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ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
SCHOOL OF INFORMATION SCIENCE

ASSESSMENT OF E-LEARNING READINESS OF ASSOSA UNIVERSITY

By

YENEWORKE BELAYNEH

OCTOBER, 2017

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DEDICATION

I would like to dedicate this paper to Virgin Mary with her son for their endless help and blessings in every activities of my life. Everything can possible by them.

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List of Acronyms

HEI -----	Higher Education Institution
ICT-----	Information Communication Technology
E-Learning-----	Electronic Learning
IT -----	Information Technology
ELR -----	Electronic Learning Readiness
LMS-----	Learning Management System
ASU-----	Asossa University
SPSS-----	Statistical Package for Social Sciences
ECBP -----	Ethiopian Engineering Capacity Building Program
TVET-----	Technical and Vocational Education Training
DOI -----	Diffusion of Innovations
CBAM -----	Concerns Based Adoption Model
WWW-----	World Wide Web
HR-----	Human resources
E-ready-----	Electronic ready
Admin -----	Administrator
AVP	Academic Vice President
Dir-----	Director
CS-----	computer science
IS -----	Information science
IE -----	Internet Explorer
MS-Excel -----	micro soft excel
LEPSQ-----	Lecturer E-learning Perceptual Survey Questionnaire
Std.Dev-----	standard deviation
MO-----	over all mean
Mler-----	mean of level of e-learning readiness

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ABSTRACT

As e-learning is becoming useful to learning institutions, assessing higher learning institutions' readiness is essential. The purpose of this research was to assess e-learning readiness of Asossa University (ASU). The data collected from administrators, teachers, students, ICT experts and library director. Descriptive research was used to obtain information concerning the level of e-learning readiness. A census was employed on ICT experts whereas stratified proportional sampling and purposive sampling was applied on the remaining target populations. Questionnaires and interviews were used in this survey and out of 316 distributed questionnaires 197 are returned. The response rate was 62.34%. Research findings showed that teachers regarding to technology access and attitudes towards a successful online teaching, students regarding to attitudes towards a successful online learner, administrators regarding to administrative support and ICT experts regarding to their responsibility are ready but needs improvements. The remaining assessments are not ready needs more work. As conclusion, even if there are some readiness that motivates to think beyond on the implementation of e-learning, there are also factors that are not ready to it. This thesis recommended that to university management and responsible body motivate to do more on e-learning by improving the factors which is ready but needs improvement and on the other hand factors which are not ready that requires more work. The government also pay attention for e-learning and its readiness to solve the problems that occur there.

Chapter One

1.1. Introduction

The evolution of technology addresses the gaps in teaching and learning process. There is a common understanding that the twenty -first century will be a more globalized and knowledge based era. The advancements in information and communication technologies (ICTs) have concluded in a new dynamics of teaching and learning, and are providing new ways of interacting and learning (Navani & Ansari, 2016).

E-learning is the use of technology to enhance teaching and learning activities. The main purpose of e-learning is to increase accessibility of education and reducing costs. It also increases productivity while enhancing independent learning ((Doculan,2016). According to his study the approach of learning facilitates students at different universities to attend the same classes at the same time in different place. It also creates economic benefits, and makes lifelong learning opportunity for all. E-learning is a learning process which aims to create an interactive learning environment based on the use of computers and internet. Through e-learning, learners can access resources and information from anywhere and at any time.

In the advancements of 21st century, integrating the learning-teaching practices to the latest information and communication technologies would be indisputable to achieve high results in learning and educational process. E-learning system is a capable system for educational systems, especially for interactive activities which is increasing among students all over the world for improving their knowledge (Tesfalidet & Nirmala, 2015).

E-learning readiness can be defined as the assessment of how ready an institution is to adopt and implement e-learning. It is “the mental or physical preparedness of an individual for some e-learning experience or action” ((Mosa, Mahrin, & Ibrahim, 2016). In higher education in particular application of ICTs in the form of e-learning is already changing teaching learning processes (Hirut, 2011). E-Learning Readiness (ELR) is also defined as “those factors that must

be accomplished before e-learning implementation can be regarded as being successful” (Odunaike as cited in Mosa et al.,2016). ELR assessment helps an organization to design e-learning strategies comprehensively. Learners and teachers must also be e-ready so that an achievable strategy may be implemented. ELR assessment provides key information to organizations that are willing to supply e-learning solutions. Many higher education institutions have expressed an interest in implementing e-learning, and e-learning readiness is a critical aspect in achieving successful implementation. Higher education institutions should therefore assess their readiness before initiating an e-learning Project (Rasouli, Rahabania & Attaran, 2016). E-learning readiness involves many components of e-learning, including students, lecturers, technology and the environment, which must be ready in order to formulate a coherent and Achievable strategy (Memene & Simmons, 2015).

1.2. Statement of the Problem

The exponential growth of Information Communication Technology (ICT) has made learning to happen very quickly in the information society. Keeping pace with this change requires new thinking about how we acquire knowledge and skills as well as how we develop learning resources. As a result, the advent of ICT and the Internet has greatly influenced the teaching learning process and the way knowledge is conveyed (Makori, Ndirangu & Ogola, 2013). The successful implementation of e-learning is depend on successful delivery of contents, courses and training via electronic media including the Internet, intranets, extranets, satellite broadcast, audio/video tape, radio, interactive television, and compact disk read only memory. In addition to this, the successful implementation of e-learning depends on the extent to which the needs and concerns of the stakeholder groups involved. (Hirut, 2011). The stakeholder groups have an important role to play while working together towards the common goal of enhancing the overall learning experience. Administrators, ICT experts, library director, Students and teachers should participate as proactively as possible by giving feedback to improve future experiences and communicate the learning possibilities that e-learning creates (Wagner, 2008; Hirut, 2011).

According to Mulugeta (2015) adopting e-learning in Africa will increase education access and quality, as well as lower education cost. They also add, now there are an increasing number of

success stories with e-learning throughout African. Even though, e- learning is not a cure for all the problems related to education in Africa, it is clearly a tool that must be taken into serious consideration by policy makers and donors. Introducing e-learning technologies in primary, secondary, and higher education in Africa is clearly present many challenges. E-learning has been known to be a fundamental thing for the improvement of teaching learning process at Higher Education Institutions (HEIs) in Africa (Hirut, 2011; Mulugeta , 2015).

In Ethiopian HEIs, the teaching learning processes are conducted in traditional way that is face-to-face teaching. However, this way is prone to lots of drawbacks. Firstly, there is scarcity of manpower that could satisfy the demands of the education system. Secondly, the students are fully expected to avail themselves in the class room at the time of teaching. This means that teaching learning is limited to designated place, at a particular time and by known tutor. Thirdly, the traditional mode of teaching is costly regarding time and financial aspects. Fourthly, there is shortage of resources. The last problem of the traditional teaching learning process is, it takes more time than electronic learning (Hirut, 2011).

Therefore the motivation of this research is, ASU is found in remote area which faces so many problems that hinder its teaching and learning process as well as to be as competent and efficient as the old universities, having e-learning is the main solution of the problem. In order to start or adopt it, assessing the readiness of the university is the main intent of this research.

