Evaluating the Perception of E-Learners on the Efficiency and Reliability of KIU ELearning Platform

BY

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DECLARATION

"This thesis is my original work and has never been presented for a degree or any other academic award in any university or institution of learning".

MUHAMMAD MUSBAHU MUHAMMAD

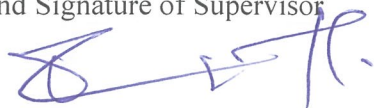Name and Signature of Candidate

09-05-2017

Date

APPROVAL

"I affirm that the work presented in this thesis was carried out by the candidate under my supervision".

Dr. Sunni Shamsudeen

Name and Signature of Supervisor

09/05/2017

Date

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LIST OF ACRONYMS/ABBREVIATIONS

CCQ	Course Content Quality
CUI	Continual Usage Intention
ICT	Information and Communication Technology
IS	Information System
ISSM	Information System Success Model
KIU	Kampala International University
LMS	Learning Management System
MOODLE	Modular Object-Oriented Dynamic Learning Environment
PEU	Perceived Ease of Use
PU	Perceived Usefulness
SPSS	Statistical Package for Social Science
SQ	System Quality
TAM	Technology Acceptance Model

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ABSTRACT

Kampala International University (KIU) has recently joined the league of institutions offering online education to learner. In an organizational setting, whenever a new technology is deployed, it is necessary to evaluate its success so as to understand if it's been embraced by the users. It is therefore, necessary to evaluate the perception of e-learners from the "quality" point of view as they continue to use the platform for their learning.

The aim of this study is to evaluate E-Learners perception on the efficiency and reliability of the KIU eLearning platform. In this study, the researcher adapted descriptive, descriptive correlation and cross sectional design using a survey questionnaire and data was collected from a sample size of 80 respondents. A 4 – point Likert scale was used to measure the perception of e-learners which ranges from "1=Strongly Disagree" to "4=Strongly Agree". A purposive sampling technique was used to select respondents from the target population of 100 students who have registered and enrolled on the KIU e-learning platform. Findings of the study revealed that, there is a moderately significant relationship between System Quality on Continual Usage Intention which indicates that the quality of the platform can affect student to continue to use the system. The more they perceive the system to be of quality, the more they are likely to use it. Also, the findings indicate that, the e-learners are satisfied with the quality of the course content provided on the platform.

1.0   Introduction

The new global economy, advances in information technology, and job market pose complex challenges to university students, requiring computer literacy, advance computer skills, critical thinking, information analysis, and synthesizing skills. Advances in information technology are perceived by universities as the solution to the quality and costs problems. This has created a need to transform how university students learn by using more modern, efficient, and effective alternative such as e-learning. ELearning concept has been around for decades and is one of the most significant recent developments in the information systems industry (Selim, 2005).

Rong et al. (2017) in their study stated that, an online eLearning may be an innovative, efficient and cost-effective method of providing nutrition education to a diverse low-income audience. Furthermore, Mbabazi and Ali (2016) noted that in Uganda, most institutions invest huge amounts in developing and deploying eLearning systems. Nasser and Zaied (2012) added that information systems are always advancing and they are and costly. Therefore, to reduce their cost, organizations must recognize the factors that affect the success of their information systems.

1.1   Background of the Study

The background of this study will be presented in form of historical, theoretical, conceptual, and contextual perspectives.

1.1.1   Historical Perspective

According to Alhardi and Drew (2014) ICT impart directly to the significant changes in teaching and learning that have been occurring in regards to e-learning. Rhema and Miliszewska (2014) added that many scholars agree that ICT's play an increasingly important role in facilitating the educational processes and systems of today. E-learning started to emerge in many developing countries where it has the potential to help meet an increasing demand for education and address the growing of trained teachers. University

students in developing countries have varying attitudes toward e-learning and generally their attitudes are positive because e-learning has positive impact on their motivation as well as self-esteem.

Suliman, Faryadi and Fabil (2015) also noted that with increase number of students in many developing countries, many higher-education institutions have introduced e-learning systems to replace the traditional methods and also saved cost and improved the degree of understanding of students. Moreover, e-learning improve the delivery of course content and provide efficient and quick access to courses and subjects by both students and scholars.

ELearning systems extend the range of tools available to universities and higher institution of learning for creating, developing, designing and enhancing effective course materials for their students (Race, 1992; Beaudoin, 2003; Khamis, 2016; Ouma, 2016). Kampala International University has recently joined the league of institutions offering online education to learners. The eLearning system was launched after a painstaking and proper assessment of academic staff skills level to handle eLearning teaching and management. This assessment was carried out alongside a training workshop for staff capacity building with respect to eLearning course design, delivery and management (Sanni, Nsereko and Muhammad, 2017). The development of computer and network technologies provides various facilities to promote the teaching way in a more personal, flexible, unbundled local way that is available on request (Conkova, 2013). These radical changes in learning needs and technology are fueling a transition in modern learning in the era of the Internet, commonly referred to as e-learning. These generational changes in education and in its technology of provision have transformed teaching into the modern era of the Internet called e-learning. Examination shows that the Internet with newest technology are transforming the way of providing education and e-learning becomes a viable alternative to the traditional "classroom" teaching.

E-learning is the delivery of course content via electronic media, such as Internet, Intranets, Extranets, satellite broadcast, audio/video tape, interactive TV, and CD-ROM (Urdan and Weggesn, 2000). E-learning is one of the new learning trends that challenge the traditional "bucket theory" or the banking concept of education (Freire, 1994). The banking concept of education assumes that the instructor owns the knowledge and deposits it into the passive students who attend the class (Freire, 1994). Khan (2001) sees e-learning as synonymous with web-based learning (WBL), Internet-based training (IBT), advanced distributed learning (ADL), web-based instruction (WBI), online learning (OL) and open/flexible learning (OFL). Recently, e-learning has evolved into a learning approach widely adopted in academic institutions. Azhari and Ming (2015) define e-learning as any education that uses the information and communication technologies (ICT) as a delivery method while enables students to build their knowledge based on their experience through the knowledge constructive process.

It is therefore, necessary to study the perception of users on the efficiency and reliability of the system from the 'quality' point of view as learners continues to use the system. This will be possible by evaluating learners on their perception about the functionalities of the system, in terms of efficiency, quality and reliability. This will assist the management and tutors to improve the eLearning system and delivery of courses, based on findings and recommendations from this study. Nevertheless, fewer studies have evaluated e-learning systems to understand factors that determine continual usage intention of e-learning systems among students in the Africa context, and Uganda in particular. It is imperative to understand the attitudes and continual usage intentions of e-learning system amongst students in order to synchronize the university's strategic goals with the educational objectives of students justify the ICT investment and optimize the use of technology. The user adoption and use of an information system such as e-learning is an important factor that predicts achievement or failure of the system (Farahat, 2012).

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Therefore, in order to maintain consistency and sustainability of the system, we need to evaluate the perception of users on the reliability and efficiency of the KIU eLearning system. This, we believe will help to reduce drop-out rates and help to improve the efficiency of the system. Any information system that is not properly and efficiently used has little value in it (Liyanagunawardena, 2008; Bach et al., 2011). Therefore, it is important to find out given a choice why individuals select to use or not use an information system.

1.1.2 Theoretical Perspective

This study will be based on the theory of Technology Acceptance Model (TAM) proposed by Davis (1989) and re-specified/extended information system model (ISS) model proposed by Delone and Mclean (2003; 2004).The Technology Acceptance Model of Davis (1989) has four constructs (i.e., perceived usefulness, perceived ease of use, behavioral intention and behavior) that provides a basis to explain the impact of variables like beliefs, attitude and intentions on using a technological application. Perceived usefulness is described as the prospective user's subjective probability that using a specific application system will increase his/her job performance within organizational content. Perceived ease of use is an individual's assessment that technology interaction will be relatively free of cognitive burden, i.e., ease of use reflects the facility with which the individual is able to interact with particular software.

While the extended Information System Success Model (ISSM) of Delone and Mclean's (2004) will provide the basis to understand the factors' influencing the perception of e-learners' on the continual usage of the e-learning system. Information System Model has seven constructs/dimensions system quality, information quality, and service quality, intention to use, individual impacts, organizational impacts and net benefit.

1.1.3 Conceptual Perspective

According to Hussain, Wang and Rahim (2013) modern educational technology facilitates design, delivery and management of educational activities for learners. This could be face-to-face in a lecture hall, online, or combination of both. They added that imparting education in this way is termed as e-learning (electronic learning) i.e learning through information and communication technologies. Furthermore, Kasse and Balunywa (2013) noted that, the integration of ICT in education has revolutionized and transformed the education sector worldwide and it created positive impacts that provided successful implementation strategies.

E-learning is defined as flexible learning using ICT resources, tools and applications; it focuses on interaction among teachers, learners, and the online collaboration environment (Kizito, 2015). Thus, e-learning include the use of ICT tools (Internet, Computer, Mobile phone, learning management system, television, satellite and radio) and content created with technology (e.g animation, video, audio and graphics) to enhance teaching and learning activities(Oye, et. al.,2012). Oye et. al., (2012) added that, e-learning encompass an ample array of systems from students using email and accessing course materials online while following a course in campus to programmes delivered entirely online. E-learning refers to using electronic application and processes to acquire skills and knowledge. E-learning application and processes include web-based learning, computer-based learning, virtual classroom and digital collaboration.

1.1.4 Contextual Perspective

Mbabazi and Ali (2016) noted that a reasonable number of universities in Uganda are adopting the use of Learning Management System (LMS) to handle its needs of learning and teaching process which Muni University is among those universities in Uganda which deployed a Learning Management System (Moodle) as a service for their students since 2014.

According to Oroma, Wanga and Fredrick (2014) e-learning in universities and institutions of higher learning in Uganda are faced with similar challenges while implementing e-learning, challenges such as; unreliable connectivity, inadequate ICT skills of the learners, and inequality in access of these new technologies.

