E-LEARNING READINESS ASSESSMENT MODEL IN KENYAS' HIGHER EDUCATION INSTITUTIONS: A CASE STUDY OF UNIVERSITY OF NAIROBI

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DECLARATION

This research project is my original work and has not been presented for a degree in any University.

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DEDICATION

I dedicate this study to my late father Mr. Joseph Opuge Oketch, mother Mrs. Lorna Oketch, siblings and friends. Without their love, support and encouragement my study would not have been feasible

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ABSTRACT

In order to benefit from eLearning, institutions of higher learning should conduct considerable up-front analysis to assess their eLearning readiness. Studies show that there are numerous models that have been developed, however, they are used in developed counties whose e-readiness is high hence not applicable in developing countries.

This paper includes a model that has been developed to assess eLearning readiness of lecturers from institutions of higher learning in Kenya. It investigates the eLearning readiness of lecturers from the University of Nairobi, and the objective was to carry out a diagnostic eLearning readiness assessment of lecturers and determine the factors that influence eLearning readiness. The questionnaires were administered to the lecturers, the results obtained indicate that an overwhelming majority are ready for eLearning with a mean score of 3.95 higher than the expected level of readiness $[M_r = 3.95 > M_{elr} = 3.4]$, they have ICT skills required and there is a strong management support for the use of eLearning in teaching. In addition, the study results show that there is no significant relationship between age, gender, and level of education on eLearning readiness. However, the study results indicate that technological readiness is the most important factor followed by culture readiness in eLearning readiness. Most of the lecturers felt that more training on content development need to be conducted, these findings concur with Muganda (2006) findings on eLearning implementation at the University.

In conclusion, the lecturers are ready for eLearning but the ICT infrastructure is not adequate enough to support the use of eLearning. The University management should therefore put more emphasis on improving its infrastructure and conduct more training on eLearning content development for its staff.

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

ANOVA - Analysis of Variance

AVU- African Virtual University

CEES-College of Education and External Studies

CSPP- Computer Systems Policy Project

E-content- Electronic content

E-Learning- Electronic Learning

E-Services - Electronic Services

GIT - Global Information Technology

HEIs- Higher Education Institutions

HR-Human Resources

ICT- Information and Communication Technology

ICTC- Information and Communication Technology Centre

IS- Information Systems

IT- Information Technology

MSR- Regression mean square

MSE - Residual mean square

UoN- University of Nairobi

ODel- Open Distance and eLearning

PDA- Personal Digital Assistants

Video teleconferencing (VTC)

WWW- World Wide Web

CHAPTER ONE :INTRODUCTION

1.1 Background

Since 1990s it has become increasingly clear that we are living in an information age, our societies are becoming knowledge-based .The biggest growth in the internet, and the area that will prove to be one of the biggest agents of change, will be in eLearning (Rosenberg, 2001). The tremendous advancement in technological developments in computer applications has culminated in a new concept of teaching, learning and research. Higher Education Institutions (HEIs) have realized the need to be relevant and competitive, therefore, they have invested heavily in information and communication technology (ICT). Advantages such as asynchronous training, training at individual pace, just-in-time training, and cost-effectiveness lure organizations to eLearning (Powell 2000).

Kenyan Universities have implemented eLearning to reach out to their targeted students. This has been made possible by the availability of networks and connection to the internet in the institutions. Kariuki (2006) states that if website analysis is something to go by it is justifiable to conclude that in Kenya, institutions are a distance way from reaping the benefits from eLearning. Gachau (2003) and Omwenga (2003), research on factors that determine eLearning, and identified the following variables: computer and internet availability, computer literacy, motivation of users, management support, and e-learning culture in the institutions. Later (Muganda , 2006) study on eLearning implementation at University of Nairobi found out that factors that determine eLearning readiness were; provision of more computers and internet availability, training of lectures on eLearning. Mogikoyo (2009) research on video teleconferencing (VTC) adoption in higher education in Kenya, gave insight to academic institutions on the advantages of VTC impact on education. Institutions should therefore carry out research on the areas that have been identified by researches.

1.1.1 ELearning Readiness

Universities should be ready to adopt eLearning systems to improve learning as well as to gain competitive advantage (Wannemacher, 2006). Readiness assessment allows institutions to

design systems and put in place appropriate measures that are required for it's success. The assessment should include learner's ability to adapt to technological changes, collaborative training and synchronous as well as asynchronous self-paced training.

As eLearning gains popularity in developing countries whose e-maturity is considered low, users readiness assessment is also becoming critical. The assessment should look at the variables that are crucial, and from the existing research, there are some factors that are common e.g. technical readiness, content readiness, human resources readiness and financial readiness. In addition, there are demographic factors such as age, gender and education level (Aydin and Tasci, 2005) that are considered as important factors in eLearning. Furthermore, it is important to understand that readiness is not a onetime event rather it should be a continuous process of assessment.

According to Sheila Paxton from Business Wire (2001), learners readiness should be determined before institutions introduce eLearning since it requires that they use the internet, collaborate with peers and interact with the trainer for support (Alessi & Trollip, 2001; Anderson & Elloumi, 2004). The learners should be ready to adopt the responsibility of a self-driven mode of training, respond to the challenges of technology, and more importantly be disciplined to learn alone and to respond to online instructions. Lecturers need to be ready to use eLearning systems since it's an alternative way of improving access and quality of teaching and learning. Ngare (2007) states that Kenya is trying to catch up with other countries in the use of the digital technology to boost learning ,therefore, as the demand for eLearning increases it has become important to assess the readiness of institutions and design a model that will capture the most relevant parameters that can assess readiness of status of learning institutions.

Gakuu (2007) developed a path analysis model and concluded that there is no significance difference of attitude towards the adaption of distance and eLearning and the level of readiness adaptation varies according to the discipline (colleges) within University of Nairobi.

1.1.2 Learning and eLearning Models

Learning is a process through which learners achieve their learning goals by carrying out a number of learning activities and participating in interactions to reflect their understanding (Sun et al., 2004). Learning is then concerned with the way people acquire new knowledge and skills and the way in which existing knowledge and skills are modified to solve problems. Learning theories are concerned with the actual process of learning, not with the value of what is being learned. The central ideology of learning theories is that learning occurs inside a person (Siemens, 2004).There are three main perspectives in learning theories, constructivism, cognitive and behaviorism. They provide an understanding of an inherent learning process through which learners can construct knowledge within a particular environment. Jonassen (2001) asserts that eLearning conforms to constructivism; a teaching and learning paradigm that allows one to learn what they want at their own pace and to construct knowledge in a social environment. He describes a constructivist-learning situation as active, cumulative, integrative, reflective and goal directed & intentional.

The integration of ICT in learning signifies a paradigm shift pedagogically. The skills or technological competencies do not ensure that technology will be used effectively to enhance instructions. The lecturers motivation, skills and pedagogical approach are intricate instructor based issues that form an essential part of a quality learning program (Crumpacker, 2001). Therefore, for the lecturers to be effective in disseminating knowledge there is need to appreciate the pedagogical approaches, they require a change of design, delivery, and teaching styles in order to meet the needs of the changing learning techniques and students profile. As eLearning is based on a pedagogical model that emphasizes the ability and role of the learner as responsible for their own learning, students' perceptions of themselves and their self-regulatory processes are vital conditions for the achievement of any learning benefits.

ELearning models provide valuable frameworks for understanding the integration of technology and pedagogy and may help to identify key disparities between the current and desired situation. These models have evolved from classroom replication towards models that integrate technology and pedagogical issues. While the first eLearning models emphasized the

role of the technology in providing content, the recent models focus on pedagogical issues such as online instructional design and the creation of online learning communities. ELearning has gone though a cycle triggered by technology expectations, and it only slumped into a trough of disillusionment when the realities of eLearning became clear that educators and learners have not adopted eLearning as expected and desired learning outcomes are not being achieved (Logan 2001; Taylor 2002). In the growth and experimentation phase of eLearning in the 1990s, universities, public and corporate institutions, incited by technology learning management system vendors, based their eLearning initiatives on an eLearning model comprising three elements: service to the customer (learner), content and technology.

While the value of eLearning lies in its ability to train anyone, anytime, anywhere, implementing and sustaining eLearning programmes require more than merely moving education and learning online (Harris ,2002). If we are to develop, deliver and administer eLearning programmes, and train educators to become competent eLearning facilitators, a high level of investment in ICT infrastructure is required. Successful eLearning implementation therefore depends on building a strategy that meets the needs of the learners and goals of the institution.

1.1.3 ELearning at the University of Nairobi

University of Nairobi has six (6) colleges that are dispersed; each offering diverse courses majority of which are conducted by face-to-face method. Each of the colleges has a computing infrastructure consisting of fiber network and wireless network connections that enable the institution to carry out its obligations effectively and efficiently. It has also significantly fostered the development of online communication between staff, students and other stakeholders. The University has embraced the use of ICT in learning, teaching, research and in providing administrative services. It realized the strategic importance of ICT, and created a fully-fledged ICT function, the ICT Centre (ICTC) in 2002. The Center's main objective is to maximize students and staff productivity and service delivery, enhance teaching and learning, and improve quality of research through ICT (UoN Strategic Plan 2008- 2013).

The University has collaborated with African Virtual University (AVU) to set up open distance and eLearning (ODel) centre at College of Education and External studies (CEES) . This has propelled the University to the information age. The eLearning Centre at the UoN has been involved in developing e-contents and training staff on e-content development. Currently, over 400 academic staff have been trained on e-content development.

The eLearning at the University of Nairobi has the following five modes: support mode which is aimed at increasing accuracy, and enhancing presentation of work. Exploration and control mode this enables students to explore, examine and experiment with the build in situations. The tutorial mode this is where the information is presented at an appropriate level and pace giving learners feedback on progress. The resource mode is used to access information and other resources. Finally the link Mode for communication between individual students and instructors like e-mail, net meetings and video conferencing (Omwenga, 2003).As an institution that already has eLearning system in place, it is imperative that the management is cognizant of the level of eLearning readiness of the institution. ELearning readiness assessment is therefore necessary for any institution that wants to gain competitive edge over others.