1.3. Research questions

The research seeks to answer the following questions;

- Which e-learning readiness assessment model is appropriate for Asossa University?
- What are the students', teachers', administrators', library director and ICT experts' attitude and awareness towards e-learning?
- How ready are university of Asossa communities for e-learning?

1.4. Objective of the research

1.4.1 .General Objective

The general objective of this research was assessing e-learning readiness of ASU.

1.4.2. Specific Objectives

The specific objectives of this study are:

- To review literature and understand the concept of e-learning readiness;
- To identify an appropriate e-learning readiness assessment model for the university;
- To assess technological availability in the university;
- To assess technological confidence and training of teachers and students in ASU;
- To assess attitudes towards a successful online teaching and learning of community;
- To assess ICT Infrastructure for a Successful e-learning implementation of institution;
- To assess financial, human and technical supports to start e-learning in the university;
- To assess administrative Support (Commitment and Policies) of institution;
- To recommend future research directions.

1.5. Significance of the Study

The study had a great significant for various reasons; the finding is useful to the University management and stakeholders; to know the University level of readiness in offer online education. Assessing readiness status helped to provide guidance for the policy makers in developing policies; they can also get to understand factors that affect e-learning successful implementation. The study helped to provide deeper understanding of e-learning system and to improve on the use of ICT in teaching, learning and sharing organizational knowledge. The study can enrich the existing body of knowledge specifically in ICT field, which can be valuable for researchers and practitioners for measuring readiness of institutions.

1.6. Scope and Limitation of the Study

The scope of the study has limited to assess the readiness of e-learning of ASU and the study would be more productive if it includes the adoption and implementation of e-learning.

During data collection as the university is very far from Addis Ababa it was very difficult for transportation and problematic to get the target populations for distributing the questioners. Besides, some of the candidates were unwillingness to fill it .Even it was so difficult to create awareness how to fill the questionnaires. Because of that, only 197 (62.24%) out of 316 questionnaires were returned.

1.7. Organization of the Thesis

The remaining part of the thesis is organized as follows:

Introduction of the research (chapter One)—this chapter includes Introduction, statement of problem, research question, objective, scope and significant of the study.

Literature Review (Chapter Two) – In this chapter, conceptualizing the basic ideas of learning, e-learning, e-learning readiness, different e-learning readiness models and appropriate model of the university. So this chapter attempts to give some overview, of learning, e-learning (advantage and disadvantage in educational institution), e-learning readiness according to different writers' point of view, and different model of e-learning readiness.

Methodology of the study (Chapter Three) - In this chapter, the methodology used to carry out the research is discussed. Data Analysis and Interpretation (Chapter four) - In this chapter, the whole analysis part have been discussed and the final chapter that is chapter five have been discussed the conclusion which includes the entire body of the research and it forwards some future directions on top of this study.

Chapter Two

Literature Review

2.1. Learning

Learning is defined as the acquisition, retention and application of knowledge, skills, attitude and ways of thinking. 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, e-learning, blended learning, mobile learning, and personalized learning. Teaching approaches and pedagogy used in HEIs are changing from the traditional method to a learner centered approach of teaching where the learner controls his or her learning (Oketch & Achieng, 2013). He indicated that there is low usage of ICTs for teaching and most HEIs often use ICTs for operational functions rather than instruction. 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 (Okinda, 2014).

2.2. E-Learning

E-learning encompasses a lot more than online learning, virtual learning, distributed learning, networked or web-based learning. As the letter “e” in e-learning stands for the word “electronic”, e-learning would incorporate all educational activities that are carried out by individuals or groups working online or offline, and synchronously or asynchronously via networked or stand-alone computers and other electronic devices (Oketch & Achieng, 2013).

According to Hirut (2011) different types of e-learning modalities that presented as follows:
Firstly, individualized self-paced e-learning online refers to situations where an individual learner is accessing learning resources such as a database or course content online via an Intranet or

Internet. A typical example of this is a learner studying alone or conducting some research on the Internet or a local network. Secondly, on the other hand individualized self-paced e-learning offline refers to situations where an individual learner is using learning resources such as a database or a computer-assisted learning package offline (i.e., while not connected to an Intranet or the Internet). An example of this is a learner working alone off a hard drive, a CD or DVD. Thirdly, group-based e-learning synchronously refers to situations where groups of learners are working together in real time via an Intranet or the Internet. It may include text-based conferencing, and one or two-way audio and videoconferencing. Examples of this include learners engaged in a real-time chat or an audio-videoconference. The fourth and the final is the group-based e-learning asynchronously which refers to situations where groups of learners are working over an Intranet or the Internet where exchanges among participants occur with a time delay (i.e., not in real time). Typical examples of this kind of activity include on-line discussions via electronic mailing lists and text-based conferencing within learning managements systems (LMS).

The term e-learning given different definitions that provide or defining by various authors and scholars some of them are as follows: According to Al-adwan and Smedley (2012) e-learning is all process, activities and technologies that can be support learning through ICT. E-learning referred to the intentional use of networked ICT in teaching and learning process. E-learning referred to as a “solitary, individual activity, or a collaborative group activity (where) both synchronous (real-time) and asynchronous (flexible-time) communication modes may be employed” (Romiszowski as cited Hirut, 2011). E-learning can be defined as a “wide set of applications and processes, which use available electronic media (and tools) to deliver vocational education and training” (Eklund as cited Hirut, 2011). E-learning refers to a means of education that integrates self-motivation, communication, Efficiency and technology (Comerchero as cited Hirut, 2011). E-learning is a delivery of content via all electronic media, including the Internet, intranets, extranets, satellite broadcast, audio/video tape, interactive TV, and CD-ROM (Trace and Weggen as cited Hirut, 2011). E-Learning is where the knowledge is delivered via electronic media including; computers, Internet, intranets, extranets, satellite broadcast, audio/video tape, interactive TV, CD-ROM (Oketch & Achieng, 2013). E-Learning is carried out in different ways, which is why writers speak about different models of e-learning.

E-Learning is considered as the appropriate tool for just-in-time accessible and ubiquitous approach to providing learning at a lower cost in developing countries (Olson et al., 2011). The way in which e-learning 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. 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. 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 (Mercado, 2008).

2.2.1. Advantages and Disadvantages of E-learning

2.2.1.1. Advantage of E-learning

According to Engholm (2001) advantages of e-learning strategies, and although type and scope of strategies may differ between and within organisations. The following advantages are commonly recognised by writers in the field.

Availability and flexibility

E-learning is available '24/7', 365 days a year. It is a 'just-in-time' approach to training and learning that facilitates flexibility and enables the learners to participate in an e-learning program from home, work or anywhere else as long as they have access to a computer and a network. The Internet allows people to receive virtually the same material in virtually the same way at the same or different times. E-learning solutions can also move from only a few participants to a few thousand participants with little effort or incremental cost - as long as the infrastructure is in place.

Cost efficiency

E-learning can cut learner costs such as accommodation and travel expenses, as well as organisational costs such as classroom hire, instructor hire and other material costs.

Speed and content

Because content is electronically delivered, it can be easier and faster to modify and update than if the material is delivered in other ways as often is the case in traditional classroom settings. This means that in situations where the primary objective is the rapid, efficient dissemination of knowledge, and where learning content is quickly changing, E-learning can be a successful alternative.