Tusubira and Kituyi (2013) highlighted that the advent of e-learning presented a cheaper and more cost effective approach to teaching at higher education institutions where Ugandan universities adopted technology. Makere University Business School for instance, explores the possibilities of using e-learning to improve learning at their study centers in 2006.

According to Kampala International University website, KIU is a private university in Uganda which has built a name in Uganda's education sector with remarkable resilience. The university is chartered by the government of Uganda as a recognition and acknowledgement of its ability and competence to offer relevant education and is a member of pre-eminent bodies such as Commonwealth Universities, Association of African Universities and the Inter-University Council of East Africa. KIU was founded thirteen years ago and has two campuses; the main campus in Kampala along Kansanga, Ggaba road and the School of Health Sciences (KIU Western Campus) in Bushenyi along Kasese road, with branches in Kenya and Tanzania.

Kampala International University has recently joined the league of institutions offering online education to learners. The eLearning system was launched after a painstaking and proper assessment of academic staff skills level to handle eLearning teaching and management. This assessment was carried out alongside a training workshop for staff capacity building with respect to eLearning course design, delivery and management (Sanni, Nsereko and Muhammad, 2017). It is therefore necessary to investigate and continue to evaluate the K.I.U e-learning platform in terms of performance and acceptance by users.

Kampala International University (KIU) is using MOODLE to deliver it's e-learning courses. The term MOODLE, according to Kotzer and Elran (2012) refers to (Modular Object -Oriented Dynamic Learning Environment). MOODLE is an open-source software package for producing internet-based courses and websites (Lengyel and Herdon, 2008). According to Abdullah and Harun (2013) MOODLE has been designed based on the idea of constructivist pedagogy and it allows collaborative learning. MOODLE offers different routines, varying from course management to monitoring students' activities. It also, provides opportunity to create forums, wikis, quizzes, group works without need for intense computer skills.

Some of the routines or functions provided by the KIU e-learning platform include: course homepage and teaching/learning materials. The Homepage of the course provides overall course information which comprises of course syllabus, course resources, assessment criteria and other information related to the course. Materials in the courses are presented in MS Word, MS PowerPoint and Acrobat PDF formats. Instructors provide coursework assignment online which allows students to upload their assignment file before deadline.

Course materials on the KIU e-learning platform are accessible online such that learners can access them irrespective of their geographical location as long as internet service is reaching there. The KIU e-learning platform has provided students with the opportunity to explore a topic on their own using the course materials provided by the instructors. During the period of data collection, the following course units were taking by the students through platform: Computer and information security, Computer fundamentals, Contemporary issues in media and Advance writing and reporting. The courses we're designed and developed as a blended course. In every week, learners had the opportunity to meet each other and the instructor in the classroom for face to face lecture.

1.2   Statement of the Problem

The failure rate of eLearning programs in developing countries is alarming. This is majorly as a result of high drop-out rates amongst students and inefficiency of the eLearning management systems (Park, 2009; Fageeh, 2011; Ouma, 2016; kumar and Skrocki, 2016) which suggests that something is not working properly in e-learning systems. There are lots of studies that have been conducted on eLearning evaluations, and results from previous studies have opened more doors and extended the focus of research on eLearning. With the growing reliance on information systems and increasing rapidity of the introduction of new technologies into learning environment, identifying the critical factors related to user acceptance and continual usage of the technology continues to be an important issue.

Many eLearning systems fails due to management problems: University management not making adequate plans and preparations before developing the systems; Instances where eLearning system could not be maintained due to change of staff or restructuring of the ICT department; The fact that the institution cannot continue to afford the financial commitments involved (Hundley et al., 2012), etc. All these are management problems that have been identified in literature. Learners drop-out from online programs for many reasons: Inefficiency of the system; Unreliability of the system; System management problems; Ineffective help desk management, Unskilled online tutors (Conkova, 2013; Park, 2009) etc. Hundley et. al., (2012) added that majority of time, neither the faculty nor students are consulted when a university chooses a particular learning management system (LMS) to launch at their institution. Also students' needs are taken less into consideration (Suorsa and Eskilsson, 2014).Developing countries faces unique challenges with online learning tools, especially with regards to the problems of infrastructure, internet facilities, management skills (Park, 2009; Hundley et. al., 2012; Conkova, 2013; ALT, HEA and JISCinfor, 2008) etc. Hence, we need more research emphases on eLearning technologies in developing countries, so that, interventions in this areas will not be misplaced. This research work will enhance our knowledge and facilitate proper interventions for a more quality online learning environment.

As demands for higher education and e-learning continue to expand in Africa, it is important to determine factors that influence the perceptions of students and faculty when using a specific e-learning technology (Lwoga, 2014). Without identifying what satisfies students' in online courses, it is difficult to meet their needs and improve their learning.

According to Kahiigi et al., (2011) Makere University Uganda have started e-learning project in 2002 with support from development partners. However, to date Makere University is still struggling to attain the minimal educational benefits from implementing eLearning. There are currently partially developed online courses that used and Makere University E-learning Environment is mostly used as an information repository by a few lecturers. This is associated with attitudes towards adopting eLearning in the teaching and learning processes. Ssekakubo, Suleman and Marsden (2011) also highlighted that despite the potential of learning management systems to support both blended learning and learning that is entirely delivered online, the majority of LMS-supported e-learning initiatives; they fail, either totally or partially. This is majorly as a result of high ICT illiteracy rates among the student community; low comfort levels with technology; ineffective maintenance strategies and insufficient user/technical support. According to Mbabazi and Ali (2016) institutions invest huge amounts in developing and deploying eLearning systems. It is therefore, necessary to consider the individual factors that play an important role in the adoption of e-learning in Uganda universities.

The purpose of the study is to analyze the efficiency and reliability of KIU eLearning system based on viewpoints from online student learners. The impression of active system users concerning system quality, information quality, service quality and instructor quality will help to facilitate improved course teaching and learning for students.

1.3   General Objectives

The aim of this study is to get E-learners' perception on the efficiency and reliability of KIU ELearning system from quality point of view in order to assist the management and tutors to improve the eLearning system and delivery of courses so as to meet the needs of their students.

1.3.1   Specific Objectives of the Study.

1. To examine the perception of users on the Perceived Usefulness and Perceived Ease of Use of KIU eLearning system.
2. To examine the relationship between Perceived Usefulness and Perceived Ease of Useon Continual Usage Intention.
3. To determine the relationship between System Quality, Course Content Quality, Perceived Usefulness and Perceived Ease of Use on Continual Usage Intention.

1.4   Research Questions

1. What is the perception of users on the Perceived Usefulness and Perceived Ease of Use of KIU eLearning system?
2. Is there any significance relationship between Perceived Usefulness and Perceived Ease of Use on Continual usage intention?
3. Is there any significance relationship between System Quality, Course Content Quality, Perceived Usefulness and Perceived Ease of Use on Continual usage intention?
4. What is E-learners' perception on the efficiency and reliability of KIU ELearning system from quality point of view?

1.5.0   Scope of the Study

1.5.1   Geographical Scope

The study was carried out at Kampala International University at the main campus located at Kansanga 3km from Kampala City.

1.5.2 Content Scope

The study will evaluate only e-learners' perception on the efficiency and reliability of KIU e-learning system not system logs.

1.5.3 Theoretical Scope

This study will be based on the theory of Technology Acceptance Model (TAM) proposed by Davis (1989) and re-specified/extended information system model (ISS) model proposed by Delone and Mclean (2003; 2004). The Technology Acceptance Model of Davis (1989) has four constructs (i.e., perceived usefulness, perceived ease of use, behavioral intention and behavior) that provides a basis to explain the impact of variables like beliefs, attitude and intensions on using a technological application. Perceived usefulness is described as the prospective user's subjective probability that using a specific application system will increase his/her job performance within organizational content. Perceived ease of use is an individual's assessment that technology interaction will be relatively free of cognitive burden, i.e., ease of use reflects the facility with which the individual is able to interact with particular.

While the extended Information System Success Model (ISSM) of Delone and Mclean's (2004) will provide the basis to understand the factors' that influence the perception of e-learners' on the continual usage of the e-learning system. Information System Model has six constructs/dimensions system quality, information quality, and service quality, intention to use, individual impacts, organizational impacts and net benefit.

Mamma (2010) describes System Quality as how good is the information system in regards to its operational features while Information Quality describes how good is the information system in regards to its outflows. According to Mamma (2010) System Use refers to the use and exploitation of outflows from the information system whereas, User Satisfaction measures how the users perceived the system while using it. On the other hand, Individual Impact refers to the impact of the use of an information system on the performance of duties by a person within their work environment while, Organizational

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Impact examine how the result of the individual impact affect the operation of the organization.

1.5.4 Time Scope

The study will be carried out in seven months, from August, 2016 to February, 2017.

1.6 Significance of the Study

The findings of this study will help KIU management to improve the effectiveness and reliability of their e-learning system in order to meet the e-learners' requirements of the e-learning system. The finding will also explore e-learners' requirement on some of the features they want the KIU e-learning system to have. The findings of the study can assist the tutors (instructors) on how they will guide e-learners' on how they can potentially use the KIU e-learning system because the study explore the perception of the e-learners, which in turn will make the e-learners to embrace the e-learning program.

This study will help the university to understand if the system passes for quality and efficiency. It will also help to understand if the training workshops that have been conducted prior to the launching of the system are adequate enough for both staff and students. Besides, it will assist the administration to improve the eLearning platform and plan for additional or intensive focused group training program in those areas where users perceive they need more assistance.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter will review the theories which are relevant to this study, the conceptual framework, as well as other literatures related to e-learning and teaching. It will explore the findings of the various previous researchers who have studied the same or related topics to analyze and compare the result with this current work.

2.1 Theoretical Review

According to Belkhamza and Wafa (2012) Information System success model was introduced in the early 1990s, which was considered as one of the most exciting contributions to IS success. Since its initial introduction, quite a few topical domains have been investigated using the DeLone and McLean model of IS success. These include: enterprise systems, knowledge management systems, decision support systems, web-based systems and data warehouse. Belkhamza and Wafa (2010) added that, the emerge of the IS success model created a controversy among IS researchers about the model's belief. This motivated DeLone and McLean to further develop and validate their model.