1.2 Research Problem

In this globalization era, it is crucial to assess institutions eLearning readiness and design a model that suits them. Most institutions are not sure of the parameters to use in order to assess their readiness for eLearning technology, this is because most studies have addressed eLearning readiness measurements in developed countries (Haney, 2002), whose e-readiness is high. Therefore, developing countries have carried out eLearning readiness using borrowed models; this has greatly contributed to the challenges faced by institutions because they may not suit their contextual setting (Hill, 2002).Hence, it would be appropriate to design a suitable model to guide learning institutions in developing countries like Kenya. According to Global Information Technology (GIT) report 2012, on Living in a Hyper-connected world, Kenya is reported to suffer from low levels of ICT readiness due to under development of ICT infrastructure and the lack of a widespread skill base that would enable society to make an optimal use of technology. Gachau(2003) ,Omwenga (2003) and Muganda (2006) identified

the factors that determine eLearning readiness, Sang (2003) revealed that there is no relationship between the attitude, perception and exposure of the lecturers and the institution readiness to offer eLearning. Gakuu (2007), developed a path   analysis model and concluded that there is no significance difference of attitude towards the adaption of distance and eLearning . This study integrated the above findings by developing eLearning assessment model   and assess the eLearning readiness of University of Nairobi lectures by assessing their cultural readiness, technology readiness and content readiness.

Despite the effort by University of Nairobi to integrate eLearning into its teaching and learning, it has not been effectively embraced, it's faced with challenges such as understanding, and change of attitude and training are still prevalent (Omwenga, Waema and Wagacha, 2004). The persistence of these challenges and lack of knowledge about use of ICT in education hinders readiness and utilization of eLearning. Secondly, there is a high demand for education in Kenya yet the resources are very limited, eLearning can help bridge this gap. There has also been rapid growth and investment ICT; therefore lecturers should be ready to use eLearning, as it is likely to become the mode of teaching in the near future (Barron, 1999).

This study will therefore sought to assess eLearning readiness of human resources (Psycharis ,2005; Kaur and Abas ,2004) from the University of Nairobi, design a model for assessing their eLearning readiness and determine the influence of demographic factors(Aydin and Tasci, 2005) on eLearning readiness.

1.3 Research questions

The research seeks to answer the following questions;

i.   What eLearning assessment model is appropriate for the Kenyan context?

ii.   How ready are University of Nairobi lecturers for eLearning?

iii.   Which factors determine eLearning readiness?

1.3.1 Research Objectives

The specific objectives of the study are to:

i.   Determine the factors that influence eLearning readiness in Kenyas' Higher Education Institutions

ii.   Develop an eLearning readiness assessment model for lecturers

iii.   Carry out a diagnostic eLearning readiness assessment of lecturers

1.3.2 Value of the Study

The study will be significant for various reasons; the finding will be useful to the University management and stakeholders; they will know the University level of readiness in offer online education. By knowing readiness status, it will help provide guidance for the policy makers in developing policies; they will also get to understand factors that affect eLearning successful implementation

The study will also help provide deeper understanding of eLearning system and help improve on the use of ICT in teaching, learning and sharing organizational knowledge .Finally, the study will enrich the existing body of knowledge specifically in ICT field, which will be valuable for researchers and practitioners for measuring readiness of their institutions.

CHAPTER TWO :LITERATURE REVIEW

2.1 Learning concept

Learning methods are referred to as ways through which instructors deliver instructions and learners access these instructions. Several learning methods have been described in literature, these are; traditional learning, distance learning, eLearning, blended learning, mobile learning, and personalized learning. Learning is defined as the acquisition, retention and application of knowledge, skills, attitude and ways of thinking (Kolensik,1970).Teaching approaches and pedagogy used in Higher Education Institutions (HEIs) are changing from the traditional method to a learner centered approach of teaching where the learner controls his or her learning (Reinhart, 2008). Learning environments of HEIs in developed countries are often supported by ICTs and continue to evolve to include more active learning through student participation. In developing countries like Kenya, they are still facing a lot of challenges in regard to use of ICT in learning. Meoli & Waema (2009), indicated that there is low usage of ICTs for teaching and most HEIs often use ICTs for operational functions rather than instruction.

2.2 ELearning

ELearning is where the knowledge is delivered via electronic media including; computers, internet, intranets, extranets, satellite broadcast, audio/video tape, interactive TV, CD-ROM (Pollard & Hillage, 2001). ELearning is carried out in different ways, which is why writers speak about different models of eLearning. However, models of eLearning do not differ only according to the method of implementation, efficiency and effectiveness of education, but also on the economic effects.

ELearning is considered as the appropriate tool for just-in-time accessible and ubiquitous approach to providing learning at a lower cost in developing countries. The way in which eLearning system and traditional system of education is conducted are quite different. The interaction is not confined to a regular day time activities and can take place in a variety of

locations including homes, schools, libraries internet cafes and open fields. Therefore, a modern day classroom is now seen as a virtual learning environment in which learning is no longer bounded by space, time and geographical location (Franklin and Peat, 2001; Brown, 2004; Liaw, 2008). The integration of modern ICT technology signifies a paradigm shift in teaching, and it's true that implementing technology may be a catalyst but its effective use requires a paradigm shift from teaching to learning. This requires adequate training in technology as well as technical support (Rogers& Donna, 2003).

2.3 ELearning readiness

Borotis and Poulymenakou (2004 P.1) defined eLearning readiness as "the mental or physical preparedness of an organization for some eLearning experience or action". In other research, eLearning readiness was defined as "a nation's ability to generate, disseminate and use digital information among its citizens to the betterment of the country's economic activity" (EIU & IBM, 2003).

Conceptualizing eLearning readiness is crucial as it demarcate the parameter of its applicability in a study and to provide a clear framework for a research study. This is because some scholars have rejected some definitions of eLearning out-rightly, while some have been accepted. Thus, before embarking on eLearning implementation, it is crucial to decide on a general conception of the term and model of eLearning to create a strong technology plans for lecturers, because barriers to the effective use of technology involve lecturers' attitudes and resistance to change, concerns about funding, training deficiencies and inadequate access. In addition, the need for administrative support, adequate funding, time and training has been identified as essential to facilitate change (Fabry & Higgs, 1997).

The use of Information and Communication Technologies (ICTs) has been identified as a vehicle that might elevate education in Kenya to better meet the goal of educated and skilled labor. Therefore, there is need for institutions to provide leadership in educational technology to produce holistic students ready to work in this digital era. For many years, various researchers have tried to document the power of technology, (Ross and Schulz, 1999; Hontron,

2000; Judith and Rosenberg, 2001; Dabbagh and Bannan-Ritland, 2005; McCurdy and Schroeder, 2006). They have found that institutions that have implemented use of technology in learning are witnessing a number of benefits such as cost savings, increased flexibility productivity (Hall, 2001) and maintained competitive (Goldstein and Ford, 2001.)

Lecturers have been identified to be a major factor influencing the success of eLearning. The lecturers need to be well equipped with ICT skills and trained on how to make the course materials available online and take advantage of new teaching methods, this is important as "An ineffective lecturer can waste the time of 30 or 40 students. But bad teaching online can touch thousands and 'We can create mass damage quickly'." (EIU and IBM, 2003). Lectures training and development is needed to keep up with today's rapidly changing technology. Skills requiring improvement center on the efficient and effective use of technology and application of a collaborative, problem based asynchronous learning (Crumpacker, 2001). Heinrich (1995), Fullan (1994) and Wang (2002) supports the view that the way teachers teach is a product of their own schooling, training and experiences. Lecturers therefore need to be provided with appropriate pedagogical training on how to integrate ICT into their program. Collectively, lectures motivation, skills and pedagogical approach are intricate issues that form an essential part of a quality eLearning.

ELearning readiness assessment is essential for institutions that want to implement eLearning and those that have the system in place. In sum, eLearning readiness assessment provide key information to supply solutions which can cater to the specific needs of each learning group. Institutional management support, ICT infrastructure, web content availability, alongside with skilled human resources are crucial in determining readiness for eLearning. For that, several organizations, academia and researchers have suggested different assessment models.However, Rogers (2003) points out that every organization has its own norms that can be effective in diffusing an innovation in its system. From this perspective, it can be said that these instruments may not work for organizations of other countries. Higher Education Institutions in developing countries have recently shown advancement in use of ICT as a result, most of the terms and strategies for implementation that are widely used in western companies have not been adopted as yet.

2.3.1 E-learning Readiness Assessment Models

Literature on organizational readiness for eLearning provides managers with questions, guidelines, strategies, models and instruments for assessing the readiness of their companies. E-readiness can be assessed by evaluating an individual's technical experience and competency to interact with computers. This competency should be supported by the individual's capability to direct his or her own training through appropriate knowledge, skills, attitudes and habits. As a result, various researchers have developed a significant number of eLearning readiness models. Appendix 2 shows a summary of previous research in evaluating eLearning readiness in different institutions The models looked at Governments initiatives, Partnership between eLearning producers and consumers (Pfaus,2004);Vendor readiness (Haney,2002); Self directed learning (Guglielmino and Guglielmino, 2003). The models discussed below have factors that have been used in institutions of learning and therefore look at factors that are useful in carrying out this research.

2.3.1.1 Chapnick (2000) E-Learning Readiness Model

Chapnick (2000) designed a model which can be used to measure eLearning readiness of institutions. It looked at; psychological, sociological, environmental, human resources (HR), financial readiness, technological skill (aptitude), equipment, content readiness. The proposed model grouped different factors into eight categories, which are summarized in the Table1. This model has been used by a variety of institutions in a number of countries to assess their own eLearning readiness.

Table 1:E-Learning Readiness Factors Model (Chapnick, 2000)

E-Learning Readiness Factors	Explanation of Factors
Psychological readiness	The effect of an individual's state of mind on the outcome of the e-learning initiative. Considered a particularly important factor, because it can sabotage the implementation process
Sociological readiness	The interpersonal aspects of the environment within which the e-learning program will be implemented
Environmental readiness	The major forces operating on stakeholders, both inside and outside the organization
Human resource readiness	The availability and design of the human support system
Financial readiness	The budget size and allocation process for the e-learning program
Technological skill (aptitude) readiness	The observable and measurable technical competencies of the organization and individuals involved
Equipment readiness	Possession of the proper equipment
Content readiness	The subject matter and goals of the construction

Source: Chapnick (2000)

2.3.1.2 Borotis and Poulymenakou (2004) ELearning Readiness Model

Borotis and Poulymenakou (2004) proposed a model with seven components, based on previous research and his own experience, to counter the lack of congruency in predefined components of e-learning readiness models. He looked at the following; Business, technology, Content, Training process, Culture, Human resources and financial.