Appeal and involvement

It has been argued that Internet-based training and learning appeals more to learners due to the use of graphs, animations and live media that new developments in technology have made possible. E-learning is also seen to facilitate involvement, co-operation and learning. Thus, it is argued, e-learning has the potential to encourage active and constructive learning and deep processing of information, as well as evoking critical thinking, reasoning and goal-based learning.

Immediate feedback

Other advantages are mentioned in the literature, such as the possibility to get immediate feedback, integration with e-commerce strategies, the involvement and participation of customers, and less training time needed.

2.2.1.2 Disadvantages with E-learning

Farrell (as cited in Engholm, 2001) warns that E-learning might not be a suitable delivery method in all training situations. He takes medical training as an example, where the provision of ‘on-the-spot’ training and exercises may be more legitimate and effective than if provided over an Inter- or Intranet. E-learning can also be costly. Inglis (as cited in Engholm, 2001) warns that the design and development of an interactive multimedia segment may require hundred or more hours of development time for each hour that a student will spend with the material. More bandwidth may also be required, but this, he argues, is likely to change with the development of technology.

2.3 E-Learning readiness and its model

As e-learning 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). Furthermore, it is important to understand that readiness is not a one-time event rather it should be a continuous process of assessment. Borotis and Poulymenakou (as cited Mosa et al., 2016) defined e-learning readiness as “the mental or physical preparedness of an organization for some e-learning experience or action”.

Conceptualizing e-learning readiness is crucial as it demarcate the parameter of its applicability in a study and to provide a clear framework for a research study. Thus, before embarking on e-learning implementation, it is crucial to decide on a general conception of the term and model of e-learning 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 (Kashorda & Waema,2011).

The use of 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. 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 and maintained competitive. Lecturers have been identified to be a major factor influencing the success of e-learning. 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” (Tubaishat & Lansari, 2011). 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.

According to Hirut (2011) in the case of Ethiopian HEI there are various activities regarding e-learning technologies. For instance, e-learning Ethiopia is an online social network open to anyone interested or involved in ICT-supported education in Ethiopia. It was started and is currently being administrated by the Ethiopian Engineering Capacity Building Program (ECBP), as one of its tasks, works with introducing e-learning technology and methods to Ethiopian HEIs and TVET colleges. The implementation of e-learning allows a number of specific advantages in the upcoming development of the Ethiopian higher education system. The planned strategic cooperation between Ethiopia and Germany in the field of higher education, which is beyond the general benefits of e-learning in terms of flexibility in time and space (e-learning Ethiopia).

E-Learning readiness assessment is essential for institutions that want to implement e-learning and those that have the system in place. In sum, e-learning readiness assessments 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 e-Learning. For that, several organizations, academia and researchers have suggested different assessment models. However, Nawaz (2013) 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.

HEI 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. E-learning readiness assessment helps an organization to design e-learning strategies comprehensively and to implement its ICT goals effectively (Kaur & Abas, 2004). Learners must also be “e-ready” so that a coherent achievable strategy, tailored to meet their needs, may be implemented.

2.3.1 E-learning Readiness Assessment Models

Literature on organizational readiness for e-learning 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 (Lopes, 2007). According to Oketch (2014) there are different models discussed below that have factors used in institutions of learning and therefore look at factors that are useful in carrying out this research.

Chapnick (2000) E-Learning Readiness Model

Chapnick (2000) designed a model which can be used to measure e-learning 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 Table 2.1 This model has been used by a variety of institutions in a number of countries to assess their own e-Learning readiness.

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)

Table 2.1: E-Learning Readiness Factors Model (Chapnick, 2000)

Borotis and Poulymenakou (2004) E-Learning Readiness Model

Borotis and Poulymenakou (as cited Mosa et al.,2016) 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.

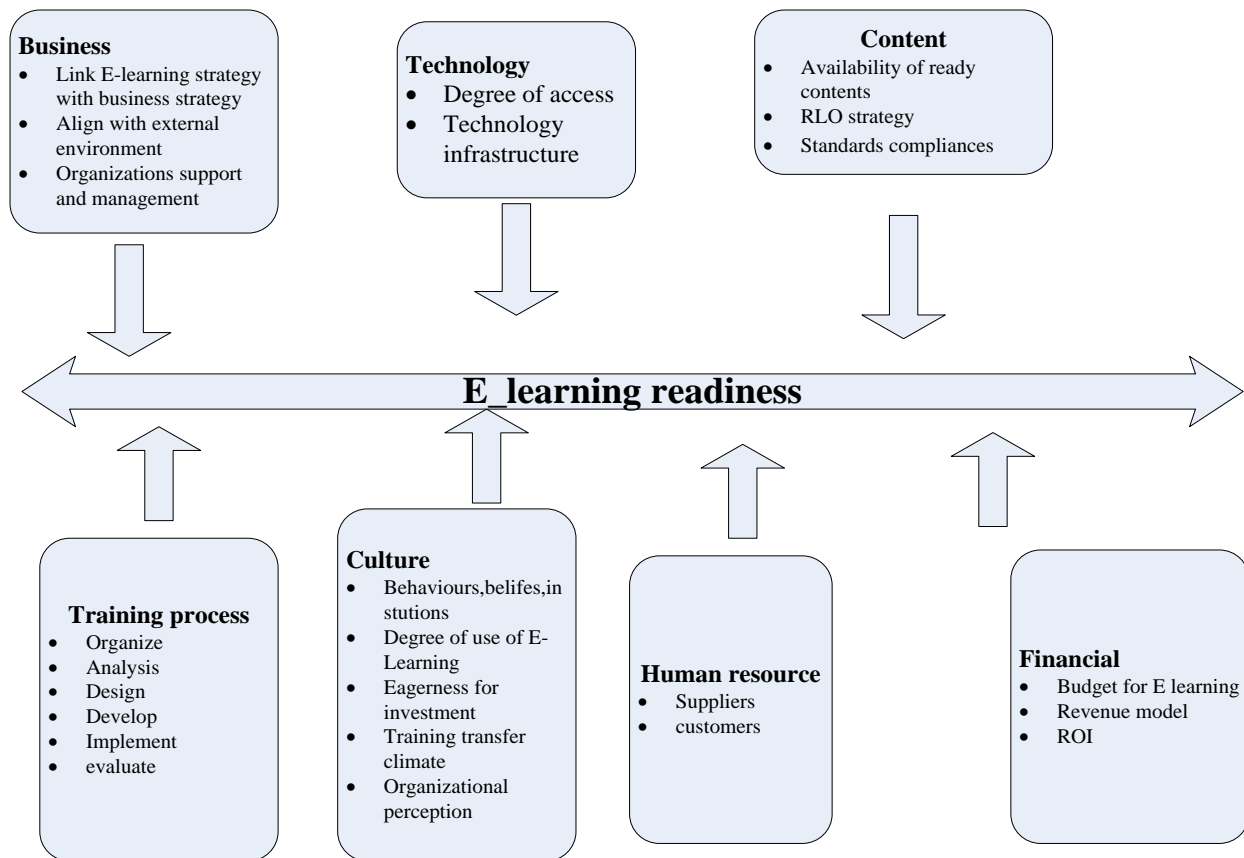


Figure 2.1: E-Learning readiness Components, Borotis&Poulymenakou (2004)
 (Source: Borotis&Poulymenakou (2004))

Psycharis (2005) E-Learning Readiness Model

From the available research, there are a number of variables that keep on recurring and Psycharis (as cited in Oketch & Achieng, 2013) 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 (as cited in Oketch & Achieng, 2013) proposed a new model built from five e-learning models developed by Rosenberg (2000), Chapnick (2000) and Borotis and Poulymenakou (2004).