According to Hellsten and Markova (2006) stated that the original Information System model of DeLone and McLean has six interrelated dimensions of success: System Quality, Information Quality, Use, User Satisfaction, Individual Impact, and Organizational Impact.
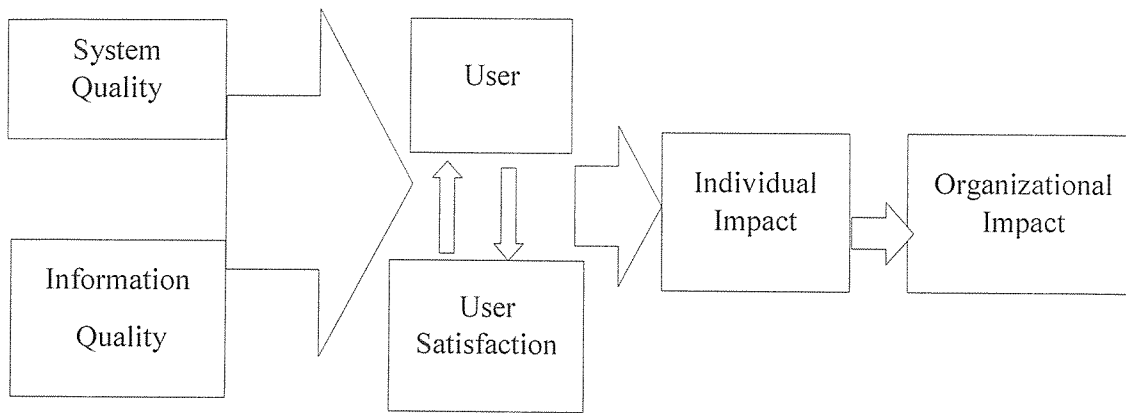
Figure 1: Six constructs/dimensions of IS success model
Source: Hellsten and Markova (2006)

System Quality, studies the success at technical level. It focuses on the desired characteristics of the information system itself which produces the information. Secondly, Information Quality concentrates on the information produced by the information system. Looking at the third and fourth dimensions respectively, Use and User Satisfaction are measure in other to analyze the interaction of the information products with its recipients. Individual Impact refers to the influence of information product on management decision and on organizational performance (Organizational Impact). Hellsten and Markova (2006) added that, in 2003 the original IS success model was validated were Service Quality was added as one of the important dimension. Additionally, Intention to Use was also added as an alternative measure. Lastly, Individual Impact and Organizational Impact were merged to form a single dimension called Net Benefit.
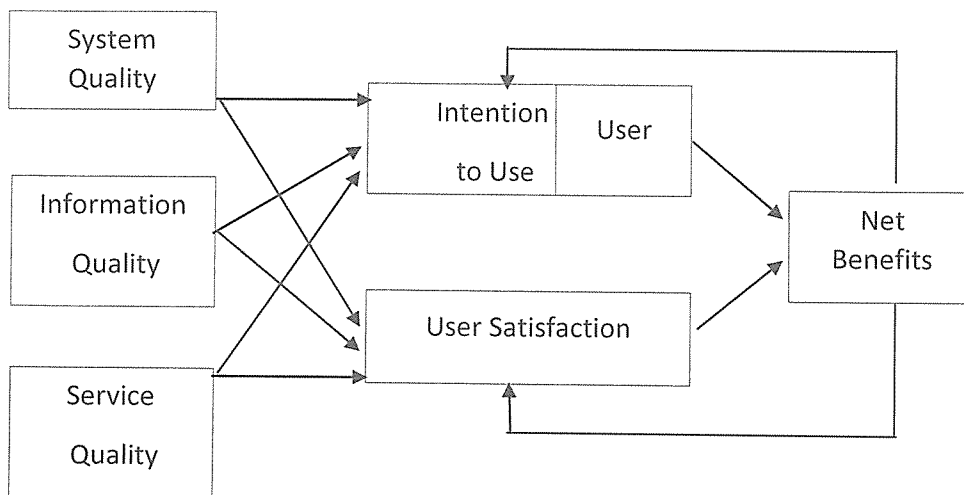
Figure 2: Updated version of IS success model
Source: (Hellsten and Markova, 2006; Nasser and Zaied, 2012)

Nasser and Zaied (2012) generated a new model for evaluating information systems success (ISS) by applying the concepts of both Technology Accept Model (TAM) and DeLone and McLean updated the IS success model. In their model, they added the following dimensions: Management Support, Training and User Involvement. Management Support refers to the management approval and continues support not only during the IS project implementation but also throughout the operational phase of the system. Training is the level of training an organization's employees undergo with respect to information systems that will have a positive relationship implementation and lastly, User Involvement was defined as a matter of importance and personal relevance that Users attached to a given system. The finding of their study revealed that, Information Quality has a strong significant influence on is success.
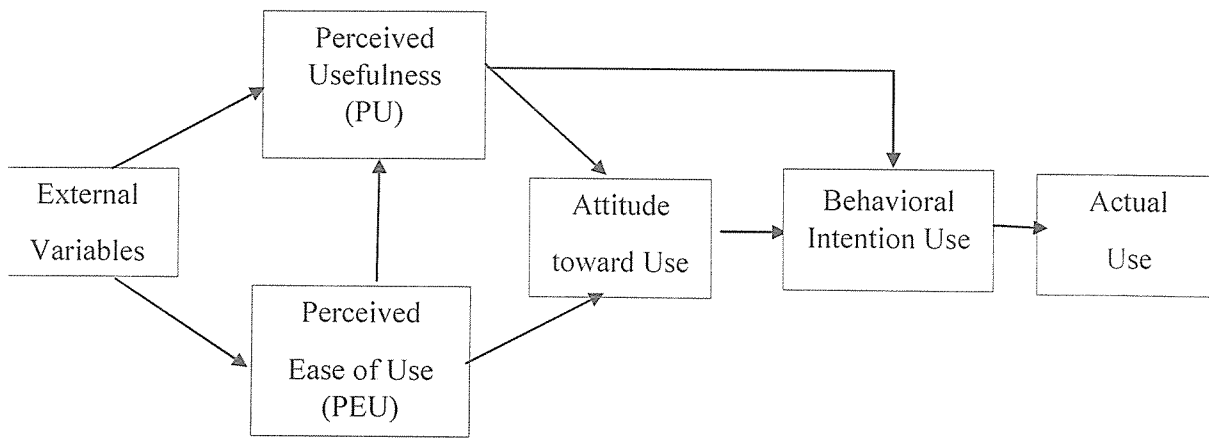
Figure 3: Technology Acceptance Model
Source: Nasser and Zaied (2012)

Acceptance of e-learning involves acceptance of technology, but differs in some key respects as the pedagogical aspects need to be considered. Studies of e-learning technology acceptance have considered TAM or UTAUT, and tested it on either teacher (Nanayakkar, 2007; Yuen & Ma, 2008) or students (Tselios, Daskalakis and Papadopoulou, 2011). These studies provide evidence for centrality of attitudes in acceptance of e-learning. It is found that Perceived Ease of Use is the most important aspect for teachers, while Perceived Usefulness is the most important factor for students (Alharbi and Drew, 2014)

This study will be based on the theory of Technology Acceptance Model (TAM) proposed by Davis (1989) and re-specified/extended information system model (ISS) model proposed by Delone and Mclean (2003; 2004) and Lwoga (2014). TAM theory focuses on the reason users accept or reject the information technology and how to improve the acceptance, offering a support to foresee and explain the acceptance (Silva and Dias, 2007). Technology acceptance model provides a basis to explain the impact of variables like beliefs, attitude and intentions on using a technological application (Harun and Abdullah, 2013). In this model, computer use is determined by behavioral intention that is formed by Perceive Usefulness and Attitude. Use of e-learning environment might be stimulated by two dimensions of motivators: extrinsic (Perceived Usefulness) and

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intrinsic (User Satisfaction). Perceived Usefulness is described as "the prospective user's subjective probability that using a specific application system will increase his/her job performance within organizational content". Perceived Ease of Use is an individual's assessment that technology interaction will be relatively free of cognitive burden, i.e., Ease of Use reflects the facility with which the individual is able to interact with particular software (Fageeh, 2011). Studies on e-learners have revealed that Perceived Usefulness positively predicts students' academic performance and satisfaction. So, Perceive Usefulness and Satisfaction constitute students' perception.

The re-specified/extended (ISS) model proposes that Perceived Quality as operationalized by the four dimensions of information quality, system quality, service quality, instructor quality have significant association with Perceived Usefulness and User Satisfaction, which in turn have a positive relationship with Continual Usage Intention of e-learning management system. This study adapt and apply the Technology Acceptance Model (TAM) and the Re-Extended Information System Success Model (ISSM) to understand e-learners' perception about KIU E-learning system. Failing to meet students' need may lead to low level of satisfaction and in turn low level of participation. This implies that, students' perception is linked to improve academic performance as well as continued learning. Behavioral intention refers to the individual's decision regarding future system use. Use behavior refers to the actual usage of the system.

The acceptance and use of information technology is a subject that has received the attention of researchers and professionals in the Computer Science, Information Systems and Information Science, because the prospect that a well-developed system will be used, since start with the assumption that good solutions in software, can bring competitive advantage to businesses and individuals (Silva and Dias, 2007). Understanding why people use or discard computer systems/applications has become one of the most challenging issues in research on information systems. In literature, it is possible to identify various theories that attempt to predict the impact of technology on human behavior such as Unified Theory of Acceptance and Use of Technology (UTAUT),

Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), Technology Acceptance Model (TAM), and Information System Success Model (ISSM). However, this study will focus on Technology Acceptance Model (TAM) and Information System Success Model.