Figure 1:ELearning readiness Components,Borotis & Poulymenakou (2004)
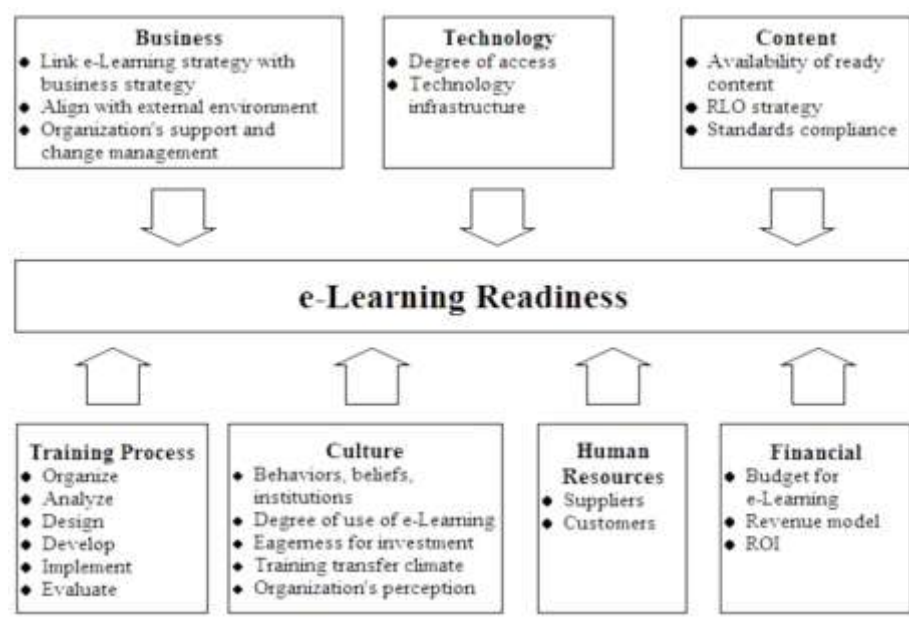
Source: Borotis & Poulymenakou (2004)

2.3.1.3 Psycharis (2005) E-Learning Readiness Model

From the available research, there are a number of variables that keep on recurring and Psycharis (2005) suggests three large categories, resources, education and environment, each of which contains unique criteria. In the category resources, technological readiness, economic readiness and human resources readiness are considered as the main factors. Education means the readiness of content and the educational readiness. Environment includes entrepreneurial readiness, leadership readiness and readiness of culture.

Psycharis (2005) proposed a new model built from five e-learning models developed by Rosenberg (2000), Chapnick (2000), Broadbent (2001), Worknowledge (2003) and Borotis and Poulymenakou (2004).It integrated all the five models grouping eight eLearning readiness factors into three categories as shown in Figure 3.
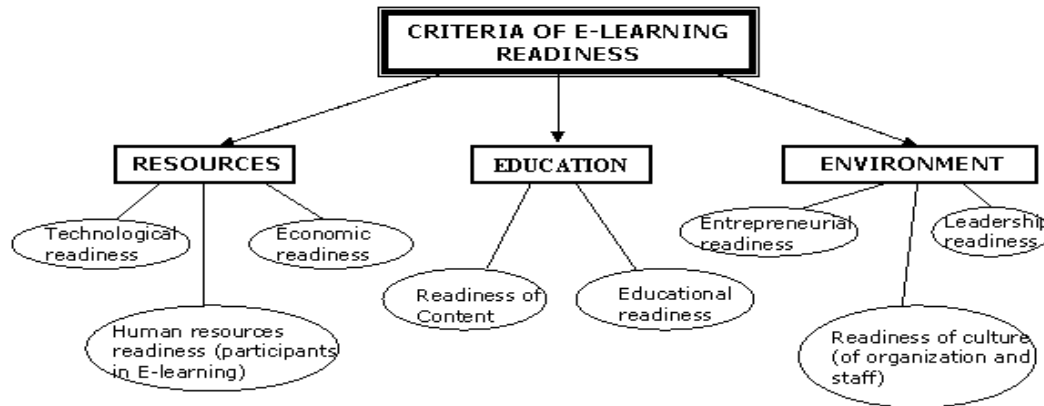
Source: Psycharis(2005)

2.3.1.4 Aydain and Tasci (Aydin, 2005) E-Learning Readiness Model

Aydain and Tasci (Aydin, 2005) developed a model with seven (7) categories: human resources, learning management system, learners, content, IT, finance and vendor. They argue that, as most companies purchase eLearning solutions from outside resources, the existence of sufficient numbers of e-learning vendors and/or consultants could be considered another predictor of whether or not e-learning would be adopted rapidly. The model therefore, asks managers about the average educational level of their employees, whether their company has skilled human resources or personnel or training department specialists, a champion (leader) and whether there are enough e-learning vendors and external eLearning experts.

Table 2:E-Learning Readiness Assessment Model, Aydin and Tasci (2005)

	Resources	**Skills**	**Attitudes**
Technology	Access to computers and Internet	Ability to use computers and Internet	Positive attitude toward use of technology
Innovation	Barriers	Ability to adopt innovations	Openness to innovations
People	**Average education level of employees** Experienced HR specialists. An	Ability to learn via/with technology	

14

	eLearning champion Enough vendors and external parties		
Self-development	Budget	Ability to manage time	Belief in self-development

Source: Aydin and Tasci (2005)

2.4 Summary of Literature Review and Knowledge gap

The continuing growth in the use of ICT, particularly the Internet, has promoted the ability to adopt eLearning. The internet is an effective tool providing accessible information to diverse users from different places. It's also a vital means for the survival and growth of institutions in a competitive global market. It enables institutions to build their image and promote it internationally. Chan and Ngami (2007) noted that the Internet has revealed a new dimension of distance learning by providing a new mechanism to deliver training involving strategic tools to enhance training delivery and to improve institutions' performance in optimizing efficiencies.

Expansion of eLearning has been intensified by considerable cost reduction of the technologies, increased processing power, extended network and communications infrastructure, and the utilization of the Internet and World Wide Web (WWW) (Chan and Ngai, 2007; Sharma and Mishra, 2007; Welsh et al., 2003; White, 2007). Condie and Livingston (2007) stated that people are not only required to have knowledge and skills in handling new technologies but also to learn through computers and the available networks via the Internet. Moreover, Bell, Martin, and Clarke (2004) noted that the vital role of organizational and intellectual capital also affects eLearning adoption in corporate and organizations worldwide.

Despite the wide use of information and communication technology in university teaching, research on eLearning adoption suggests that it has not reached its full potential (Zemsky et al., 2004). This therefore shows that a lot more need to be done so as to fully exploit the use of ICT in teaching learning. As noted by Psycharis (2005), the successful implementation of eLearning by an educational system should fulfill certain criteria, such as the acquisition of adequate

technological infrastructure and adequate educational content of persons with the university skills and a developed culture which encourages learning and sharing of knowledge. These factors can affect learners' readiness and adoption of eLearning. Adoption of eLearning by students in an educational system is a function of their readiness for it, especially if they are satisfied with the platform. This will in turn, determine the extent to which eLearning reaches its full potential.

Therefore, to successfully implement eLearning it is crucial to assess the institutions readiness for it. Haney (2002) noted that before initiating, implementing, and using eLearning, it is important to assess institutions readiness for the systems by recognizing it's goals, needs, motivators, resources and constraints. The assessment should include all stakeholders. Bates (1992) also contends that "technological decisions need to be preceded by policy and educational decisions" (p. 265). An eLearning readiness assessment helps institutions to design eLearning strategies comprehensively and to implement their ICT goals effectively (Kaur and Abas, 2004). Learners must also be "e-ready" so that a coherent achievable strategy, tailored to meet their needs, might be implemented (infodev, 2001).In sum, eLearning readiness assessment provides key information to institutions to supply solutions which can cater for the specific needs of each learning group (McConnell International, 2000).

Despite of the usefulness of models discussed, they have major shortcomings; hence need to design a model in this research. Most of them were developed for use business organizations, universities or higher education institutions (for example, Borotis and Poulymenakou, 2004; Chapnick, 2000; Hoban, Lawson, Mazmanian, Best and Seibel, 2005; Rosenberg, 2000). In addition, they were designed for use in developed countries whose e-maturity is high. Every system, (organization, culture, country and individual) has its own norms, for that measurement instruments that work in one country might not work for organizations in other countries (Rogers, 2003)

2.5 Conceptual Model for eLearning Readiness Assessment

Based on the review of eLearning readiness models in chapter 2, the model illustrated in Figure 3 was developed to guide the study. The four main parameters that are used to develop the

hybrid model are; technological readiness (Chapnick ,2000); (Aydin and Tasci, 2005), culture readiness (Borotis and Poulymenakou,2004; Kaur and Abas 2004) , content readiness (Borotis and Poulymenakou,2004 ; Chapnick ,2000; Psycharis, 2005), and demographics factors (Aydin and Tasci, 2005). In addition, each of these factors has sets of sub-factors each of which will be taken into consideration during the assessment period. Integrating these concepts resulted in the model shown in Figure3.