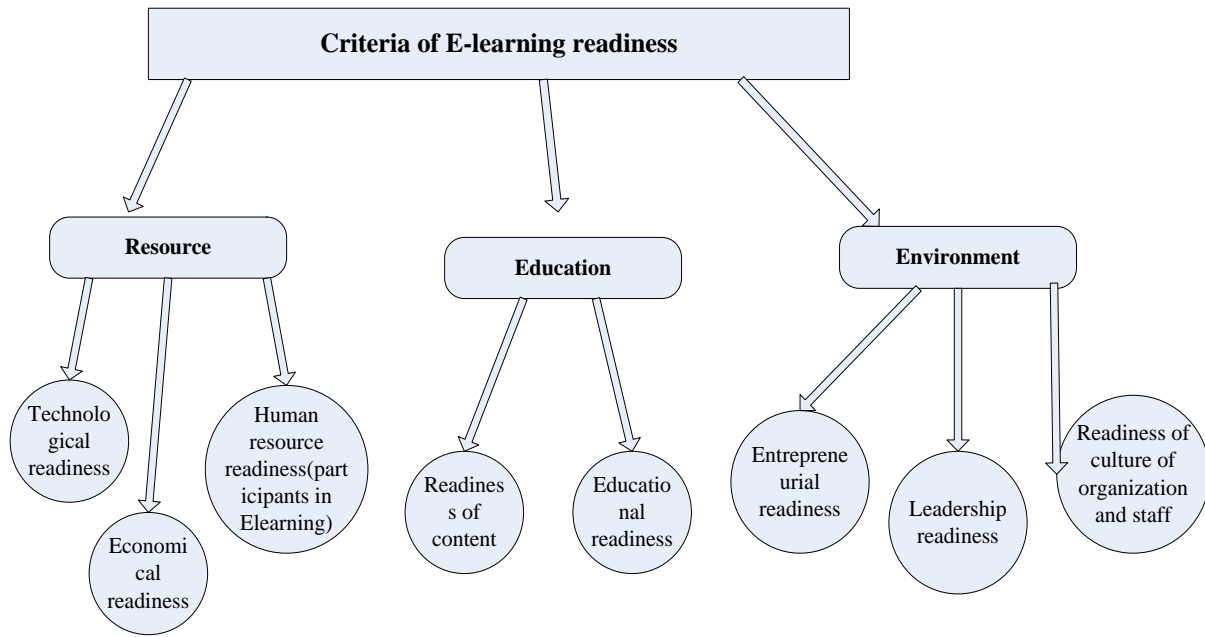


Figure 2.2: Criteria of e-learning readiness (Psycharis, 2005) (Source: Psycharis (2005), Oketch & Achieng (2013))

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

Aydain and Tasci (2005) developed a model with seven (7) categories: HR, learning management system, learners, content, IT, finance and vendor. They argue that, as most companies purchase E-Learning 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 e-learning experts.

Factors	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 e-learning champion Enough vendors and external parties	Ability to learn via/with technology	
Self-development	Budget	Ability to manage time	Belief in self-development

Source: Aydin and Tasci (2005)

Table 2.2: E-Learning Readiness Assessment Model, Aydin and Tasci (2005)

Engholm’s (2001) E-Learning Readiness Model

Engholm’s (2001) model provides factors which has adopted a blended e-learning strategy that is commensurate with its level of integration of ICT in training and management. The model is simple to understand and useful as a tool in an organization’s e-learning readiness assessment, but is also comprehensive in that it summarizes a wide range of organizational and individual issues.

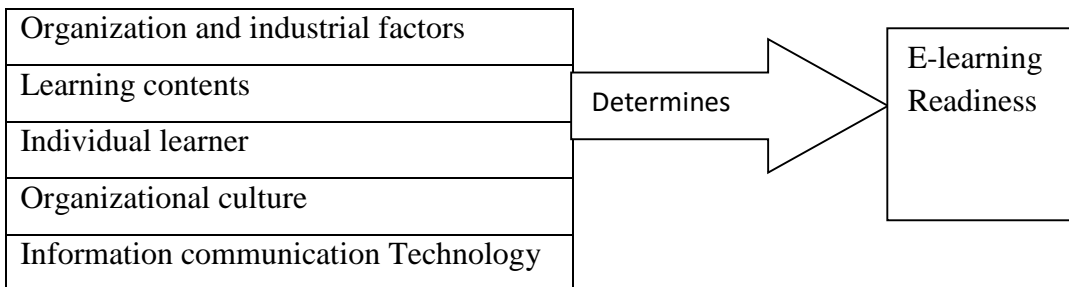


Figure 2.3: E-learning readiness factors

Bekim Fetaji and Majlinda Fetaji (2009) E-Learning Readiness Model

This model consists of 7 e-learning indicators to measure organizational e-learning readiness: Learners' education and cultural background, learners' Computing skills, learners' learning preferences, the quality of e-learning content, viable learning environment and its e-learning logistics, learners' motivation, students' attitudes toward technology.

Bakry's Stope model (2007) E-Learning Readiness Model

Stope Model: Stope model is an illustrative representation of the e-readiness assessment. Stope has 5 main categories: Leadership, Technology, Organization, People, and Environment.

Li-An Ho's (2009) E-Learning Readiness Model

Li-An Ho model: Li-An Ho presented a model consisting of 4 main categories that should be measured to assess organizational readiness for e-learning; which are: E-learning system quality, technology readiness, learning behavior, and learning outcome.

Haney's (2002) E-Learning Readiness Model

Haney Model: Haney suggests that organizations should ask themselves 70 questions for assessing their readiness for e-learning. She classifies these questions into 7 categories: Human resources, learning management system, learners, content, information technology, finance, and vendor.

Chai Lee et al (2009) E-Learning Readiness Model

Chai Lee et al Model: Chai Lee et al. have developed the following factors that should be measured and evaluated to successfully adopt e-learning: Organizational factors(Technical infrastructure, Management support for training, and clearly defined change leadership strategy), General factors(Adult learning principles, Clearly defined learning outcomes, Pretest option, Clearly defined learning pathways, and Assessment), and Cognitive factors(Access to useful help facilities, User control of screen information, Simple user interface, Access to presentation of complex information, Appropriate use of multimedia, Avoidance of redundant information). In general some of the models presented in Table 2.3 below.