According to Ramayah and Lee (2012) and Lowga (2014), information system success model (ISSM) of Delone and McLean (2003, 2004) has received great attention in Information System (IS) literature and provides a theoretical basis for investigating student's attitudes and continual usage intention of web-based learning management system. Information system model and theories are commonly used in many studies that investigate determinants of the acceptance and usage of e-learning technologies. The first version of the Delone and McLean's (1992) model has six major constructs/dimension of IS success: System Quality, Information Quality, Use, User Satisfaction, Individual Impacts, and Organizational Impacts. Delone and McLean (2003, 2004) further extended the model to include Service Quality as the third quality factor, Intention to Use and Net benefits as new constructs/dimension.

Numerous studies on e-learning have attempted to make modification to the Delone and McLean (2003, 2004) model. For example, Ramayah and Lee (2012) conducted a study base on the extended model of Delone and McLeans (200,2004) IS Success model to examine the role of quality (service quality, information quality and system quality) in influencing use satisfaction and continuing usage of an e-learning system. The result of their study shows that information quality, system quality and service quality were positively related to user satisfaction. In addition, the result also shows that satisfaction, system quality and service quality were positively related to continuance intention.

Also, various studies have been carried out using Technology Acceptance model to describe and measure users' technology acceptance. For example, Suorsa and Eskilsson (2014) uses technology acceptance model (TAM) proposed by Davis (1989) to conduct a study on students' perception and use of learning management system (LMS). Their findings reveal that students' perception of LMS is affected by a number of factors related to social influences, perceived easiness to use and perceived usefulness.

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2.2   Conceptual Framework of the Study

This study deployed an integrated conceptual framework for evaluating e-learners' perception on the efficiency and reliability of KIU E-learning system based mainly on the Technology Acceptance Model (TAM) and Information System Success Model (ISSM). The main aim of this study is to analyze e-learners' perception on the efficiency and reliability of KIU E-learning system with selected constructs such as System Quality, Course Content Quality, Perceived Usefulness, Perceived Ease of Use and Continual Usage Intention. It has been suggested that despite the multidimensional and contingent nature of IS success, an attempt should be made to reduce significantly the number of measures used to measure IS success, so that research results can be compared and findings validated (Ramayah and Lee, 2012)

Independent Variables   **Dependent Variable**
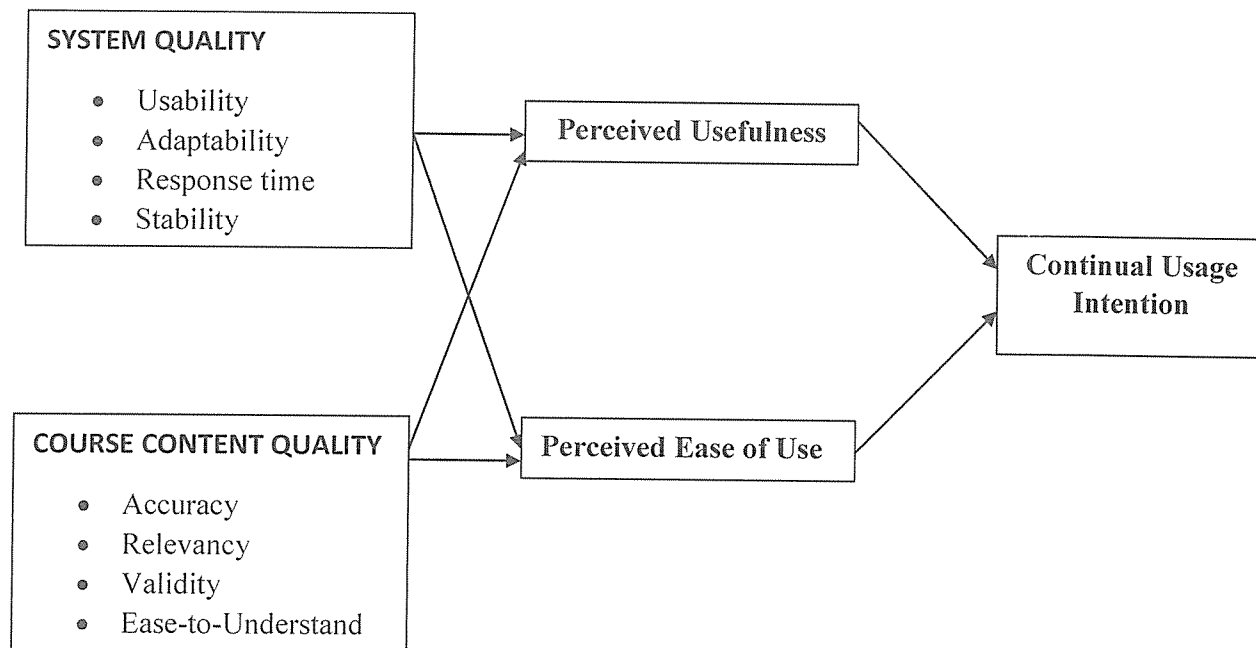
Figure 4: **Conceptual Framework of the Study**
Source: Researcher.

2.2.1 Definition of Quality

Quality can simply be defined as the fitness for use for a specific data set. Data that is appropriate for use with one application may not be fit for use with another (Buckey, 2012).

2.2.2 System Quality

System quality is a measure of an IS from the technical and design perspectives. Thus, perceived system quality can be defined as the users' evaluation of an IS from the technical and design perspectives. Perceived System Quality has been operationalized in many different ways in the IS literature. For example, Lwoga (2014) and Suliman (2013).

Response time: Is the amount of time it takes to respond to a request for service. Service here, can be anything from a memory fetch, to a disk I/O, to a complex database query, or loading a full web page (Wikipedia.org, 2016). However, in this study, response time refers to the minimum amount of time an e-learning system can spent to respond to its user's (learners) request.

Stability as noted by Ince (2009) is about how many failures an application exhibits; whether that is manifested as unexpected or unintended behavior, users receiving errors, or a catastrophic failure that bring a system down. The fewer failures that are observed the more stable an application is. With respect to this study, stability is the state at which an e-learning system remains stable (available) to e-learners without experiencing failure or with limited rate of failure.

Adaptability of software system or software architecture: Is a qualitative property of its maintainability and an ability of its components to adapt their functionality, even at runtime, to behavioral and structural changes that occur either internally or externally in their operating environment and in requirement of stakeholders' objectives (Tarvainen, 2008). In this study adaptability refers to the ability of an e-learning system to accommodate changing requirements of the e-learners when need arise.

Usability is the ease of use of any system. In particular, the usability in e-learning system is the presentation of information and choices in a clear and concise way, a lack of ambiguity and the placement of important items in appropriate areas. Another big concern for usability is that the website is appropriate for all ages and genders (Nielsen, 2003). In this context, usability is the ease of use of the e-learning system by the learners.

2.2.3 Course Content Quality

In this study course content quality refers to the quality of course content delivered through the course management system (Lwoga, 2014). Research demonstrates that course content quality has significant positive effects on user satisfaction of e-learning systems. Thus, the quality of course contents may be important reason for students to perceive the usefulness of e-learning systems and to have higher levels of satisfaction with using e-learning systems. Course content Quality (CCQ) in e-learning systems is the most important quality dimension of e-learning system (Suliman and Faryadi, 2013). Klobas and McGill (2012) added that course content quality is the "suitability of information" for the users' purpose.

Accuracy is the closeness of results of observations to the true values or values accepted as being true. This implies that observations of most spatial phenomena are usually only considered to estimates of the true value. The difference between observed and true (or accepted as being true) values indicates the accuracy of the observations (Buckey, 2012). In this study, accuracy is the extent to which the course content of the KIU e-learning platform is free from error.

In information science and information retrieval, **relevance** denotes how well a retrieved document or set of documents meets the information need of the user. Relevance may include concerns such as timeliness, authority or novelty of the result (Wikipedia, 2016). In this study relevance is the degree to which the course content of the KIU e-learning platform is related to the course of study of the learners.

Content validity reveals whether an instrument truly reflects the "universe" of items in the subject that the instrument claims to measure (Saleh and Lamkin, 2008). In this context, course content validity is measure of how current is the content of the course material of the KIU e-learning platform, is it up-to-date and comprehensive.

Ease-to-understand is the simplicity of the course content in terms of understanding by learners (Bourne and Moore, 2003). In this study, ease-to-understand refers to how the course content is clarified for easy understanding of the learners.

2.3   Related Literature

Attitudes concerning e-learning, echoed by scholarly and academic reviews, range from neutral to positive. On one hand, it is noted that e-learning is at least as effective as traditional methods/standards (Rosenberg, Grad and Matear, 2013), and that there are no major differences in academic performance between the more traditional and more technology – oriented modes of instruction (Cavanaugh, 2011). On one hand, many reviews go further, reflecting principally positive attitudes towards the impact of e-learning (Rhema and Miliszewska, 2014). The current piece sought to demystify e-learning by concentrating on how specific e-learning factors (socio-demographic characteristics, hours spent online and prior computer skills) influence individual academic performance.

There is a considerable body of evidence to suggest that different teaching and learning style can have different degree of successes; as measured in terms of academic results (Emerson and Taylor, 2004). In relation to online teaching, some studies indicate that this medium of delivery has a positive impact on performance for example, Smith and Hardaker (2010). Other studies however, find that greater online teaching has negative impact on performance (Johnson, 2005).

Benefits include offering a variety of new possibilities to learners (Breuleux, Laferriere and Lamon, 2012). Conkova (2013) noted that the use of e-learning offers the learner many opportunities to control and make decisions on his/her own, anytime or anywhere, affording a much more flexible training schedule. For the employer, the use of e-learning

can influence employees regarding training and development; it may more efficiently trains employees by cutting down on time away from the office, and it can reduce costs associated with traveling to training programs, in addition to having a positive effect on students' achievement in different subject matter areas (Chamber, 2013). E-learning has been promoted as being more cost effective, convenient, and increasing opportunities for lifelong learning. It has demonstrated several advantages over traditional learning, especially in allowing "learning anytime and anywhere." Students have access to online course materials independent of time and place. It also allows students to reflect on the learning materials and their responses, and permits them to work at their own pace, regardless of race, sex, disability or appearance (Jafar et al., 2008).