Figure 3. Proposed model for assessing eLearning readiness
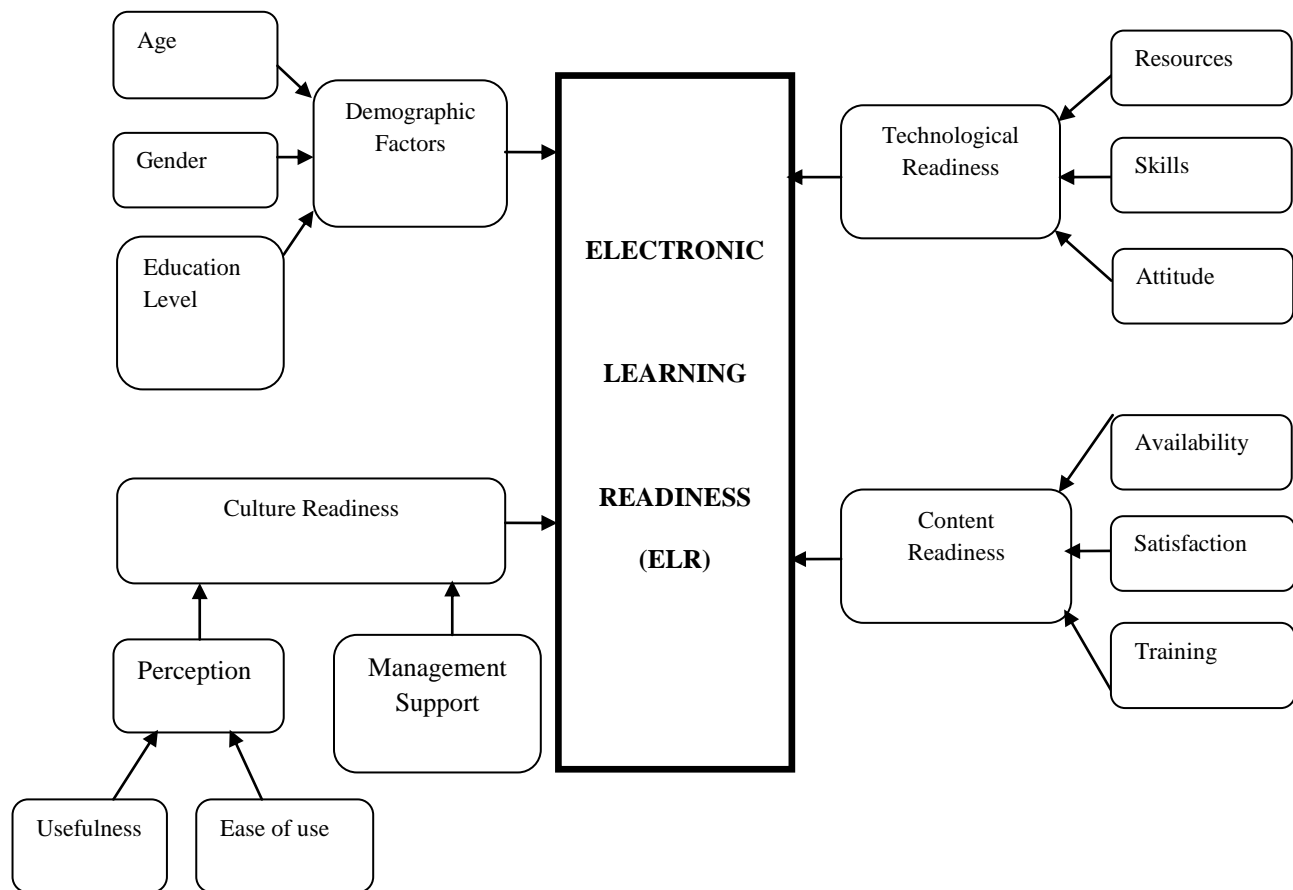
2.5.1 Technological Readiness

Technology is one of the factors that can be effectively used to adapt a technological innovation in an organization (Rogers, 2003).Without appropriate equipment and easy access, it is quite hard, if not impossible, to implement any eLearning (Oliver & Towers, 2000). The

17

eLearning users must also have the technical skills to be able to use the system. In this research project, the technological readiness has the following sub-factors; resources, attitude and skills. The sub-factors will assess the availability of computers and internet to the lectures, ability of the lectures to use the computers and the internet, and their attitude towards eLearning.

2.5.2 Culture Readiness

Institutions need to focus on what really matter; creating an environment that truly values learning, which for many may involve a substantial change (Ettinger, Holton, 2006). Therefore, if institutions want eLearning to be successful, they must be prepared both culturally and environmentally. For that, this parameter will examine the perception of the lectures in terms of two constructs; perceived usefulness and perceived ease of use.

Several models focus on the importance of perceptions of ease of use, which is successful in predicting and explaining actual intention and usage behavior, and perceived usefulness which defines the degree to which an individual believes that using a particular system would enhance job performance (Davis, 1989; Davis & al, 1989).The institution's management support towards the adaptation and use of eLearning will also be assessed under this parameter.

2.5.3 Content readiness

Content is the driving engine of any system, from an educational point of view, eLearning readiness is determined by the measurement of content readiness. That is, is the content easily available? , Is it   well structured? and is it reusable? (Psycharis, 2005). This model will assess the availability of eLearning content to the lecturers, their satisfaction with the content, and assess if they need training on eLearning content development.

Training is important for eLearning readiness and it should be considered in the of implementation of eLearning (Agbool ,2006). The model therefore assess if more training is needed in the development of eLearning materials.

2.5.4 Demographic Factors

This parameter will collect the demographics factors such as age, gender and education level (Aydin and Tasci, 2005) of the respondents. The people factor deals with the characteristics of

all human resources of a company and individuals who have a level of higher education are more likely to adopt an innovation than others (Rogers 2003), Hence, education levels of employees can be used as one of the predictors of eLearning readiness. This parameter will help determine the influence of demographics factors on the eLearning readiness.

CHAPTER THREE:RESEARCH METHODOLOGY

3.1. Introduction

This chapter provides a discussion of the research methodology used to collect data on lectures eLearning readiness. It discusses the research design used in the survey, population of study, data collection methods, data analysis and presentation methods employed.

3.2.Research design

The research used cross-sectional survey to gather the required data for the research since it allows researchers to look at numerous things at once (age, education level, gender), takes place at a single point in time, and often used to look at the prevalence of something in a given population.

3.3. Population of study

The targeted populations in the study was lecturers from the University of Nairobi, in all the disciplines broadly divided in the six colleges. The total number of staff at the time of study was 1283 as shown in table 3.

Table 3: Proportion of Lectures by College

	College at University of Nairobi	Population
i	College of Agriculture and Veterinary Sciences (CAVS)	198
ii	College of Architecture and Engineering (CAE)	177
iii	College of Biological and Physical Sciences (CBPS)	226
iv	College Of Education And External Studies (CEES)	85
v	College of Health Sciences (CHS)	372
vi	College of Humanities and Social Sciences (CHSS)	225
	Total	**1283**

Source: University of Nairobi website (2012)

3.4. Sampling

The respondents targeted were sampled through stratified random sampling. Since the population was small and finite, the sample size was determined using hypergeometric distribution the formulae (Kothari, 2004);

$$n = \frac{N\ Z^2\ Pq}{(E^2\ (N\text{-}1) + Z^2\ Pq\ )}$$

Where; N is the population; **n** is the required sample size; **p** is the proportion of the targeted population; **E** is the accuracy of sample proportions, **Z** is standard deviation at a given confidence level. Based on this available information, the sample size was determined. Where N is 1283, p and q are the population proportions of 0.5, z is the level of confidence level, a typical level of confidence for surveys is 95% (1.96), and E is the accuracy of sample proportions, with an accuracy of plus or minus 5%. Using the above values, the sample size is 296.

$$\frac{1283(1.96)^2\ (0.5*0.5)}{(0.05)^2\ (1283\text{-}1) + (1.96)^2\ (0.5*0.5)} = \mathbf{295.8163}$$

3.5. Data collection method

To collect primary data, questionnaires were administered to the respondents. The questionnaire had four (4) sections, Section one (1) consist of several items to gather data regarding demographic characteristics of the respondent such as gender, age, level of education and department. Section two (2) of the questionnaire is designed to assess lecturers technological readiness by assessing the accessibility to eLearning resources, technological competencies and attitude towards eLearning. Section three (3) of the questionnaire is designed to assess the cultural and environmental readiness of the lectures by assessing; their perception and management support towards eLearning. Section four (4) of the questionnaire is designed to assess the content readiness by assessing; availability of course material in eLearning system, and need for training on eLearning content development.

3.6. Data Analysis Method

Descriptive statistics were   used to analyze the collected data and the results presented in form of tables and charts. Statistical Package for Social Sciences (SPSS) program was used to analyze the data. Descriptive statistics was used to determine the lectures eLearning readiness, while regression analysis will be conducted to determine the factors that influence the eLearning readiness and test whether the model developed can be used to determine the respondents eLearning readiness. Assessment model from Aydin and Tasci's (2005) was used determine the expected level of readiness of 3.4

Figure 4: Assessment model adopted from Aydin and Tasci's (2005)
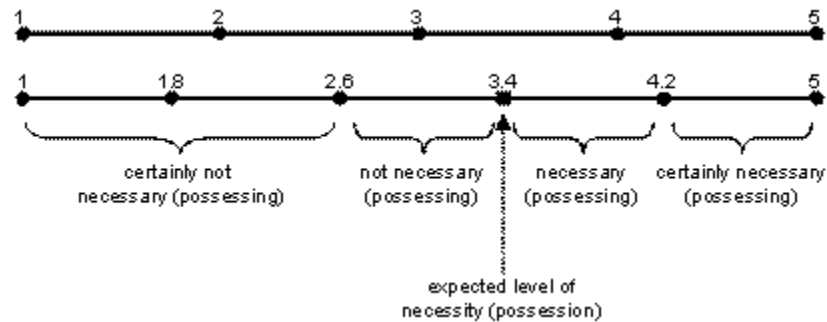
Source : Aydin and Tasci's (2005)

CHAPTER FOUR:

DATA ANALYSIS, INTERPRETATION AND PRESENTATION

4.1 Introduction

This chapter presents analysis and findings of the study as set out in the research methodology. The results presented are on eLearning readiness of lectures from the University of Nairobi. The research sought to develop eLearning readiness assessment model, carry out a diagnostic eLearning assessment and determine the factors that influence eLearning readiness among the lectures.

4.2. General Information

This section details the background information of the respondents. It gives information on the gender of the respondents, age of respondents, highest level of education, college where they lecture are located , their managerial position at the University and number of years they have worked at the University. This information aimed at testing the appropriateness of the respondent in answering the questions regarding eLearning readiness at the University.