N o	E-Learning Readiness Models	E-Learning Readiness Factors
1	Bakry's STOPE model (2007)	Strategy Technology Environment Organization People Development
2	Fetaji and Majlinda Fetaji's Model (2009)	Learners' education and cultural background, Learners' Computing skills, Learners' learning preferences, The quality of e-learning content, Viable learning environment and its e-learning logistics, Learners' motivation, Students' attitudes toward technology
3	Chapnick's Model (2000)	Psychological Sociological Environmental Human resources Financial readiness Technological skill (aptitude) Equipment, Content readiness
4	Li-An Ho's model (2009)	E-learning system quality Technology readiness Learning behavior Learning outcome
5	Haney's Model	Human resources Learning management system Learners Content Information technology Finance Vendor
6	Chai Lee et al. Model (2009)	Organizational factors General factors Cognitive factors
7	Rodgers's Diffusion Model (2005)	Relative advantage, Compatibility ,Image, Visibility ,Ease of use, Results demonstrability & Trialability
8	Engholm's model (2001)	Organization's culture, Individual learner, Technology, Content, Organizational and industry factors

Table 2.3: Summary of e-learning Readiness Models and Frameworks

2.4. Conceptual Model for E-Learning Readiness Assessment

The four main parameters that are used to adopt the hybrid model are; technological readiness (Chapnick, 2000; (Aydin and Tasci, 2005), culture readiness (Borotis and Poulymenakou, 2004; Kaur and Abas 2004); Engholm’s model (2001), content readiness (Borotis and Poulymenakou, 2004; Chapnick, 2000; Psycharis, 2005; Engholm’s model, 2001; Haney’s Model, 2002) and demographics factors (Aydin and Tasci, 2005) which are selected from Table 2.3 Summary of e-learning readiness Models and Frameworks .In addition, each of these factors has sets of sub-factors each of which will be taken into consideration during the assessment period. Among different models the following model will be taken as an appropriate model of the university which is related to the assessment of e-readiness of the university. Integrating these concepts resulted in the model shown in Figure 2.4.

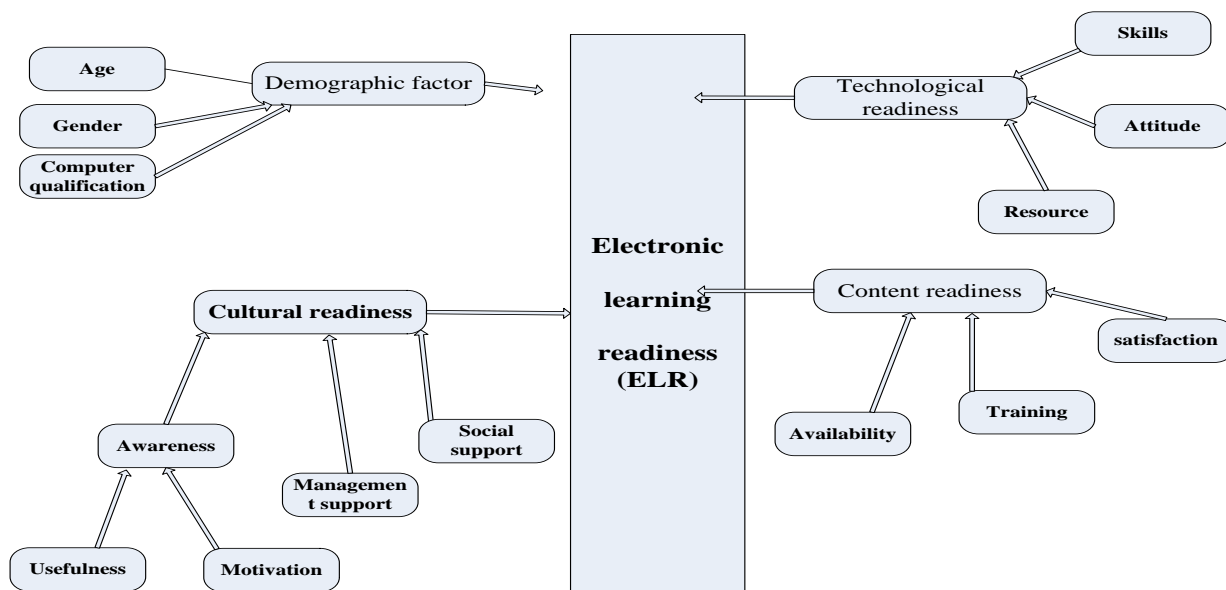


Figure 2.4. Proposed model for assessing e-learning readiness (Source: Oketch & Achieng, 2013)

2.4.1 Technological Readiness

Technology is one of the factors that can be effectively used to adapt a technological innovation in an organization (Rogers, as cited in Oketch & Achieng, 2013). Without appropriate equipment and easy access, it is quite hard, if not impossible, to implement any e-learning (Oliver & Towers, 2000).

2.4.2 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. 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 (Vate-U-Lan ,2007)). The institution's management support towards the adaptation and use of e-learning will also be assessed under this parameter.

2.4.3 Content readiness

Content is the driving engine of any system, from an educational point of view, e-learning 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, as cited in Oketch & Achieng, 2013). This model will assess the availability of e-learning content to the lecturers, their satisfaction with the content, and assess if they need training on e-learning content development.

2.4.4 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 (as cited in Oketch & Achieng, 2013), hence, education levels of employees can be used as one of the predictors of e-learning readiness. This parameter will help determine the influence of demographics factors on the e-Learning readiness.

2.5. Related works

E-learning readiness assessment provides key information to organizations willing to supply e-learning solutions which can cater for the specific needs of each learning group (Fitzpatrick, 2012). Olatokun and Opesade (2008) suggested that the parameters to be looked into when accessing the e-readiness for an institutions include; infrastructural availability, access to infrastructure, manpower availability, policy and regulatory framework. Tubaishat and Lansari (2011) identified key components of e-learning readiness as technology, Internet usage, and general understanding of e-learning and culture at the institution.

According to Al-Huneidi and Schreurs (2012) e-learning readiness provides key information that organizations require to develop strategies which can cater for the specific needs of each learning group. Borotis and Poulymenakou (as cited Mosa et al.,2016) pointed out that e-learning readiness helps an instructional designer to design e-learning strategies and experiences comprehensively and helps a lecturer to effectively deliver learning experiences to students. Mosa et al.(2016) highlighted technological aspects as an important factor in a successful e-learning system; hence, the readiness of the technological aspects needs to be thoroughly explored in order to analyze the overall e-learning readiness.

As suggested by Rohayani.AH, Kurniabudi, & Sharipuddin (2015) down to the implementation of e-learning can succeed, then the implementation of e-learning can be preceded by measures the level of readiness of e-learning. Measurement of e-learning readiness enables institutions to design a system to fit the measurement results in order to be successful implementation. Readiness of learners in the use of e-learning technology is influenced by many factors between ability and willingness to use ICT. Based on the studies, the measurement of e-learning readiness factors commonly used is the technical, content, human and financial resources.

According to Parlakkılıç (2015) the assessment of readiness in Turkish Family Medicine study was developed based on a process used by Aydin and Tasci (2005). A five-point Likert scale in which each answer was coded into 1, 2, 3, 4, and 5 therefore the critical level was 0.8 (4 intervals

divided by 5 categories) considering 66.64 (3.4) as the expected level of readiness. The level of readiness in each dimension was assessed individually. According to results five areas have been seen that are ready but need a few improvements. These areas are equipment/infrastructure readiness, Online learning style readiness, Technological skills readiness, cultural readiness, and financial readiness. Three areas are not ready and need some work to improve. These areas are Human resource readiness, Attitude readiness, and environmental readiness.