Other benefits of electronic learning include increase in number of enrollment or time in school as education programmes reaches underserved regions, broader educational opportunity for students who are unable to attend traditional schools, access to resources and instructors not locally available, and increases in student-teacher communication. Khamis (2013) added that a good online learning takes away the distance out of distance learning. An online environment enables one-to-one contact that often-whole class sessions don't easily allow. Online activities that encourages group tasks and peer feedback, such as the use of discussion forums and wikis enable teacher to be less directive and promoted students' participation. According to Baker and Wendel (2011) students in virtual school shows greater improvement than their conventional school counterparts in critical thinking, researching, using computers, learning independently, problem-solving, creative thinking, decision-making and time management. A study by Calderoni (2008) revealed that academic advantages over traditional classroom were demonstrated by students in Mexico's Telesecundaria program, who were "substantially more likely than other groups that pass a final 9th grade examination" administered by the state; by students taking a chemistry by satellite course (Dees, 2004); and by students learning reading and math via interactive radio instruction (Yasin & Luberisse, 2008).

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E-learning is not the most effective choice in all situations. Students may feel isolated, parents may have concern about children's social development, students with language difficulties may experience a disadvantage in text-heavy online environment, and subjects requiring physical demonstrations of skills such as music, physical education, or foreign language may not be practical in the technology- mediated settings. However, a study by Harun and Abdullah (2013) revealed that in a blended course, students were opportune to meet each other and the lecturer for 100 minutes in every week in order to complete the practical part of the course. Feedbacks related to common mistakes are given. Content of course material can be downloaded by students in form of lecture notes, videos, slides and journal papers. Course quizzes and self-evaluation questions are given online. Bond (2012) found that distance between tutor and learners in an online instrumental music program has negative effect on performance, quality, student engagement, and development and refinement of skills and knowledge, virtual school student shows less improvement than those in conventional schools in listening and speaking skills (Baker and Wendel, 2011). Highly technical subjects have also proven to be difficult to teach well online. The Alberta Online Consortium evaluated student performance on end-of-year exams among virtual schools' students across the province, and found that virtual school students in mathematics, and the science lagged significantly behind scores of non-virtual school students (Schellier, 2011).

The efficiency of an e-learning system could not be fulfilled without achieving high level of system quality that enhance students' awareness and understanding to attract them to the education courses (Suliman, 2013; Lwoga, 2014). In general, the manifest variables of Perceived System Quality in terms of a web-based system are: Access Convenience, Flexibility, Integration, and Response time, Sophistication, Reliability, Accessibility, Stability, and System Speed, Usability, Ease of Use, Navigation and Network Speed. The study by Suliman (2013) and Lwoga (2014) assumes that system quality affects the efficiency of e-learning systems through four dimensions (Usability, Accessibility, Reliability and Stability) and therefore, the study evaluates each dimension from the perspective of learners. However, in another study by Saliman and Faryadi (2013) the

study assumes that information quality affects the efficiency of e-learning system through four dimensions (Accuracy, Relevancy, Accessibility and Validity).

Lee-post (2009) carried out a study which revealed that students believed e-learning better enabled them "control where and when to learn" and "learning materials in less time". Also, the study noted that students' understanding of the course materials was demonstrated through a number of activities including discussion boards, case studies, practice problems and assignment. Furthermore, the study highlighted that attitudes towards e-learning would be a major barrier to successful development of e-learning initiatives.

The development in e-learning has to be oriented at the learner's needs and situation. The quality and orientation towards learners' needs are critical factors to determine the effectiveness of the system (Sajja, 2008). This statement can be supported by Lwoga (2014) that stated that, without identifying what satisfies students in an online course, it is difficult to meet their needs and improved their learning.

Eke (2015) stated that students have the intention to adopt e-learning and also recognized that e-learning has become essential for their success. The study revealed that the best sub set of predictors that can be used in modeling a student intention to adopt e-learning includes: attitudes toward e-learning, usefulness of e-learning, ease of e-learning use, pressure to use e-learning, and available resources need to use e-learning. However, these predicators mentioned by Eke (2015) might not be the best in all circumstances; different studies have used different predicators, so the predicator to be adopted depends on the study and area of study of a researcher.

Fageeh (2011) adapted technology acceptance model to recognize the perceptions of undergraduate students in different levels of the English department as to their readiness to accept e-learning as the dominant learning paradigm at King Khalid University. In the study (Fageeh, 2011) the author employed a descriptive research, involving a survey and in-depth interviews to recognize and analyze teachers and students' perception of their

attitudes towards e-learning, their readiness to accept it, and the factors facilitating or inhibiting e-learning. The research instrument that was used in the study was questionnaire which was administered online. The survey form included closed-ended Likert scale statements set in 7 domains. The validity of the instrument was tested using inter-rated validation while Kuder-Richardson formula and test-retest methods were used to determine the reliability of the research instrument. Fageeh (2011), also adapted frequencies, percentages, weighted percentages and chi^2 for data analysis in addition Multivariate Analysis of Variance Analysis (MANOVA) was used to determine significant differences in learners' responses. Findings of the study indicate that e-learning environments are conducive to better communication self-efficacy. It also indicated that students were cognizant of their communication self-efficacy in Internet learning environments when they use text communication, chat, bulletins and discussion channels better than face-to-face communication in traditional learning environments. It's also highlight that timid or shy students are inclined to participate more in online environments than in traditional learning.

Park (2009) and Tselios, Daskalakis and Papadopoulou (2011) also employed technology acceptance model TAM in their studies. However, their methodology have some similarities and differences. Park (2009) uses descriptive statistical analysis tools such as mean, standard deviation, frequency, percentage and correlation to analyze the data using Statistical Analysis System, added to that (Park, 2009) employed Structural Equation Modeling (SEM) to test the hypothesis and LISREL program windows version 8.3 was also used. The research instrument adapted by (Park, 2009) was questionnaires which were administered physically to the respondents. All constructs were measured using a seven point Likert scale ranging Strongly Disagree to Strongly Agree which is similar to the scale used by (Fageeh, 2011). The validity of the research instrument was tested using Content Validity whereas for the reliability, Composite reliability (αd) and Variance Extracted measure (p) were carried out to secure accuracy and consistency. The study reveals that both e-learning self-efficacy and subjective norms played an important in affecting attitude towards intention to use e-learning. The result of the study also shows that neither perceived usefulness nor perceived ease of use had a significant direct effect on behavioral intention to use e-learning, this maybe because learning to use the Internet

is normally considered easy and the benefits from learning through Internet are already well known to students in Korea, also many university students gained enough experience in e-learning through government during their high school.

Furthermore, Tselios, Daskalakis and Papadopoupou (2011) also use TAM in their study to investigate variation in students' perception before and after actual system usage and to compare their perception in blended learning with other studies. In the study Partial Least Square (PLS) modeling was used to analyzed the due to limited requirement in terms of sample size. The reliability of the construct was assessed in terms of cronbach's alph and composite reliability, whereas, convergent validity was investigated with regards to the value of Average Variance Extracted. The findings of the study revealed that in both scenario students perceived the relation of ease of use and usefulness as a key for adapting, which perceived ease of use will have a positive effect on perceived usefulness.

Lee-post (2009) employed action research methodology which was introduced by Kurt Lewin in 1940s in order to gain understanding of how to enhance e-learning success. On the other hand, Eke (2015) used questionnaire and purposive sampling technique to obtain respondents for his/her study. Also, Sun, P. –C et al, (2006)uses questionnaire that was developed based on the previous literature and comments gathered from the interview they conducted on experienced e-learning learners. They also used a 7-point Likert scale ranging from 1 as strongly disagrees to 7 as strongly agree. The validity of their research instrument was tested through a pretest with five e-learning experts, followed by a pilot test using 36 on-the-job MBA students who have experience with e-learning.

Mbabazi and Ali (2016) in their study to evaluate the level of users' satisfaction and usability issues affecting e-learning adoption in Uganda, they employed cross sectional design. A survey questionnaire was used to collect data from the study participants. Findings of the study revealed that, the functionality of the system was good. It also indicates that users show positive attitudes towards the use of the system. However, the findings also revealed that the users a facing with the service quality, lack of regular

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training, information course quality and lack of usability policy which hinder their usage of the system.

Fadhel (2015) conducted a study to evaluate Yeme Higher Education Management Information System (YHEMIS). Fadhel (2015) adapted Information System Success Model (ISSM) of DeLone and McLean where he modified it by adding an external factor: Management Support so as to identify the factors that influence the use of YHEMIS and likewise affecting the user satisfaction when using an application. In the study, a quantitative research approach and stratified random sampling were used. Findings of the study revealed that students' satisfaction have the strongest effect on the perceived net benefits.

Ring et al. (2017) in their study titled "The Feasibility of an eLearning Nutrition Education program for Low-Income Individuals" used a purposive maximum variation sampling method. A semi-structured key-format interview was used as the research instrument for data collection. The interview guide consisted three sections: internet access, digital literacy and content. A qualitative research approach was adapted were Atlas.ti was used to analyze the data. Findings of their study revealed that interviewee do not consider accessibility or literacy to be significant barriers to the priority audience because smartphones were commonly mentioned as the way low-income Georgians, also public libraries are used by the low-income Georgians to access the internet. However, they faced challenges of long lines, limitations in transportation, and inconvenience library hours which made smart phones Internet access easier and more reliable. In addition, Rong et al. (2017) noted that, study participants suggest eLearning lessons should be user-friendly and easy to navigate.

However, in this study the researcher adopted cross sectional survey design. A survey questionnaire was developed from the conceptual framework of the research study and the questionnaire is administered physically. In addition, the researcher used a 4-point Likert scale ranging from 1=strongly disagree to 4=strongly agree. The validity and reliability of the research instrument was tested using cronbach alpha and factor analysis. With regard to this study, the researcher used purposive sampling technique due to the nature of individuals who could participate in the study.

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Kearsley (2010) notes that given instruction of equal quality, groups of students learning online generally achieve at levels equal to their peers in classroom. Khamis (2013) also noted that a good face-to-face teacher is a good online teacher. Equality between the delivery systems has been well documented over decades for adult learners. Evidence to data convincingly demonstrates that when used appropriately, electronically education – e-learning- can improve how students learn, can improve what students learn, and can deliver high-quality learning opportunities to all children (NASBE, 2011).