4.2.1. Response Rate

A total of 296 questionnaires were administered to the lecturers at the University of Nairobi. One hundred and seventy eight (178) were returned resulting to 60% response rate. This response rates were sufficient and representative in addition, it conforms to Mugenda and Mugenda (2003) stipulation that a response rate of 60% is adequate for analysis and a good representation of the population.

4.2.2. Distribution of Respondents by Gender

Table 4 show that 67.4% of the respondents were male while 32.6% were female.

Table 4: Distribution of Respondents by Gender

		Frequency	Percent
Valid	Male	120	67.4
	Female	58	32.6
	Total	178	100.0

Source: Research Data

4.2.3. Distribution of Respondents by Age

Figure 5 indicate that the average age of the respondents is 43.33. The youngest is 26 years old while the oldest is 67 years.

Figure 5: Histogram showing Distribution of Respondents by Age
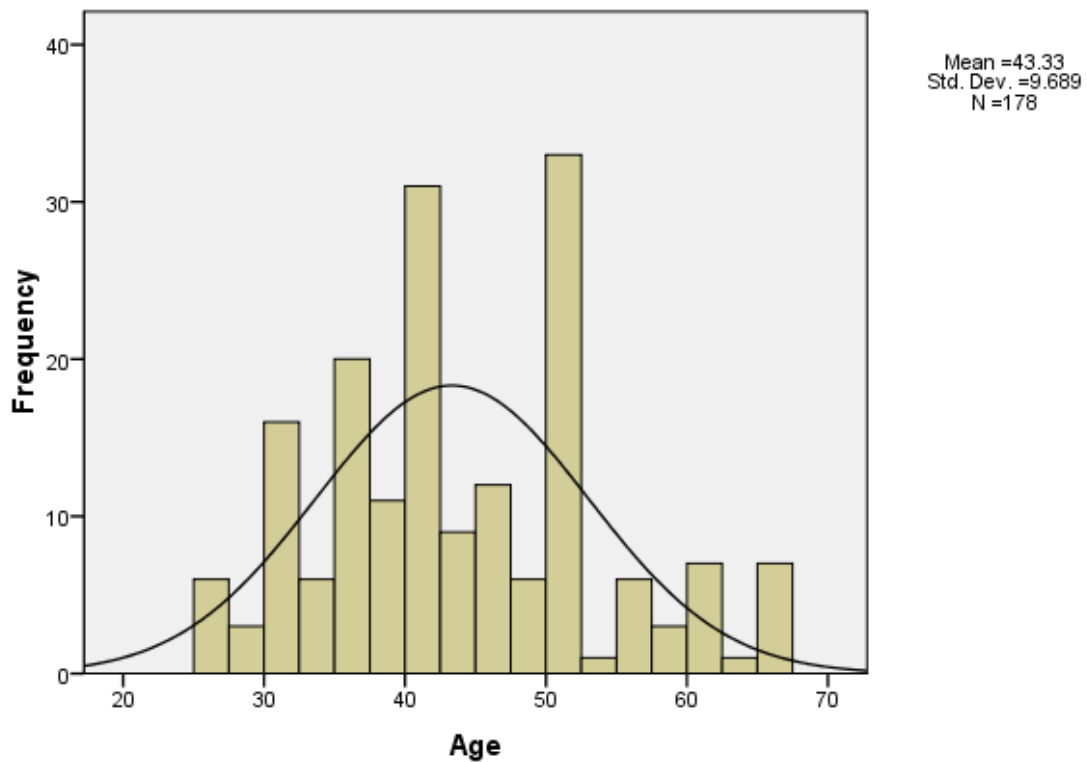
Source : Research Data

4.2.4. Distribution of Respondents by level of education

The respondents were asked to indicate their highest level of education and the findings are as stipulated in table 5 and figure 6. From the findings, 34.8% have Doctorate Degree, 57.9 % have Master Degree while 7.3% have Bachelor Degree. This implies that the respondents were highly skilled in their areas of specialization hence more likely to adopt an innovation and used as a predictors of eLearning readiness (Rogers, 2003).

Table 5: Distribution of Respondents by level of education

Level of Education	Frequency	Percent
Bachelor	13	7.3
Master	103	57.9
Doctorate	62	34.8
Total	178	100.0

Source: Research Data

Figure 6: Distribution of Respondents by level of education

Source: Research Data

25
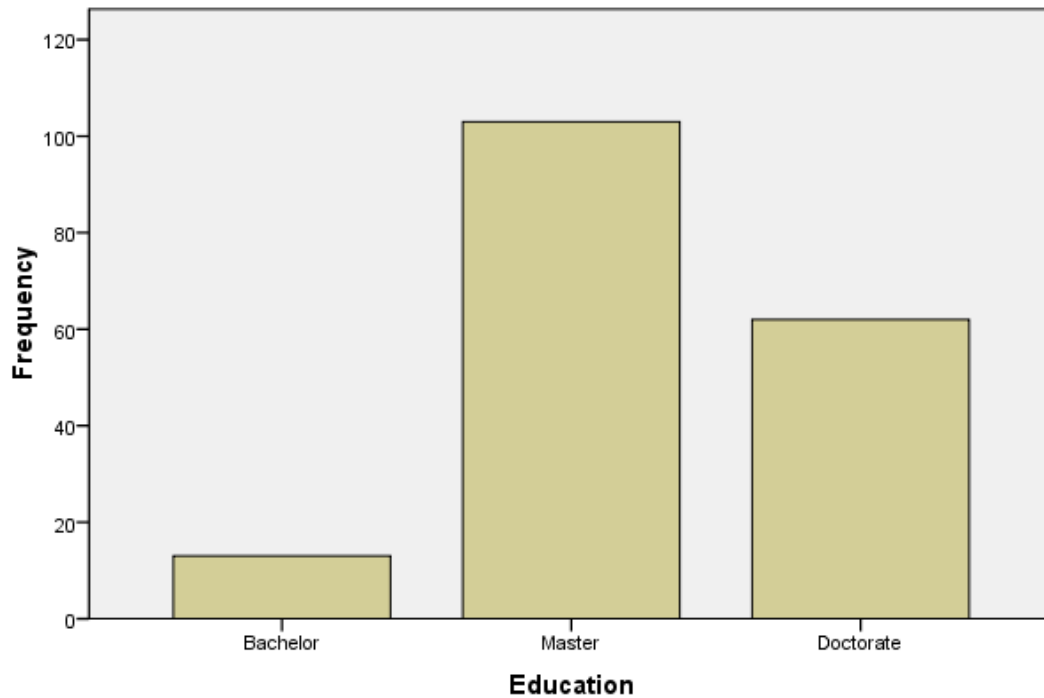
4.3 Results for ELearning Readiness

4.3.1 Findings in Demographic Factors readiness

An independent sample t-test analysis was conducted to test if gender makes a difference in the lecturers eLearning readiness. The results in table 6 indicate that female have higher score with a mean of [M_f=4.43] while male mean have a mean score of [M_m4.26], however, the difference between the male and female score is not statistically significant.

Table 6: T – Test result for gender eLearning Readiness

	Gender	N	Mean	Std. Deviation	Std. Error Mean	df	Sig. (2-tailed)
Readiness	Male	120	4.26	1.000	.091	135.143	.223
	Female	58	4.43	.819	.108		

Source: Research Data

Table 7:Statistics items related to respondents factor

	Items	M	SD
1	I have experience with technology based training (e.g. Computer based training, Multimedia based learning, Video Cassettes etc.	3.70	1.182
2	I am willing to collaborate and share information and knowledge through eLearning	4.04	.994
3	I know the basic functions of computer hardware components (CPU and monitor) and its peripherals like the printer, speaker, mouse etc.	4.31	.046
4	I have Microsoft office suite (e.g. Ms. Word, Excel, PowerPoint) installed in my computer and I use them confidently	4.22	1.092
5	I know how to use asynchronous tools (e.g. discussion boards, chat tools) effectively	3.90	1.074
	Overall Mean	**4.034**	

Source: Research Data

Table 7 displays mean scores and standard deviation for questions related to the respondents technical skills and knowledge in use of ICT . From the results, the respondents mean score for experience with technology based training is [M=3.7] this is lower compared to other factors. The results also show that the respondents are willing to collaborate and share information and knowledge through eLearning [M_{cl}= 4.04 > M_{elr} =3.4]. The respondents have skills on the basic functions of computer hardware components [M_{hw}=4.31], in addition, they can use Microsoft office suite confidently [M_{sw}=4.22].

The overall score for the items related to respondents factors is [M_d4.034 > M_{elr} = 3.4].From the results , there is an indication that the respondents are very ready and they have the basic skills required to use eLearning, what need to be done is training on how to use the eLearning tools and system.

4.3.2 Findings in Technology Readiness

The respondents were asked their technological readiness towards eLearning with regard to access to resources e.g. computers, laptops, and network infrastructure, this is because Learning is facilitated by the access to computers and availability of internet. They were also asked questions regarding their technical skills in the user of internet, online library and their attitude towards eLearning.

Table 8:Technology Readiness findings

	Mean	Technology Readiness findings in Percentage(%)				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Access to Computer	4.22	5.6	4.5	3.4	62	92
Infrastructure	3.38	13.5	15.7	14.6	32.0	24.2
Use of Internet	4.67	0	0	0	33.1	66.9
Use of Online Library	4.25	1.1	7.9	7.3	32.0	51.7
Have Information	4.07	3.4	4.5	13.5	39.3	39.3

Incorporation	4.37	1.1	1.1	11.8	32.0	53.9
Recommend	4.28	1.1	0	14.0	39.3	45.5
Overall Mean	**4.17**					

<center>Source: Research Data</center>

From the findings, the majority of the respondents agree to a great extent that they have access to either a desktop computer or a laptop [M=4.22]. In addition, the respondents indicated that the IT infrastructure at the University is not reliable enough to support the eLearning [3.38], this mean score is below the expected readiness level for eLearning [M_i =3.38 < M_{elr}=3.4] .On the other hand, 66.9 % of the respondents strongly agree that they use internet as a source of information and 51.7 % also strongly agree that they have skills to access online library and other resource databases.

