learning through ICT departments must continuously improve their services to faculty, staff and students to meet the needs of system users. Based on the findings of this study, the following recommendations were made:

Institutions of higher learning, through ICT departments should improve on the methods of communication with system users, probably make use of broad-based electronic communication (such as electronic mail, social media, mailing list and bloggs) to improve the exchange and flow of information and also encourage all the users to frequently use such means of communication.

Institutions of higher learning should have well structured trainings on issues of information systems and documentation for students, lectures and other university administrators. the training should be routinely held in all the various institutional departments.

Institutions of Higher Learning should work towards improving on the speed and stability of internet connectivity since most information systems in use today rely entirely on the internet to function.

There is need to improving response time for techhncal information system services. On spot technical service is needed instead of having to wait for more than 24 hours to receive services by having support staff stationed at every location within the institution, this would greatly improve prompt service to the user community.

Institution of higher learning through the department of Information Technology Services need structures that can ensure support staff acquire the necessary customer care skills.

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