A primary characteristic that set successful distance learners apart from their classroom-based counterparts is their autonomy (Keegan, 2006) and greater student responsibility as is noted by Wedemeyer (2011). A second characteristic that differentiate successful distance learners form unsuccessful ones is an internal focus of control, leading them to persist in the educational endeavor (Rotter, 2009).

CHAPTER THREE

METHODOLOGY

3.0   Introduction

This chapter describes the research design, target population, sample size, sampling techniques, research instrument, validity, reliability of the research instruments, data collection procedures, data analysis, ethical consideration and limitation of this study.

3.1   Research Design

Research design is a framework or plan used as a guide to collect data and analyze data to achieve study objectives or to answer research question of the study (Kibuuka, 2015). The researcher in this study used cross sectional design. Descriptive design was used because the researcher wants to determine the relevance of e-learner's characteristics on the Perceived usefulness and Perceived Ease of Use of the KIU ELearning system. The descriptive correlation design was used in this study because the researcher wants to examine the relationship between Perceived usefulness and Perceived Ease of Use of the KIU ELearning system. Besides, the researcher also endeavors to study the link between Perceived Usefulness/Perceived Ease of Use on Continual Usage Intention.

3.2   Study Population

The target populations for this study are the KIU students who are offered blended learning (face-to-face and online).According to the KIU center of e-learning, there are 100 students, both undergraduate and post graduates who are currently been enrolled and are been offered courses on the e-learning platform. The target population was chosen because their number is reasonable to conduct the study and they have registered and enrolled for courses on the e-learning platform. As such, they would be able to provide useful answers concerning the efficiency and reliability of the system.

3.3 Sample size

The sample size for this study was 80 respondents who were selected from the target population of 100 students who were enrolled and offered courses on the KIU e-learning platform. The sample size of this study was computed using Slovene's formular.

$$n = \frac{N}{1 + N(e^2)}$$

Where, n is the sample size, N is the population size or target population, e is the error, which is 0.05.

$$n = \frac{100}{1 + 100(0.05^2)}$$

$$0.05^2 = 0.0025$$

$$n = \frac{100}{1 + 100(0.0025)}$$

$$n = \frac{100}{1 + 0.25}$$

$$n = \frac{100}{1.25}$$

$$n = 80$$

3.4 Sampling Techniques

The researcher used a purposive sampling because the target group of respondents were registered and enrolled for courses on the e-learning platform. Although the sampling was random sampling among the target population and this give every member equal chance of participating in the study.

3.5 Data sources

The data used by the researcher in this study was a primary data because the researcher wants to collect specific data related to his study objectives. Primary data are data that are collected for the specific research problem at hand, using procedures that fit the research

problem best (Hox and Boeije, 2005). Kumar (2011) outline the sources of primary data as follows; Observation which involved participant and non-participant, Interview – structured and unstructured then followed by Questionnaire which can also be in form of mailed or collective questionnaire.

3.5.1 Research Instrument

The data collection instrument for this study is a survey questionnaire. The questionnaire has three parts, first part of the questionnaire consisted of questions about the demographic characteristics of students. The second part contained closed-ended questions about factors that affect the continual usage of KIU ELearning system based on the constructs of the conceptual framework of the researcher. The questions on this part of questionnaire were used to measure students' perception and they are prepared using Likert scale. A four-point Likert scale ranging from "1=Strongly Disagree" to "4=Strongly Agree" was used in this study. The third part of the questionnaire was an open-ended question. The measuring scale that was used to determine the students' perception are Adaptability, Usability, Response time, Stability, and Accuracy, Relevancy, Validity, and Ease-to-understand.

3.6 Method of Data Collection

Before the commencement of data collection, the researcher obtained an introductory letter from director of higher degrees and research which introduce the research to the field for data collection. After approval from the KIU e-learning centre, the researcher used purposive sampling and selects respondents from the target population of 100 students who are registered and enrolled on the e-learning platform and arrived at the minimum sample size of 80. Questionnaires were administered physically to the respondents. The respondents were contacted during the e-learning period in the following university computer laboratories; laboratory 1 and 6. Out of the 80 respondents 73 were able to be reached by the researcher. The researcher ensures that all questions are answered. After the data collection, data collected were edited, encoded into the computer and statistically analyzed using Statistical Package for Social Science (SPSS).

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3.7 Validity and Reliability of the Instrument

3.7.1 Validity of the Research instrument

According to Kibuuka (2016), validity is the degree to which results obtained from the analysis of the data actually represents the phenomenon under study. In this study two types of validity testing were carried out: that is, face validity and construct validity. Face validity was carried out under the supervision of the supervisor.

To ensure that the instrument for data collection is valid, two statistical measures were taken on the pilot data: Barlett's Test of Sphericity and Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (Kaiser, 1970). Factor analysis was considered appropriate, since Barlett's Test was significant at ($p<0.05$) and values of Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was between 0.6 and 1.0 which is an indicator of a good factor analysis.

The construct validity was achieved through Exploratory Factors Analysis (EFA). Using principal component analysis and Varimax rotation method, Communities, Determinant, Kaiser-Meyer-Olkin (KMO) and Barlett's Test for Sampling Adequacy were used. Statistical Package for Social Science software version 16.0 was used to perform the Exploratory Factors Analysis (EFA). The test was run on the pilot data, with 40 samples and results shows that the scale items measuring each of the constructs satisfy the condition of validity. For all the constructs, the value of Kaiser-Meyer-Olkin (KMO) is above 0.6 with the exception of System Quality. Thus, all the items in the questionnaire were retained.

3.7.2 Reliability of the Research Instrument

Reliability is a measure of the degree to which research instruments yield consistent results or data after repeated trials. The data from the pilot testing was analyzed for reliability, item –item correlation and item scale correlation. The internal consistency of each scale was measured using Cronbach's Alpha and each of the scale in the survey

questionnaire exhibit adequate reliability with the Cronbach's alpha being closed to or above the recommended 0.70 level.

3.8 Data Analysis

The researcher used tables (frequencies and percentages) to analyze the profile of respondents.

I. **Data analysis of objective one:** Mean and standard deviation were used to examine the perception of users on the Perceived Usefulness and Perceived Ease of Use of KIU eLearning system. Statistical package for social science (SPSS IBM V.16.0) was the tool that was used to analyze the perception of users on the Perceived Usefulness and Perceived Ease of Use of KIU eLearning system.

II. **Data analysis of objective two:** Pearson (r) coefficient value was used to examine the relationship between Perceived Usefulness and Perceived Ease of Use on Continual Usage Intention. The tool used for the correlation between Perceived Usefulness and Perceived Ease of Use on Continual Usage Intention was statistical package for social science (SPSS IBM V.16.0).

III. **Data analysis of objective three:** Pearson (r) coefficient value was used to determine the relationship between System Quality, Course Content Quality, Perceived Usefulness and Perceived Ease of Use on Continual Usage Intention. The tool used for the correlation between Perceived Usefulness and Perceived Ease of Use on Continual Usage Intention was statistical package for social science (SPSS IBM V.16.0).

Mean range was used to interpret the average mean that was obtained from individual constructs in the study. Frequency and percentage distribution were used to determine the demographic characteristics of the respondents. An item analysis shows the strengths and weaknesses based on the indicators in terms of means. Recommendations are derived from those strengths and weaknesses.

According to Kibuuka (2016) the following formular is used to calculate the mean range;

$$range = \frac{highestscore - lowestscore}{highestscore}$$

In this study, the researcher used a 4 – point Likert scale so,

Highest score = 4

Lowest score = 1

This implies that,

$$range = \frac{4-1}{4}$$

$$range = \frac{3}{4}$$

$$range = 0.75$$

Mean range	Response mode	Interpretation
3.26 – 4	Strongly agree	Excellent
2.6 – 3.25	Agree	Very Good
1.76 – 2.5	Disagree	Good
1.00 – 1.75	Strongly disagree	Fair

3.9 Ethical Consideration

The researcher ensures that the respondents know the purpose of the study and that the information they gave was only used for the course of the research not otherwise. Also, the researcher seeks permission from the KIU e-learning center before getting to the field for data collection. Information collected from respondents will remain confidential.

3.10   Limitation of the Study

This study has several limitations. First, the study surveyed only the students who are enrolled on the e-learning platform because they were the first batch of students to use the e-learning system at KIU. Second, the study measured only two of the information system success model construct – System quality and course content quality were added to suite the study. The study was conducted at Kampala International University main campus, and conducted amongst majorly first year students taking course on the e-learning platform and few students taking masters degree courses. Therefore, the results of course content quality should be read and interpreted with care.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION

4.0   Introduction

This chapter presents the analysis and interpretation of the findings from this study. The validity and reliability of the research instrument, demographic information of respondents, the level of the Perception of users on the Perceived Usefulness and Perceived Ease of Use of KIU eLearning system, examine the relationship between Perceived Usefulness and Perceived Ease of Use on Continual Usage Intention and the relationship between system quality, course content quality, Perceived Usefulness and Perceived Ease of Use on Continual Usage Intention at Kampala International University, Uganda.

4.1   Validity of the Research Instrument

For all the constructs, the value of Kaiser-Meyer-Olkin (KMO) is above 0.6 with the exception of System Quality. Thus, all the items in the questionnaire were retained.
The results of the Kaiser-Meyer-Olkin (KMO) are as follows:

1.   **System Quality**
      Kaiser-Meyer-Olkin Measure of Sampling Adequacy. (K.M.O) = 0.552

2.   **Course Content Quality**
      Kaiser-Meyer-Olkin Measure of Sampling Adequacy. (K.M.O) = 0.786

3.   **Perceived Usefulness**
      Kaiser-Meyer-Olkin Measure of Sampling Adequacy. (K.M.O) = 0.864

4.   **Perceived Ease of Use**
      Kaiser-Meyer-Olkin Measure of Sampling Adequacy. (K.M.O) = 0.735

5.   **Continual Usage Intention**
      Kaiser-Meyer-Olkin Measure of Sampling Adequacy. (K.M.O) = 0.745

3.2 Reliability of Research Instrument

Table 4.2.1: System Quality Reliability Statistics	
Cronbach's Alpha	N of Items
.564	5

Cronbach's Alpha value = 0.564

The result of running reliability analysis on System Quality shows that the scale statements for System Quality are reliable (Table 4.2.1). Pereira (2016) noted that, if items are less than 10, Cronbach's Alpha should be > 0.5.