Although the overall mean score for technology readiness is higher than the expected level of readiness [M_t =4.17 > M_{elr}=3.4], the network infrastructure is not reliable enough to support eLearning

4.3.3 Findings in Content Readiness

The study further sought to establish whether the respondents had their teaching materials available in eLearning system, if they have attended eLearning trainings and if there is need for more training on eLearning. Table 9 illustrates that; only 16.9% of the respondents strongly agree that their teaching materials are available in the eLearning system, 33.1% agree that they have attended a training on eLearning; 48.3% agree that they have basic skills on ICT skills required to use the system and 52% strongly agree that they need to more training on how to use eLearning system.

Table 9: Content Readiness findings

	Mean	Content Readiness findings Percentage(%)				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Teaching Materials on eLearning	3.08	12.9	24.2	21.3	24.7	16.9
Have Attended eLearning Training	2.94	26.4	17.4	7.3	33.1	15.7
Have basic ICT Skills required	3.94	6.7	3.4	12.4	48.3	29.2
Need more Training	4.15	5.6	5.6	9.6	27.0	52.2
Overall Mean	**3.52**					

Source: Research Data

From table 9 it can be observed that mean of teaching materials availability on eLearning is lower than the expected readiness level [M_{tm}=3.08 < M_{elr}=3.4]; the mean for the respondents who have attended eLearning training is also lower than the expected readiness level (M_{tr}=2.9 < M_{elr}=3.4) and mean for the respondents having basic ICT Skills required to use the eLearning system is higher than the expected level of eLearning readiness (M_s=3.9 >M_{elr}=3.4).

The overall Mean for content readiness is higher than the expected level of eLearning readiness [M_c =3.52 > M_{elr}= 3.4]. Based on this result, it can be inferred that the respondents are ready for eLearning, although they need more training need to carried out.

4.3.4 Findings in Culture Readiness

This section asked the respondents their view on the following; ease of use of the eLearning tools, if they believe that eLearning can improve quality of their teaching, if the University policies have made it possible to explore eLearning, if there is enough management support in the implementation of eLearning, the institution's is willingness to invest in eLearning and finally if the intellectual property has hindered the use of eLearning. The results are as stipulated in table 10 and figure7.

Table 10:Culture Readiness Results

	Mean	Culture Readiness findings in Percentage (%)				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Find it easy to use eLearning tools	3.60	6.2	12.4	18.0	42.7	20.8
eLearning Can Improve Quality of teaching	3.98	3.4	4.5	16.3	42.7	33.1
The Policies have made it possible to explore eLearning	3.53	9.6	7.3	27.5	24.2	24.2
There is adequate Management support to eLearning	3.66	5.1	5.1	31.5	35.4	23.0
The University is willing to Invest in eLearning	3.52	5.6	14.6	30.9	19.7	29.2
Intellectual Property hinder the use of eLearning	3.33	9.6	9.0	43.3	15.7	22.5
Overall Mean	**3.6**					

Source: Research Data

The results show majority (42.7%) of the respondents agree that that they find it easy to use eLearning tools [M=3.60] .In addition the respondents agree that eLearning can enhance quality of their teaching [M=3.98]. They also agree that there is adequate Management support to eLearning [3.66], but majority are neutral on the University is willing to invest in eLearning [M=3.52], the University policies making it possible to explore eLearning [M=3.53] and the influence of intellectual property on the use of eLearning [M=3.33].From table 8 it can be observed that the overall mean is higher than the expected eLearning readiness level [M_c= 3.6 > M_{elr} =3.4].

Figure 7: Graphical Presentation of Culture Readiness
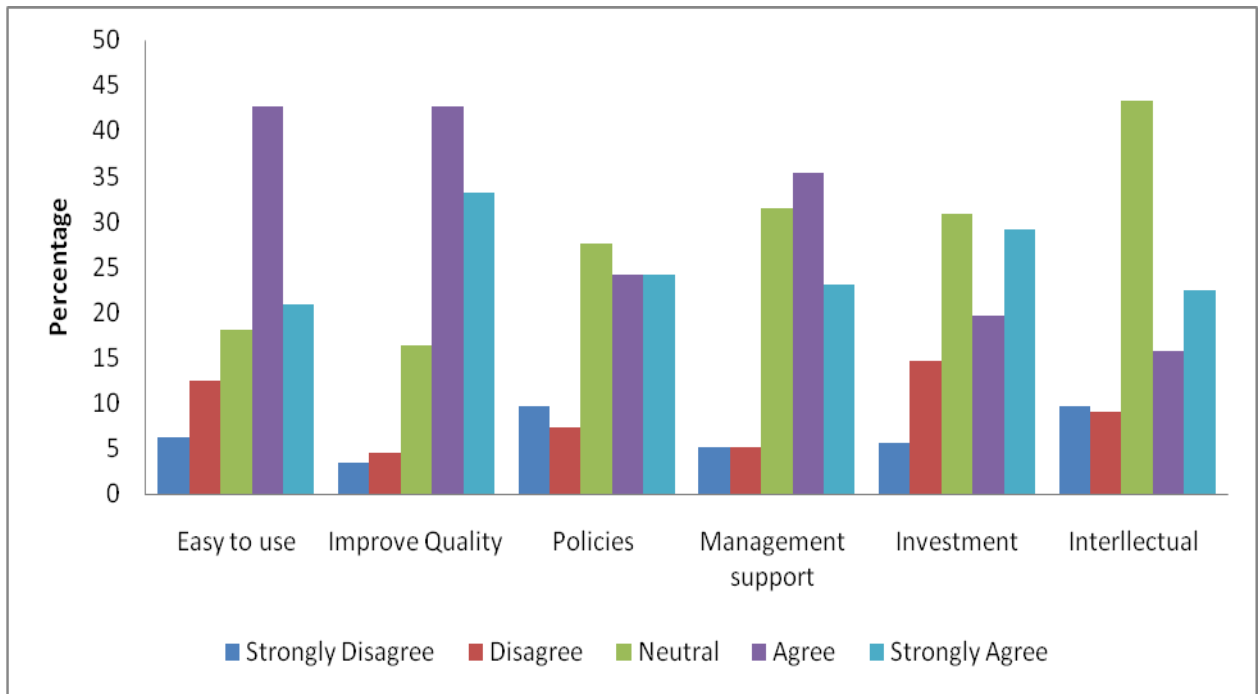
Source: Research Data

### 4.3.5 Findings on ELearning Readiness

The respondents personal commitment and readiness for eLearning was tested. They were required to answer questions to find out whether they were ready to move beyond a predominant reliance on classroom training. Their view on design of eLearning content and finally their view on technology as a critical factor on eLearning readiness. The results in table 11 indicate that the lecturers are highly ready with a mean of 4.3, this is higher than the expected level of readiness [Ml_r=4.3 >M_{elr} =3.4]. In addition, 49.4 % strongly agree that technology is important factor in eLearning readiness. This finding is in line with (Rogers, 2003) finding that technology is one of the factors that can effectively be used to adapt technological innovation in an organization. The overall mean score for ELearning readiness is 3.95 which is higher than the expected level of readiness (M_r= 3.95 > M_{elr}=3.4).

Table 11: ELearning Readiness Results

	Mean	ELearning Readiness Results in Percentage(%)				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Personal commitment to eLearning	4.04	3.9	3.9	11.8	44.9	35.4
Experience with technology based training e.g. Multimedia, Video Cassettes	3.63	9.0	11.8	13.5	38.8	27.0
Design of the eLearning content is important for attracting users.	3.63	3.4	4.5	18.5	18.5	32.6
Technology is the most critical readiness factor in eLearning.	4.14	5.1	6.7	6.7	32.0	49.4
Ready to move beyond a predominant reliance on classroom training to eLearning approach .	4.31	2.8	2.2	10.1	30.3	54.5
Overall Mean	**3.95**					

Source: Research Data

Figure 8:Graphical Presentation of eLearning Readiness
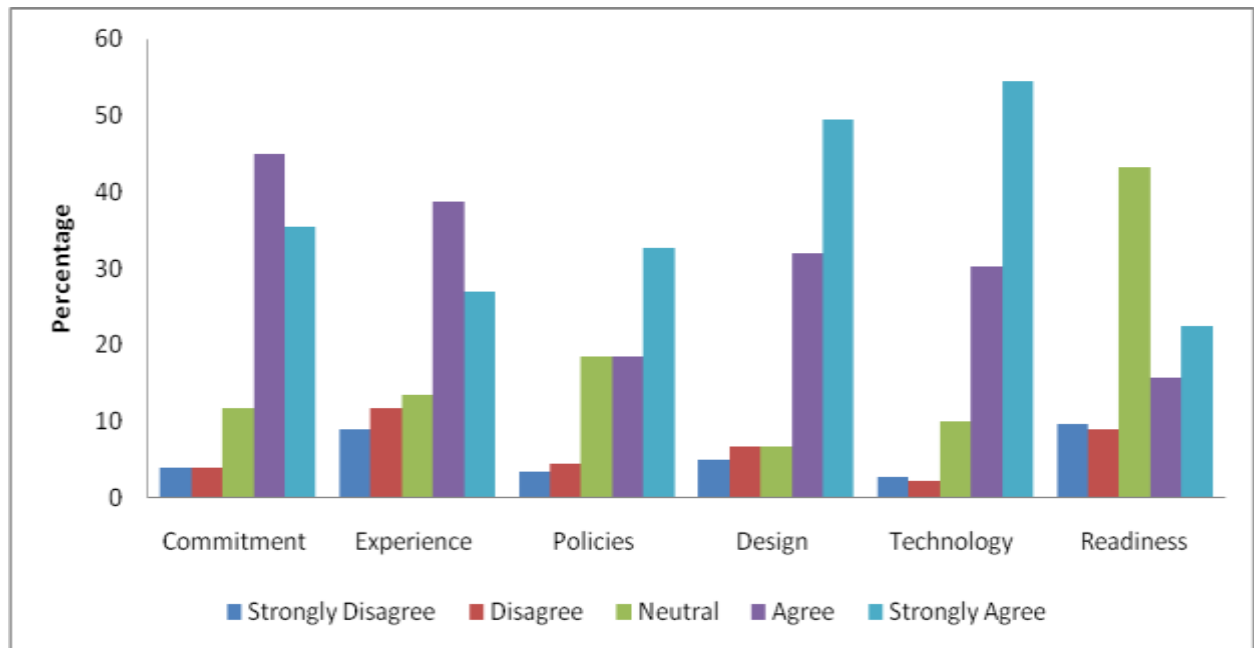
Source: Research Data

4.4 Model Summary

The study conducted a regression analysis to determine the factors that influence the eLearning readiness and also test the model that was developed. The researcher applied the statistical package for social sciences (SPSS V 16.0) to code, enter and compute the measurements of the regressions for the study. The study utilized the mean scores data based on each variable. Below are the results from the model

Table 12: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.625[a]	.391	.369	.703

a. Predictors: (Constant), Education, Technology Readiness, Gender, Content Readiness, Age, Culture Readiness

b. Dependent Variable: ELearning Readiness

Source: Research Data

Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (ELearning readiness) that is explained by all the independent variables (gender, age, education level, technology readiness, content readiness, and culture readiness).