According to Red, Borlongan, Briagas, & Mendoza (2013) three different sets of questionnaires distributed for students, faculty, and administrators to an assessment of the e-learning readiness state of faculty members and students at Malayan Colleges. For students, the instrument contains a total of 53 questions divided into 3 parts-technology access, technology skills, and attitude towards eLearning. Questions on attitude are further divided into study habits, abilities, motivation and time management. For Faculty, it contains a total of 71 questions which are also divided into technology access, technology skills, and attitude towards eLearning. Questions on attitude are further divided into teaching styles and strategies, abilities, motivation, time management. For the administrator, there are only 15 questions which consist of commitment, policies, and instructional administrative support questions and another 15 questions for the resource support of the school which consists of financial, human, and technical. The instruments used in the study were in liker scale format and use the mean to measure the readiness of institution.

Song (2010) explained that, in an e-learning context, online users must use the technology to complete their online tasks in the online learning environment. Some technological factors such as proper software and hardware or bandwidth can play a crucial role in e-learning outcomes. Low speed Internet and problems while using the system may result in student dissatisfaction and lead to students dropping out from the course. Therefore, it is necessary to assess the technological readiness for e-learning before the implementation of an e-learning system in order to realize the benefits of e-learning and reduce the challenges during e-learning implementation. For this reason, the measurement of e-learning readiness is essential to support successful e-learning implementation in higher education (Alshaher, 2013). Different factors affect the implementation and effectiveness of e-learning in the education environment, but readiness is the critical success factor in the successful adoption of the e-learning mode of acquiring knowledge (Azimi, 2013).

Tubaishat & Lansari (2011) focused on their study “the perception of students’ regards e-learning implementation in Egyptian Universities” on the Egyptian students as the customer in the e-learning process. The study tried to identify the students' education preference, perception regarding e-learning mode effectiveness, and their e-readiness to its adoption by answering 'What is the preference of the Egyptian students' regarding HE mode in Egypt?' and 'What is the students perception regarding the effectiveness of e-learning as a higher education mode of learning in Egypt?' A structured questionnaire was designed to target higher education students in main two cities in Egypt. A questionnaire was designed to survey students' usage patterns, e-readiness, their perceptions and priorities with regard to e-learning usefulness, effectiveness and implementation issues. This test compared, observed and expected frequencies in each category to test that all categories contain the same proportion of values or test that each category contains a user-specified proportion of values. According to findings of this study Egyptian students seem to have heard about e-learning, but actually are not aware of the associated benefits which again emphasize the role of Egyptian authorities in dealing with resistance to change dilemma and addressing customer needs. The researchers of the study believe that although e-learning has a lot of potentials and advantages, it cannot be actually promising in Egypt until e-learning readiness and perception have been taken into consideration.

Ngamporncha and Adams (2016) designed to investigate the relationship of teacher education faculty members’ attitudes and their perceptions of technology professional development needs with faculty technology use for teaching and learning in two Ghanaian tertiary teacher education institutions. The study was based on Rogers’ (1995) Diffusion of Innovations (DoI) theory, the Concerns Based Adoption Model (CBAM) conditions for educational technology innovations as theoretical frameworks. The study used survey methodology supplemented by interviews. The quantitative data were analyzed using multiple regressions. Participants in the study were 132 faculty members of the University of Education, Winneba and the Faculty of Education of the university of Cape Coast, both Ghanaian teacher education institutions. The faculty technology survey consisted of 65 items factored into five factors. The results showed that: (i) faculty perceptions of the effects of technology use on pedagogy and students’ learning, (ii) faculty perceptions of barriers and challenges to the adoption and use of technology for teaching and learning, and (iii) faculty motivation for adoption of instructional technology made unique

significant contributions to explaining faculty use of technology for teaching and learning. According to the interviews and responses to an open-ended question on the survey, this study also found that the contextual conditions that facilitate educational technology innovations were not met in the two participating universities.

Al-adwan and Smedley (2012) examined how often education faculty members in Jordanian public universities utilize the Internet in their academic work with regard to the following demographic variables (academic rank, and age), what type of Internet tool is used on a daily basis by faculty members, and how satisfied are education faculty members with the Internet use for academic work with regard to the following demographic variables (academic rank, and age). The findings of the study indicated that all the respondents' frequency use of the Internet ranged between (2-3 times a week) to (daily) since the means are close to each other. Results indicated that there was no significant difference across academic rank. Results indicated that there was a significant difference across age. E-mail was the most often used on a daily basis, followed by the World Wide Web(WWW), followed by electronic journals, followed by online database, followed by list-serves, followed by transferring files, followed by online services, followed by electronic newspapers, followed by discussion groups. The results indicated that assistant professors followed by instructors/lecturers were more satisfied with their Internet use for academic work than associate professors and professors. Results indicated that there was a significant difference across age. All of the interviewees expressed positive attitudes towards such use. Factors that limit faculty use of the Internet in their academic work were: access to the Internet, Internet content, administration related limitations, and lack of time, affordability-related issues, and other factors such as administration-related issues. The interviewee's statements revealed that they believe the officials in their universities must recognize the urgent need for adopting a comprehensive plan for integrating new technologies offered by the Internet to bring their institutions to the next level of excellence. It is clear from the information gathered from the interviews and questionnaire with faculty members, that they use the Internet extensively in their research more than any other purposes. This indicates that the Internet use would be an indispensable resource for faculty members to rely on in the future.

Kaur and Abas (2004) an assessment of e-learning readiness at the Open, investigated the preparedness of the academic lecturers for the introduction of e-learning at the International Islamic University Malaysia. The study employed two types of instruments. The first was “Lecturer e-learning Perceptual Survey Questionnaire(LEPSQ)” with 35 items on a 7-point Likert scale ranging from “very strongly disagree” to “very strongly agreed”, used for collecting data from a proportional stratified random sample of 324 academic staff of the International Islamic University Malaysia. Another was the “e-learning Readiness Survey” questionnaire, adapted from Rosenberg (2000) with 20 items based on short answers that were designed to collect data from 26 deans or heads of department in each kulliyah of the University. This data was analyzed qualitatively based on the analytic procedures provided by the author, Rosenberg (2000).

Most of the literatures which is done on e-learning readiness assessment can be established from existing ICT infrastructure, users ICT literacy and administrative supports, teachers and student’s technological confidence and attitude, users’ attitude and perception towards technology. The aspects of e-learning readiness is measured on a scale of 1 to 5 which is called a five-point likert-type scale. On the likert-type scale, the readiness level was bench marked as: ‘not ready, needs a lot of work’ for items between 1 and 2.6, ‘not ready needs some work’ for items between 2.6 and 3.4, ‘expected level of readiness’ for items on 3.4, ‘ready but need a few improvements’ for items between 3.4 and 4.2 and ‘ready to go ahead’ for items between 4.2 and 5. For 5-point likert scale .4 intervals / 5 categories = 0.8 (Ouma, 2013).