Table 4.2.2: Course Content Quality Reliability Statistics	
Cronbach's Alpha	N of Items
.773	6

Cronbach's Alpha value = 0.773

The result of running reliability analysis on Course Content Quality depicts that the scale statements for Course Content Quality are reliable (Table 4.2.2).

Table 4.2.3: Perceived Usefulness Reliability Statistics	
Cronbach's Alpha	N of Items
.886	7

Cronbach's Alpha value = 0.886

The result of running reliability analysis on Perceived Usefulness shows that the scale statements for Perceived Usefulness are reliable (Table 4.2.3).

Table 4.2.4: Perceived Ease of Use Reliability Statistics	
Cronbach's Alpha	N of Items
.742	5

Cronbach's Alpha value = 0.742

The result of running reliability analysis on Perceived Ease of Use indicates that the scale statements for Perceived Ease of Use are reliable (Table 4.2.4).

Table 4.2.5 Continual Usage Intention Reliability Statistics	
Cronbach's Alpha	N of Items
.809	7

Cronbach's Alpha value = 0.809

The result of running reliability analysis on Continual Usage Intention indicates that the scale statements for Continual Usage Intention are reliable (Table 4.2.5).

4.3.0 Characteristics of Respondents

Respondents were asked to present information regarding their demographic which was collected in form of gender, age, level of education, and year of study, school/college and

Table 4.3.1 Respondents' Gender in Kampala International University, Uganda

Respondent's Gender		
Gender	Frequency	Percent
Male	44	60.3
Female	29	39.7
Total	73	100.0

Table 4.3.1: shows the total number of respondents in the study. It shows that most of the respondents with 60.3% of the sample population are male while the female are 29 in number out of the total sample population with 39.7%.

Table 4.3.2: Respondents' Age

Respondent's Age		
Age	Frequency	Percent
20 - Below	45	61.6
21 - 30	25	34.2
31 - 40	2	2.7
41 - 50	1	1.4
Total	73	100.0

Table 4.3.2 indicates that 61.6% of the respondents are below 20 years of age whereas 34.2% of the respondents fall in the age group between 21 – 30. 2.7%ofthe respondents are in the age group between 31 – 40 while 1.4% falls in the age group between 41 – 50. This implies that majority of the study participants are youth.

Table 4.3.3: Respondents' Level of Education in Kampala International University, Uganda

Level of education		
	Frequency	Percent
Certificate	3	4.1
Bachelors Degree	65	89.0
Masters Degree	5	6.8
Total	73	100.0

The result from table 4.3.3 above indicates that 3 out of 73 respondents, the same as (4.1%) of the total sample size are certificate students that are enrolled on the KIU e-learning program, 65 equivalent to 89.0% of the respondents that are enrolled on the e-learning platform are pursuing their bachelor degree, while 5of the participants are masters students'. Therefore, majority of the study participants are bachelor degree students.

Table 4.3.4: Respondents Year of Study

Year of study		
	Frequency	Percent
2016	73	100.0

Table 4.3.4 indicates that all the study participants: certificates, bachelors and masters students are first year students of KIU at the time of collecting this data.

Table 4.3.5: Respondents' Colleges/Schools of Study

Colleges/Schools		
	Frequency	Percent
School of Computing and Information Technology	5	6.8
School of Law	65	89.0
Mass Communication	3	4.1
Total	73	100.0

The result in table 4.3.5 above shows that 65 out of 73, the same as (89.0%) respondents are from school of law whereas 6.8% are from school of computing and Information technology whiles the 4.1% the same as 3 out 73 of the respondents are from school of Mass Communication. Hence, students from school of law are the most registered/enrolled students on the KIU platform.

Table 4.3.6: Respondents' Mode of Accessing the KIU E-Learning Platform

Accessing KIU e-learning platform		
	Frequency	Percent
Mobile phone	21	28.8
My laptop	9	12.3
My PC	7	9.6
University Computer lab	36	49.3
Total	73	100.0

Result from Table 4.3.6 indicates that 36 out of 73 respondents, the same with 49.3% access the KIU e-learning platform through University Computer lab, next is 28.8% that uses their mobile phone to access the platform, 9 out of 73 respondents uses their laptop and 7 respondents uses their Desktop computer (PC) to access the KIU e-learning platform. This means that majority of the students still relies on the University Computer labs to access the KIU e-learning platform.

4.4.0: Responses on the Specific Objectives

Table 4.4.1: The perception of learners on Perceived Usefulness and Perceived Ease of use			
	Average Mean	Std. Dev.	Interpretation
System Quality	2.9836	2.19693	Very Good
Course Content Quality	3.0365	2.95450	Very Good
Perceived Usefulness	2.8337	4.34298	Very Good
Perceived Ease of Use	2.6630	3.04082	Very Good
Continual Usage Intention	2.9902	3.69056	Very Good

Table 4.4.1, present answer to the first research question. According to the findings of the research, the perception of users on Perceived Usefulness has an average mean of 2.8337 which is very good according to the interpretation guide. This infer that e-learns believed that the KIU e-learning platform is important to them. Also, the finding in table 4.4.1

shows that users perceived the KIU e-learning platform to be user friendly because the Perceived Ease of Use has an average mean of 2.6630 which is very good according to the interpretation guide.

Table 4.4.2: Correlation between Perceived Usefulness and Perceived Ease of Use on Continual Usage Intention

Table 4.4.2: Correlation between Perceived Usefulness and Perceived Ease of Use on Continual usage intention?		
	Pearson (r)	Continual Usage Intention
Perceived Usefulness	Pearson Correlation	.651**
	Sig. (2-tailed)	.000
	N	73
Perceived Ease of Use	Pearson Correlation	.443**
	Sig. (2-tailed)	.000
	N	73
**. Correlation is significant at the 0.01 level (2-tailed).		
*. Correlation is significant at the 0.05 level (2-tailed).		

The relationship between "Perceived Usefulness" with (Mean = 2.8337, SD = 4.34298) on "Continual Usage Intention" (Mean = 2.9902, SD = 3.69056). A Pearson's r data analysis revealed a significant high positive relationship ($r = 0.651^{**}$, $p \leq 0.01$, N = 73) between the two constructs.

So also, the relationship between "Perceived Ease of Use" with (Mean = 2.6630, SD = 3.04082) on "Continual Usage Intention" (Mean = 2.9902, SD = 3.69056). A Pearson's r data analysis revealed a significant but low positive relationship ($r = 0.443^{**}$ $p \leq 0.01$, N = 73) between the correlates.

Table 4.4.3: Correlations between System Quality, Course Content Quality, Perceived Usefulness and Perceived Ease of Use on Continual Usage Intention

Table 4.4.3: Correlations between System Quality, Course Content Quality, Perceived Usefulness and Perceived Ease of Use on Continual Usage Intention		
	Pearson (r)	Continual Usage Intention
System Quality	Pearson Correlation	.464**
	Sig. (2-tailed)	.000
	N	73
Course Content Quality	Pearson Correlation	.554**
	Sig. (2-tailed)	.000
	N	73
Perceived Usefulness	Pearson Correlation	.651**
	Sig. (2-tailed)	.000
	N	73
Perceived Ease of Use	Pearson Correlation	.443**
	Sig. (2-tailed)	.000
	N	73
**. Correlation is significant at the 0.01 level (2-tailed).		
*. Correlation is significant at the 0.05 level (2-tailed).		

The analysis of the relationship between "System Quality" with (Mean = 2.9836, SD = 2.19693) on "Continual Usage Intention" (Mean = 2.9902, SD = 3.69056). A Pearson's r data analysis revealed a significant but moderate positive relationship (r = 0.464**, p $\leq$ 0.01, N = 73) between the two constructs.

In addition, the analysis of relationship between "Course Content Quality" with (Mean = 3.0365, SD = 2.95450) on "Continual Usage Intention" (Mean = 2.9902, SD = 3.69056) was conducted. A Pearson's r data analysis revealed a significant but high positive relationship (r = 0.554**, p $\leq$ 0.01, N = 73) between the two constructs.

Furthermore, the relationship between "Perceived Usefulness" with (Mean = 2.8337, SD = 4.34298) on "Continual Usage Intention" (Mean = 2.9902, SD = 3.69056) was conducted. A Pearson's r data analysis revealed a significant but high positive relationship (r = 0.651**, p $\leq$ 0.01, N = 73) between the two constructs.

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So also, the relationship between "Perceived Ease of Use" with (Mean = 2.6630, SD = 3.04082) on "Continual Usage Intention" (Mean = 2.9902, SD = 3.69056) was conducted. A Pearson's r data analysis revealed a very significant and moderate positive relationship (r = 0.443[**], p ≤ 0.01, N = 73) between the two constructs.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents discussion of the findings of this study, with conclusion and recommendations

5.1.0 Characteristics of Respondents

The findings of the study shows that out of 73 respondents, 44 of them are male with 60.3% while female took the remaining portion of 39.7%. This implies that, there are more male study participants than female.

Findings on respondents' age indicates that 61.6% of the respondents falls under the age group 20 – below followed by 34.2% which are in the range 21 – 30 then 2.7% that falls under the age group 31 – 40 and lastly 1.4% falls under age group of 41 – 50. This inferred that, majority of the study participants are teenagers.

The result of the level of education of the respondents revealed that 65 out of the 73 respondents are bachelor students followed by 5 masters' students and 3 students that are undergoing certificate programs. Hence, majority of participants of this study are first year undergraduate students and all the respondents are enrolled on the KIU e-learning platform in the year 2016.