The six independent variables studied, explain 39.1% of the eLearning readiness of lectures from the University of Nairobi as represented by the R^2 in table 12. The standard error of the estimate (0.703) for regression measures the amount of variability in the points around the regression line. It is the standard deviation of the data points as they are distributed around the regression line. The results indicate that there are other variables that influence eLearning readiness and they to the remaining 60.9%.

Table 13: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	54.201	6	9.034	18.271	.000[a]
	Residual	84.546	171	.494		
	Total	138.747	177			
a. Predictors: (Constant), Education, Technology Readiness, Gender, Content Readiness, Age, Culture Readiness						
b. Dependent Variable: ELearning Readiness						

Source: Research Data

The Analysis of Variance (ANOVA) was used to check how well the model developed fits the research. The F statistic is the regression mean square (MSR) divided by the residual mean square (MSE). The F significance value is 0.000, which is less that 0.05 thus the model, is statistically significant in predicting eLearning readiness of lectures from the University of Nairobi.

Table 14: Coefficients

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Comment
		B	Std. Error	Beta			
β	(Constant)	2.082	.392		5.315	.000	Significant
x_1	Technology Readiness	.450	.048	.566	9.395	.000	Significant
x_2	Content Readiness	.000	.048	.001	.009	.993	Not Significant
x_3	Culture Readiness	.163	.054	.209	3.039	.003	Significant
x_4	Gender	.004	.118	.002	.031	.975	Not Significant
x_5	Age	4.941E-5	.006	.001	.008	.994	Not Significant
x_6	Education	-.094	.093	-.063	-1.012	.313	Not Significant

a. Dependent Variable: ELearning Readiness

As per the SPSS generated table above, the equation

$Y = \alpha + \beta 1 x_1 + ... + \beta k x k + \varepsilon$ become:

$Y = 2.082 + 0.450 x_1 + 0.163 x_3 + 0.004 x_4 + 0.0000495 x_5 + -0.094 x_6 + \varepsilon$

The multiple linear regression model indicates that the five independent variables have positive β coefficients while only one has a negative β coefficient. According to the regression equation established, technology readiness, content readiness, culture readiness, gender, age, and education level at a constant of Zero, the ELearning readiness will be 2.082.

The data findings analyzed also shows that taking all other independent variables at zero, a unit increase in technology readiness will lead to a 0.450 increase in eLearning readiness, a unit increase in Content Readiness will lead to a 0.000 increase in eLearning readiness, a unit increase in Culture Readiness will lead to a 0 .163 increase in eLearning readiness.

At 5% level of significance and 95% level of confidence, technology readiness had a 0.0000 level of significance; content readiness had 0.993 while culture readiness had 0.009 level of significance. The most significant factor in ELearning readiness is technology readiness followed by culture readiness. Content readiness and demographic factors; age, gender and level of Education had no any significance in eLearning readiness of the lectures.

4.5 Discussion of Findings

4.5.1. ELearning Readiness at University of Nairobi

From the study findings, majority of the respondents are ready for eLearning [M=4.3] . In addition, they are personally committed to eLearning [M=4.04], have experience with technology based training [M=3.63], and are ready to move beyond a predominant reliance on classroom training to eLearning approach [M=4.31].This finding is in line with Muganda (2006) research that the academic staff from the University have a positive attitude towards eLearning.

4.5.2. Factors that influence eLearning Readiness

From the findings, majority of the respondents agreed to a great extent that technology is the most critical factor in eLearning readiness adaptation [M=4.14], however they noted that IT infrastructure at the University is not reliable enough to support the eLearning [M=3.38].They also have access to either a desktop computer or a laptop [M=4.22], they use the internet [M=4.6] and online library [M=4.25] as a source of information and teaching materials. Majority of the respondents did not have their teaching materials available online [M=3.08]. This might have been contributed to the fact that only a few have attended the eLearning trainings [M= 2.94], in addition, they strong agree that they need more training on eLearning [M=4.15]. Being that majority have basic ICT skills required to use eLearning[M=3.94], they will quickly learn how to convert their teaching materials into the required mode.

The Culture readiness was to test the respondents perception ; usefulness and ease of use and management support towards the adaptation of the eLearning in the institution. The results indicate that respondents find it easy to use the eLearning system that is already in use [M=3.6], and they know that the use of eLearning can improve the quality of their teaching [M=3.98]. They also agree that there is adequate management support [M=3.66] and the management is ready and willing to invest on eLearning [M=3.52]. However, the intellectual property hinder the respondents use of eLearning [M=3.33].

4.5.3. ELearning Readiness Model Developed

The proposed eLearning readiness model has six independent variables; age, gender, level of education, technology readiness, culture readiness and content readiness. The results from the regression analysis indicate that the model explain 39.1% of eLearning readiness of the respondents, this is an indication that there are some more variables that influence eLearning readiness and yet are not included in this study . The demographic factors; age [0.994], gender [0.975] and level of education [0.313] had no significance in eLearning readiness of the lectures. However, the eLearning model is statistically significant with F value of 0.000 and hence can be used to predict the eLearning readiness of the respondents.

Figure 9:ELearning Readiness Assessment Model
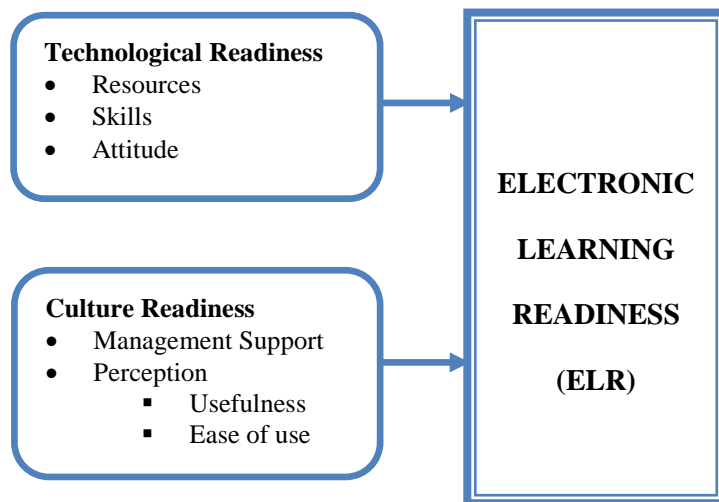
Source: Research Data

The model developed from this research project has technological readiness and culture readiness, this research established that they were the most significant variable in determining the lectures eLearning readiness.

CHAPTER FIVE:
SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

This chapter gives a summary of the whole survey. The findings are based on the objectives of the study which were to, develop eLearning readiness assessment, carry out a diagnostic eLearning readiness assessment of lecturers and determine the factors that influence eLearning readiness. The recommendation given on the study will be of great help to institutions of higher learning, specifically University of Nairobi.

5.2. Summary of the Findings

The study had three objectives; develop an eLearning readiness assessment model, carry out a diagnostic eLearning readiness assessment, and determine the factors that influence eLearning readiness in Kenya's Higher Education Institutions.

The study used a stratified sample technique in coming up with the sample for the study. The study used questionnaires as the instrument for data collection. The quantitative data was analyzed using descriptive statistics with the help of Statistical Package for the Social Sciences (SPSS). From the research project a model for assessing lectures eLearning readiness was developed, the results indicate that the model is statistically significant and can be used to assess the lecturers eLearning readiness. The results also show that technological readiness of is the most important factor in eLearning readiness followed by culture readiness. Content readiness and demographic factors had no significance in determining eLearning readiness.

In addition, the findings indicated that the technological readiness of lectures is high; they have access to computers, use the internet and have access to online library resources. However, the lecturers do not have their teaching materials available on the eLearning platform this is because they have not attended any training on how to convert their notes to the required mode and also because of intellectual property.

5.3. Conclusions

From this study, a model for assessing eLearning readiness was developed, the analysis indicate that the model explains 39.1% of the respondents eLearning readiness. The research also identified technology readiness and culture readiness as factors that influence the lectures eLearning readiness. An ELearning readiness assessment was conducted and the research findings established that the lecturers are ready for eLearning [Mr = 3.95 > Melr = 3.4]. The University of Nairobi management should therefore invest quickly on eLearning and ensure that it is fully implemented in the institution.

Content readiness and demographic factors; age, gender and Level of education were not statistically significant in this study. This finding concurs with (Mogikoyo, 2007) findings on Videoteleconferencing (VTC) adoption in higher education in Kenya. However, this finding does not agree with, (Rogers, 2003) findings that individuals who have a level of higher education are more likely to adopt an innovation and hence can be used as a predictors of eLearning readiness.

This study does not represent the overall picture of eLearning readiness of Institutions of higher learning in Kenya as the sample involved are from only one university. However, it can provide some insights into the of eLearning readiness among lectures from the University of Nairobi. Since the model is statistically significant it can be used by other institutions of learning from primary schools, secondary schools and other Universities.

5.4. Recommendations

It is recommended that the University management should invest very fast on eLearning by improving the IT Infrastructure and organizing more training on eLearning content development. The model that was developed out of this research can be used by other institutions of learning in assessing their eLearning readiness.