Summary of Literature Review

The continuing growth in the use of ICT, particularly the Internet, has promoted the ability to adopt e-learning. ICT seems to have a profound impact on the process of learning in higher education by offering new possibilities for learners and teachers. These possibilities can have an impact on student performance and achievement (Youssef, 2008). 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 (James-Springer, 2016). As noted by Psycharis (as cited in Oketch & Achieng, 2013) the successful implementation of e-learning 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 e-learning. Adoption of e-learning 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 e-learning reaches its full potential. Therefore, to successfully implement e-learning it is crucial to assess the institutions readiness for it. Haney (as cited in Oketch & Achieng, 2013) noted that before initiating, implementing, and using e-learning, it is important to assess institutions readiness for the systems by recognizing its goals, needs, motivators, resources and constraints. The assessment should include all stakeholders. An e-learning readiness assessment helps institutions to design e-learning strategies comprehensively and to implement their ICT goals effectively (Kaur and Abas, 2004). 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; and 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 as cited in Oketch & Achieng, 2013).

Chapter Three

Research Methodology

3.1. Introduction

This chapter provides a discussion of research methodology used to collect data from teachers, students, administrators, ICT experts and library director on e-learning readiness of ASU. It discusses the research design used in the survey, population of study, research area, data collection methods and data analysis methods.

3.2. Research design

The study adopted a descriptive survey design to establish and determine the level of readiness to implement e-learning in ASU. The purpose of descriptive survey was to observe, describe and document aspects of situations as they naturally occur. The research design gathers data that describe events and then organizes, tabulates, depicts and describes the data collection (Israel, 2009; Yamane, 1967). The study was intended to produce statistical information about aspects of e-learning readiness that is significant to policy makers and all educators. The study involved key e-learning stakeholders such as administrators, teachers, students, ICT experts and library director.

3.3. Study area

The study was carried out within ASU. The university was established in 2011 committed to advance teaching learning activities, need based research and community service. It is located 675 km north west of Addis Ababa at Asossa town which is the capital city of Benishngul Gumuz Regional State. The university started its function with five faculties and seventeen departments. Namely: - Engineering and Technology, Natural and Computational Sciences, Agriculture and Natural

Resource, Business and Economics, and Social Sciences and Humanity faculties and now a day the university expands its function to seven faculties and 36 departments. The current teaching-learning process in ASU is traditional, means; only face-to-face delivery system is followed. The commonly ‘traditional ‘teaching methods are lecture or tutorial. Besides, a class room of students is thought for certain duration of time. Then, the teacher would probably repeat the same task for students in other class as long as all students could not be accommodated in a class room. As far as the reading material is concerned, the students are mostly provided hard-copy materials. So e-learning becomes an important instrument in the new higher educational environment in the digital era which creates student-centered learning and educational practice, offering new more flexible learning methods. The selected area which is ASU found in remote area which faces so many problems that hinder its teaching and learning process as well as to be as competent and efficient as the old universities of the country. So implementing e-learning is the main solution of the problem. To implement e-learning, study the readiness of the university is the first requirement and there is no research has been carried out and published on the readiness of e-learning of the university.

3.4. Target Population

Target populations of this study consisted of teachers, administrative officers, students, library director and ICT experts. The data have been collected from all departments which are found in the university. The target population comprised of 5 Administrators, 414 teachers, 8122 students, 2 ICT experts and 1 library director as reflect in Table 3.1.

Faculty	No of Teachers	No of students	No of Administrators	No of ICT experts	No of Library director	Total target populations
Engineering and technology	140	3754	5	2	1	
Agriculture	51	762				
Natural science and computational	73	1104				
Health science	30	320				
Social science and humanity	57	970				
Law school	11	171				
Educational faculty	3	43				
Faculty of business and economics	49	974				
Total	414	8122	5	2	1	8544

Table 3.1.Target population (Source: University of ASU, 2017)

3.5. Sampling Technique

The respondents have been sampled through purposive sampling and stratified sampling. In purposive sampling, sampling is done with a purpose in mind. From here purposive sampling is used to select the interviewee, academic administrators', library director and graduating class students. There were 1154 graduating class students. The reason why the researcher purposively select is that they are familiar with the University's infrastructure and environment. They can justify the learning teaching process easily. So, to get relevant inputs about e-learning readiness those population are preferable. The other technique was stratified sampling. Stratification is the process of dividing a population of elements into distinct subpopulations called strata. Strata are formed so that each population element is assigned to only one stratum. If the population from which a sample is to be drawn does not consist a homogeneous group, then stratified sampling technique is applied so as to obtain a representative sample (Albandoz,2001). In this technique, the population is stratified into a number of non-overlapping subpopulations or strata and sample

items are selected from each stratum. If the items selected from each stratum is based on simple random sampling the entire procedure, first stratification and then simple random sampling, is known as stratified sampling (Kothari, 2004). Since the target population of the study is teachers, students, administrators, ICT experts and library director who are found in heterogeneous group, they should be assigned in to distinct subpopulation groups based on their occupation. After that they also divide into distinct subpopulation called strata based on the criteria of faculty especially for students and teachers.

3.6. Sample size

In this study the sample size can be calculated and determined by:

$$n_k = \left(\frac{N_k}{N} \right) n = \frac{n}{N(N_k)} \quad \text{Where;}$$

n_1 =sample size to find;

n_k =sample size for the k^{th} stratum;

N_k =population size of the K^{th} stratum;

n =total sample size ($n=n_1+n_2+n_3+\dots+n_k$);

N =total population ($N=N_1+N_2+N_3+\dots+N_k$).

There are several approaches to determining the sample size which include using a census for small populations, imitating a sample size of similar studies, using published tables, and applying formulas to calculate a sample size (Israel, 2009). In Israel (2009) it is recommended to use entire population (census) if the sample for target populations is less than two hundred. A census eliminates sampling error and provides data on all the individuals in the population. For population sizes greater than two hundred, Yamane (1967) and Israel (2009) provide a simplified formula for calculating sample sizes based on the actual population size, required precision levels and, confidence levels as follows:

$$n = N / 1 + N (e)^2$$

Where;

n is the sample size,

N is the population size and e is the level of precision

According to Israel (2009) as the population gets beyond 200, a 93% confidence level and $\pm 7\%$ precision is acceptable in calculating the sample size. Therefore depend on the above information researcher decided sample size of the research as follow: Based on Israel (2009) and Yamane (1967) concepts of determining sample size,

Sample size for students' stratum was;

$$n = N / 1 + N (e)^2 = 1154 / 1 + 1154 (0.07*0.07) = 173 \text{ (1154 are number of graduating class students which purposively selected)}$$

Sample size for teacher's stratum was;

$$n = N / 1 + N (e)^2 = 414 / 1 + 414 (0.07*0.07) = 135$$

From the above computation, sample size for the study is summarized on Table 3.2

Respondents	Target population	Sample size	Sampling method
Teachers	414	135	strata sampling
Students	8122	173	strata sampling
Administrators	5	5	Purposive sampling
ICT experts	2	2	Census
library director	1	1	Purposive sampling
Total	8544	316	

Table 3.2: Sample size of the study

According to Ouma (2013) the sample size for each target department can be determined by:

Sample size for teachers per department = (calculated sample size) x (target population in a department) /target population.

Sample size for students per department = (calculated sample size) x (target population in a department) /target population.