Furthermore, the findings indicate that 89.0% of the respondents are from school of law followed by 6.8% that are from school of computing and information technology, lastly 4.1% are students of mass communication. This shows that, majority of the study participants belong to the school of Law.

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Going by the mode or way of accessing the KIU e-learning platform, revealed that 36 out of the 73 respondents access the platform through the university computer lab followed by those that uses mobile phones who are 21 in number then, 9 out of the 73 respondents use laptops to access the platform, lastly 7 of the respondents uses their personal computers (PCs)/Desktop computers. This implies that majority of the e-learners finding it easy to access the platform using the university computer lab. It is also interesting to know that, a large percentage of them access the platform through their mobile phones. This implies that youngsters are very comfortable using mobile device tools for learning purpose.

5.2.0   Specific Objectives

5.2.1   Perception of users on Perceived Usefulness and Perceived Ease of Use on Continual Usage Intention

To achieve this objective, respondents were presented with meaningful questions derived from the research objective. The aim of the questions is to understand the respondents' perceptions on the stated research objective. Base on the analysis of chapter four, from table 4.2.1 the findings show that e-learners/users believed that the KIU e-learning platform will improve their learning activities. It also shows that the system is easy to use. This finding corresponds with the finding of Suorsa and Ekilsson (2014) which revealed that students' perception and use of learning management system is affected by a number of factors such as social influence, perceived easiness to use and perceived usefulness. It also corresponds with the finding of (Lee-post, 2009).

5.2.2   The relationship between Perceived Usefulness and Perceived Ease of Use on Continual Usage Intention

The result of the correlation between "Perceived Usefulness" and Perceived Ease of Use on Continual Usage Intention revealed that student perception on Continual Usage Intention is strongly related with Perceived Usefulness. This finding tally with the finding of Harun and Abdullah (2013), which revealed that, perceived usefulness is a critical factor that influences students' satisfaction with the e-learning system. This implies that

users (e-learners) finds KIU e-learning platform to be useful for them, so they are willing to continue with their e-learning courses. On the other hand, there is a moderately significant relationship between Perceived Ease of Use on Continual Usage Intention. This implies that, the more the learners perceived the system to be easy to use the more the likely the will continue to use the system.

5.2.3 Relationship between System Quality, Course Content Quality, Perceived Usefulness and Perceived Ease of Use on Continual Usage Intention

With Perceived Usefulness and Perceived Ease of Use, they have been discussed in section 5.1.2. This section 5.1.3 has an additional discussion of System Quality and Course Content Quality on Continual Usage Intention. The findings revealed that, there is a moderately significant relationship between System Quality on Continual Usage Intention which indicates that the quality of the platform can affect students to continue to use the system. The more they perceive the system to be of quality, the more they are likely to use it. The findings also shows a strong relationship between Course Content Quality and Continual Usage Intention, which shows that the e-learners are satisfied with the quality of the course content provided on the platform and this will encourage them to continue to use the system. This has tally with the finding of Lowga (2014) which revealed that information quality was found to significantly affect Perceived Usefulness. It also revealed that Perceived Usefulness is a key determinant of user satisfaction, which in turn predicts continual usage intention of students.

5.3 Conclusions

According to the findings with respect to demographic data, it revealed that most of the respondents are bachelor students who are mostly of age 20 and below. This is very encouraging going by the result of the study concerning their perceptions of the e-learning. It indicates that, the students embrace and appreciate e-learning. Therefore, the school management can use this opportunity to improve the quality of its platform so as to increase the number of enrollment in the program. Although, majority of the study participants are from school of Law, which is not a technology field, however, they seem to appreciate and enjoy the application of e-learning and educational technologies.

It is also worth noting that, the students requested for adequate trainings on both computer applications and e-learning. This is understandable, since they are first year students and are just been introduced to basic computer applications. The result of this study is encouraging and provides hope for the future on technology acceptance and use amongst these groups.

Furthermore, the findings revealed that e-learners believed that the KIU e-learning system will improve their academic performance as such they have the intention to continue to use the KIU e-learning system. On the other side, there is a need for the management to improve the system quality which is associated with Perceived Ease of Use because users tend to abandon a system when it is not free of cognitive burdens.

The students are very convenient with using the computer labs and their mobile phone to learn. This is very encouraging and it is advised that other courses be created and organized in the online format in order for the students to enjoy their learning process.

It is interesting that the students understand that e-learning is very useful and prefers to continue to use it for all their courses. However, they don't find it very easy to use. Thus, the system developers need to identify the aspects or features the students find difficult to use and improve on it to make it easy and flexible to use.

5.4   Recommendations

There is a need for the management to create awareness about its e-learning platform in various departments so as to have balance of enrollment from various schools/colleges in the institutes.

There is also, a need for the management to focus on the youths particularly first year students since the result of the study shows high turnout and enthusiasm from the first year students on e-learning.

Also, there is need to improve the conditions and functionalities of the computers in the university computer laboratory because finding of the study revealed that the students finds it more comfortable to access the platform through the university computer laboratory.

E-learners are willing to continue to use the KIU e-learning platform because they believed that the system improves their learning activities. Yet, there is need to improve on the system quality because the level of their perception on Perceived Ease of Use is moderate when compared with their perception on Perceived Usefulness. They believed and agreed that e-learning is very useful. However, they don't find it very easy to use.

Findings from the open-ended questions, shows that, users required improvement on the Service Quality of the KIU e-learning platform. It also shows that users required manual or a pre-requisite training before the commencement of the online courses because some of the respondents are complained that they are lacking computer skills. Also, some of the respondents suggest that why other course units should be offered on the e-learning platform. Thus, it supports the finding that the e-learners are willing to continue to use the platform for their academic activities.

It is also recommended that future researchers use different e-learning models or theories to improve the quality of the entire e-learning platform.

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QUESTIONNAIRE

QUESTIONNAIRE

Dear student,

E-learning is increasingly popular as a medium of teaching and learning. This questionnaire is designed to evaluate the perception of e-learners on the efficiency and reliability of KIU ELearning system. Information collected from you will further enhance the quality of the online delivery of courses. I am inviting you to participate in this survey because you were enrolled for the e-learning courses.

Your responses will remain strictly confidential. The survey will take you few minutes to complete. Participation is voluntary.

SECTION A: DEMOGRAPHY

1. Gender

    Male [   ]   Female [   ]

2. Age [   ]

3. Level of education

    Certificate [   ] Diploma [   ] Bachelor's Degree [   ] PGD [   ]

    Master's Degree [   ] Ph.D [   ]

4. Year of study _____

5. School/College/Program of study

    _____

    _____

6. How do you normally access the KIU e-learning platform?

    Through my mobile phone [   ] Through my laptop [   ] Through my PC [   ]

    Through the University computer lab [   ] Others [   ]

SECTION B: PERCEPTION OF USERS (E-learners) ON KIU ELEARNING SYSTEM

Based on your recent experience, using the KIU E-learning system, please indicate the extent to which you agree or disagree with the following statements concerning your perception of KIU E-learning system.

No.	Indicator	Strongly Disagree	Disagree	Agree	Strongly Agree
	SYSTEM QUALITY (SQ)				
SQ1	My interaction with the KIU E-learning system was clear and understandable				
SQ2	The site has an attractive appearance				
SQ3	The site has a fast response speed				
SQ4	The design is appropriate for the type of E-learning system				
SQ5	The site create a positive experience for me				
	Course Content QUALITY (CCQ)	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**
CCQ1	Course contents on KIU E-learning platform is relevant for my studies				
CCQ2	Course materials provided on KIU E-learning platform are easy to understand				
CCQ3	Course contents on KIU E-learning platform detailed				
CCQ4	Course contents on KIU E-learning platform are appropriate for my learning				
CCQ5	Course materials provided on KIU E-learning platform are up-to-date				
CCQ6	Course contents on KIU E-learning platform are accurate				
	PERCEIVED USEFULNESS (PU)	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**
PU1	My experience with the KIU E-learning system has helped me developed a clear idea of my course				
PU2	E-learning is interesting to me				
PU3	E-learning is enjoyable to me				
PU4	Taking E-learning program is convenient to me				
PU5	My experience with the KIU E-learning system has helped me improved my learning performance				
PU5	My experience with KIU E-learning system has helped me developed skills I needed for my course				
PU6	I learn more with E-learning than in face-to-face programs				

	PERCEIVED EASE OF USE (PEU)	Strongly Disagree	Disagree	Agree	Strongly Agree
PEU1	KIU E-learning system is easy to use				
PEU2	I find the site easy to use				
PEU3	The site is easy to navigate				
PEU4	The interface is simple to use				
PEU5	I have enough computer skill to use KIU E-learning system				

SECTION D: CONTINUAL USAGE INTENTION.

Please indicate the extent to which you agree or disagree with the following statements concerning your continual usage intention.

No.	Indicator	Strongly Disagree	Disagree	Agree	Strongly Agree
	Continual Usage Intention (CUI)				
CUI1	I intend to continue to use the KIU E-learning platform for my learning				
CUI1	I will say positive things to other people about the effectiveness and reliability of KIU E-learning system				
CUI3	I will recommend other people to use KIU E-learning platform for teaching and learning				
CUI4	I will like to take another course using KIU E-learning platform.				
CUI5	My experience with the KIU E-learning system was better than I expected				
CUI6	Most of my expectations with the KIU E-learning system were positive				
CUI7	I am generally satisfied with the quality of the KIU E-learning system				

What do you like about KIU E-learning system?

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What are the challenges you are facing with the KIU E-learning system?

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What do you like to see as an improvement on the KIU E-learning system?

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APPENDIX II

TIME FRAME

ACTIVITY PLAN	TIME/MONTHS
Concept paper presentation	August,2016
Proposal defence	October, 2016
Field data collection	November, 2016
Data collection and analysis	December, 2016
Writing of chapter 4 and 5 plus typing	January, 2017
Correction of errors and editing of proposal	January, 2017
Printing of final copy and binding	February, 2017