5.5. Limitations of the study

The research findings cannot be applied in other institutions of higher learning; this is owing to the fact that different learning institutions have different level of technological readiness, Culture readiness, and Content readiness therefore, the model that has been developed cannot be used across all other Universities , the models validity is therefore questionable.

The study only used questionnaire to collect the primary data, it did not use any qualitative data collection method which could have helped in getting more information from the respondents. The study faced challenges in collecting back the questionnaires and as a result only 178 (60.5%) out of 296 questionnaires were returned.

5.6. Suggestion for further studies

Since this study explored the eLearning readiness of the lectures the study recommends that;

i. Similar study should be done for students and administrative staff who work in institutions of higher learning.

ii. The ELearning model developed can be enhanced to include other factors that measure eLearning of readiness and were not considered in this study.

iii. The research can be carried out across other Universities and assess how ready they are for eLearning.

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APPENDICES

Appendix 1: Research Project work plan

Appendix 2: ELearning readiness models

Appendix 3: ELearning readiness questionnaire

Appendix 1: Research Project work plan

TASKS TO BE PERFORMED	DURATION APRIL TO OCTOBER 2013						
	April	**May**	**June**	**July**	**August**	**September**	**October**
1. Finalize research proposal and submit for clearance	■						
2.Develop and translate questionnaires		■					
3. Presentation of project proposal			■				
4.Distribute questionnaire to the respondents			■				
5. Data Collection				■			
6.Process data and make interpretation					■		
7. Data Analysis						■	
8.Report writing on findings and recommendations						■	■

Appendix 2: ELearning readiness models

Chapnick (2000)	Borotis and Poulymenakou (2004)	Kaur and Abas (2004)	Psycharis (2005)	Pfaus (2004)	EIU and IBM (2003a)	Haney (2002)	McNaught (2003)	Armatas, Hartley and Thurstun (2003)	Kropman , Schoch and Teoh (2004)	Aydin and Tasci (2005)	Guglielmino and Guglielmino (2003)
	Business Readiness		Entrepreneurial Readiness	Government initiatives							
Equipment readiness	Technological Readiness	Technical Readiness	Technological Readiness		Connectivity	Information Technology		Ease of accessing internet	Technical Readiness	Access to Computers and Internet	Technical Readiness
Technological skills (aptitude) readiness											
Content readiness	Content readiness	Content readiness	Readiness of content	Partnership between e-learning producers and consumers	Content	Content	Content				
	Training process Readiness									Ability to learn via/ with technology, ability to use computer and internet	
	Culture readiness	Cultural readiness	Readiness of culture		Culture						
Environmental readiness		Environmental readiness									
Human resources readiness	Human resources readiness	Personnel Readiness	Human resources readiness		Capability	Human Resources				Experienced HR specialist	
Financial readiness	Financial readiness	Financial readiness	Economic readiness			Finance				Budget	

Chapnick (2000)	Borotis and Poulymenakou (2004)	Kaur and Abas (2004)	Psycharis (2005)	Pfaus (2004)	EIU and IBM (2003a)	Haney (2002)	McNaught (2003)	Armatas, Hartley and Thurstun (2003)	Kropman, Schoch and Teoh (2004)	Aydin and Tasci (2005)	Guglielmino and Guglielmino (2003)
Psychological readiness (individual)		Learner Readiness				Learner			Personal Readiness	Positive attitude toward use of technology openness to innovations, Ability to adopt innovations	Psychological readiness (individual)
Sociological readiness (interpersonal)				Collaboration between corporation, industry and government							
		Management Readiness	Leadership readiness							An e-learning champion	
						Learning Management System					
			Educational Readiness							Self-Development	Self – directed Learning
						Vendor				Vendor	
										Demographics factor such as age , gender, education level	

Serial No: _____

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS

Invitation to Participate in Research survey on eLearning Readiness of Lecturers from the University of Nairobi

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My name is **Ms. Hada Achieng Oketch**, a Master of Business Administration (MBA) student at University of Nairobi, School of Business. As part of my course requirements, I am undertaking   a research project to determine eLearning readiness of lectures from the University of Nairobi.

You have therefore been identified to participate in the survey because of your strategic position and the value of information that you have that will be useful in this research.

Kindly take a few minutes and fill the questionnaire that will take approximately fifteen minutes. The questionnaire consists of Five (5) sections and is purposely made for gathering information for academic research only. Your answers will be appreciated and treated with confidentiality it deserves.

Thank you very much for your time and support.

Instructions

If you have questions about the survey, you may contact **Ms. Hada A. Oketch** by email or phone call as specified below.

hoketch@uonbi.ac.ke

0721-398783

SECTION I: Respondents Demographic Details

1. **Gender**
   ☐ Male
   ☐ Female

2. **Age** (e.g. 29, 40, 50 years)

   _____

3. **Highest Educational Level**

   ☐ Doctorate Degree
   ☐ Master Degree
   ☐ Bachelor Degree

4. **College**
   ☐ College of Agriculture and Veterinary Sciences (CAVS)
   ☐ College of Architecture and Engineering (CAE)
   ☐ College of Biological and Physical Sciences (CBPS)
   ☐ College Of Education and External Studies (CEES)
   ☐ College of Health Sciences (CHS)
   ☐ College of Humanities and Social Sciences (CHSS)

5. **Current / previous Managerial Position at the University**

   ☐ Vice Chancellor   ☐ Deputy Vice Chancellor
   ☐ Principal   ☐ Director
   ☐ Dean   ☐ Head of Department
   ☐ Others (Specify) _____

6. **Number of Years worked at the University**

   _____

SECTION II: E-LEARNING READINESS

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
i	I am committed , personally to eLearning	☐	☐	☐	☐	☐
ii	I have experience with technology based training (e.g. Computer based training, Multimedia based learning, Video Cassettes etc)	☐	☐	☐	☐	☐
iii	I am willing to collaborate and share information and knowledge through eLearning	☐	☐	☐	☐	☐
iv	The design of the eLearning content is important for attracting and keeping lecturers using the system	☐	☐	☐	☐	☐
v	Technology is the most critical readiness factor in eLearning	☐	☐	☐	☐	☐
vi	I am ready to move beyond a predominant reliance on classroom training to a more balanced approach with eLearning?	☐	☐	☐	☐	☐

SECTION III: CONTENT

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
i	My teaching materials are available in eLearning system	☐	☐	☐	☐	☐
ii	I have attended training on eLearning offered at the college	☐	☐	☐	☐	☐
iii	I have the basic ICT skills that will enable me to feel at ease with eLearning	☐	☐	☐	☐	☐
iv	I need more training for eLearning content development	☐	☐	☐	☐	☐
v	Which of the following areas related to eLearning would you be interested in learning ☐Content management ☐Audio visual /Video and Audio learning ☐E-Content Development ☐Pedagogy ☐Assessment ☐Others (Please Specify)_____					

SECTION IV: TECHNOLOGY

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
	Access to Resources (Computer and Internet)					
i	I have access to a dependable computer / Laptop	☐	☐	☐	☐	☐
ii	The IT infrastructure is reliable and can support e-learning	☐	☐	☐	☐	☐
	Technical Skills on use of Computer and Internet					
i	I know the basic functions of computer hardware components (CPU and monitor) and its peripherals like the printer, speaker, mouse etc.	☐	☐	☐	☐	☐
ii	I have Microsoft office suite (e.g. Ms. Word, Excel, PowerPoint) installed in my computer and I use them confidently	☐	☐	☐	☐	☐
iii	Do you use internet as information source?	☐	☐	☐	☐	☐
iv	Do you have an email address and can open / send an email with file attachments	☐	☐	☐	☐	☐
vi	Can use web browser (e.g. Internet Explorer, Google Chrome, Mozilla Firefox) confidently	☐	☐	☐	☐	☐
vii	I know how to access an online library and other resource database	☐	☐	☐	☐	☐
viii	I know how to use asynchronous tools (e.g., discussion boards, chat tools) effectively	☐	☐	☐	☐	☐
	Lecturers Attitude towards eLearning					
i	I have information on what eLearning is	☐	☐	☐	☐	☐
ii	Are currently making use of eLearning?	☐	☐	☐	☐	☐
iii	Is In- cooperation of eLearning into teaching system is a wise move?	☐	☐	☐	☐	☐
iv	Do you feel that you are ready to integrate eLearning in teaching?	☐	☐	☐	☐	☐
vi	Would you recommend eLearning as one of the alternatives for the traditional teaching and learning approach	☐	☐	☐	☐	☐
vii	Are you willing to devote more time to eLearning.	☐	☐	☐	☐	☐
viii	Are you highly motivated and Enthusiastic about eLearning	☐	☐	☐	☐	☐

SECTION V: CULTURE

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
i	I find it easy to use eLearning tools	☐	☐	☐	☐	☐
ii	My interaction with eLearning tools is clear and understandable.	☐	☐	☐	☐	☐
iii	I find eLearning system flexible to interact with	☐	☐	☐	☐	☐
iv	ELearning motivates me to learn	☐	☐	☐	☐	☐
v	ELearning can improve the quality of my teaching	☐	☐	☐	☐	☐
vi	I believe that using eLearning can increase my productivity	☐	☐	☐	☐	☐
vii	I believe that eLearning is useful for my research	☐	☐	☐	☐	☐
viii	ELearning enable me accomplish my teaching more effectively than the traditional classroom based approach	☐	☐	☐	☐	☐

Management Support		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
i	The Organizations policies have made it possible to explore eLearning	☐	☐	☐	☐	☐
ii	The eLearning initiative is aligned with the institution's mission and vision	☐	☐	☐	☐	☐
iii	My head of department support the use of eLearning.	☐	☐	☐	☐	☐
iv	The department is willing to accept eLearning as a mode for teaching and learning	☐	☐	☐	☐	☐
v	My department is willing to invest in eLearning technology	☐	☐	☐	☐	☐
vi	Lack of legal provision on Intellectual property has hindered my plans to use eLearning	☐	☐	☐	☐	☐
vii	**Other Comments:** Your personal opinions, perceptions and suggestions relating to eLearning readiness are appreciated):_____ _____					

Thank you for your valuable inputs. They will go a long way in helping in this research project.