Table 3.3 presents the sample size of each department calculated based on the formula.

Then to collect data from the departments according to calculated sample size researcher has used Systematic random sampling. In some instances, the most practical way of sampling is to select every i^{th} item on a list. An element of randomness is introduced into this kind of sampling by using random numbers to pick up the unit with which to start. Sampling of this type is known as

systematic sampling. This procedure is useful when sampling frame is available in the form of a list. In such a design the selection process starts by picking some random point in the list and then every n^{th} element is selected until the desired number is gained.

Departments	Student Sample size	Teacher	Admin	ICT expert	Library
Agri-cultural economics	6	17	5	2	1
Animal science	5				
Natural Agricultural Rural Management	6				
Plant science	5				
Computer science	16	48			
Information Technology	11				
Information science	7				
Civil engineering	15				
Electrical engineering	14				
Mechanical engineering	7				
Accounting	6	20			
Management	5				
Economics	5				
Public administration	3				
Geology	5	24			
Biology	4				
Chemistry	4				
Mathematics	3				
Physics	3				
Sport science	7				
Statics	6				
Civics	6				
English	5	19			
Geography	5				
Sociology	6				
Psychology	5				
Law	4				
Total	173	135	5	2	1

Source: Research data, 2017

Table 3.3.number of sample size from each department

3.7. Data collection methods

The method which have used in this study is primary data collection and secondary data collection.

Secondary data collection

When the data are collected by someone else for a purpose other than the researcher's current thesis and has already undergone the statistical analysis is called as secondary data. The secondary data can be both qualitative and quantitative. For this thesis the researcher collected respondents' statistics and relevant information about university background from ASU registrar office.

Primary data collection

In this method the data was collected within first-hand information through questionnaire and interviews. The data collection mechanism was done by me. The questionnaires have been an advantage that enables the respondents to express their ideas freely. Most of the questionnaire consisted of closed-ended questions and there were also some Open-ended question. And the Interview was prepared in English and interviewee academic vice president who has detail information about the university matter. The main aim of the interview questions was to identify the benefits, strengths, weakness, awareness and motivations of the academic staff and students they plan for the future on e-learning.

Research instrument

Questionnaires and interview were used to collect primary data. The large amount of data to be collected from a larger number of respondents in a short period of time made from questionnaire because it is relatively cost effective (cheap). Thus questionnaires and interview questions were adopted from the existing one that are customized and modified to the university. Questionnaires of administrators, teachers and students are adopted from (Mercado, 2008 and Doculan,2016)

international journals and the demographic profile of all sample population, ICT expert questionnaires and interviews are adopted from thesis of (Hirut, 2011) and the remaining open ended questionnaires are added by the researcher. The result of questionnaires are quantified and analyzed through the use of a statistical software package (SPSS 20) and micro soft office Visio 2007 is used to draw figures. The interview questions has given to vice president of the university who is purposively selected by the researcher and the interview question was analyzed through word expression. The researcher was not use instrument to analysis the interview questions.

3.8. Data Analysis Method

Descriptive statistics were used to analyze the collected data and the results presented in form of tables. Descriptive statistics is the term given to the analysis of data that helps describe, show or summarize data in a meaningful way. The researcher used descriptive statistics which is useful to summarize group of data using a combination of tabulated description (i.e., tables), graphical description (i.e., graphs and charts) and statistical commentary (i.e., a discussion of the results). Typically, there are two general types of statistic that are used to describe data. Measures of central tendency: these are ways of describing the central position of a frequency distribution for a group of data and measures of spread: these are ways of summarizing a group of data by describing how spread out the scores are. A measure of central tendency is a single value that attempts to describe a set of data by identifying the central position within that set of data. As such, measures of central tendency are sometimes called measures of central location. They are also classed as summary statistics. The mean (often called the average) is most likely the measure of central tendency that you are most familiar with, but there are others, such as the median and the mode. From here, the researcher had used mean to describe the results because mean (or average) is most popular and well known measurement of a central tendency. Statistical Package for Social Sciences (SPSS) program was used to analyze the data.

3.9. E-learning readiness level of measurement

E-learning readiness is measured on a scale of 1 to 5 which is called a five-point liker-type scale. On the liker type scale, the readiness level was bench marked as: ‘not ready, needs a lot of work’ for items between 1 and 2.6, ‘not ready needs some work’ for items between 2.6 and 3.4, ‘expected level of readiness’ for items on 3.4, ‘ready but need a few improvements’ for items between 3.4 and 4.2 and ‘ready to go ahead’ for items between 4.2 and 5. For 5-point liker scale .4 intervals / 5 categories = 0.8 (Ouma, 2013). As a result of this analysis, the levels of readiness were determined and mapped on a liker-type scale.

Means	Scale expression
1-2.6	not ready, needs a lot of work
2.6-3.4	not ready needs some work
3.4-4.2	Ready but needs a few improvements
4.2-5	Ready to go a head
3.41	Level of readiness(Melr)

Table 3.4: level of readiness measurement (Source: Ouma, 2013 & Ünal et al., 2014)

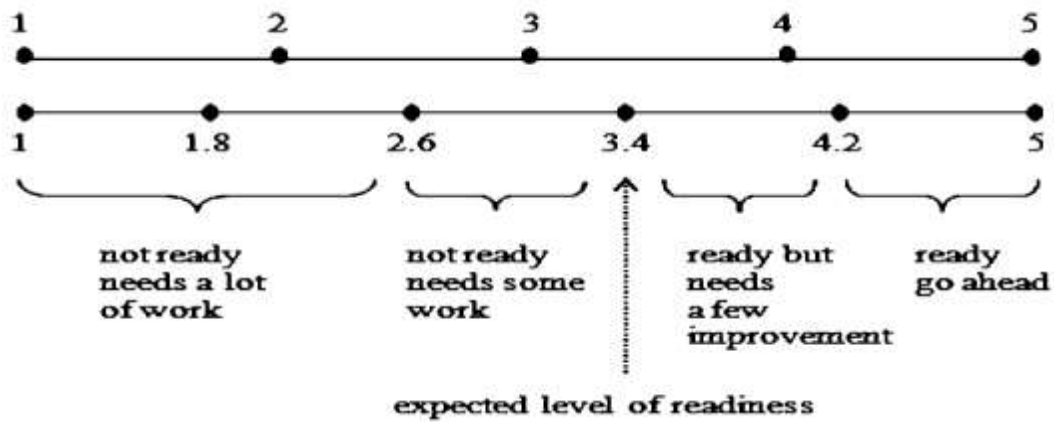


Figure: 3.1. Level of E-learning readiness 5 point liker scale measurement (Source: (Ouma, 2013 & Ünal et al., 2014)

In this thesis there are also four point liker scale questionnaires. Results can be computed by 3 intervals / 4 categories = 0.75. As a result of this analysis, the levels of readiness were determined and mapped on a 4- point liker-type scale.

Means	Scale expression
1-1.75	not ready, needs a lot of work
1.75-2.5	not ready needs some work
2.5-3.25	Ready but needs a few improvements
3.25-4	Ready to go a head
2.5	Level of readiness(Melr)

Table 3.5: Level of readiness of 4 point liker scale

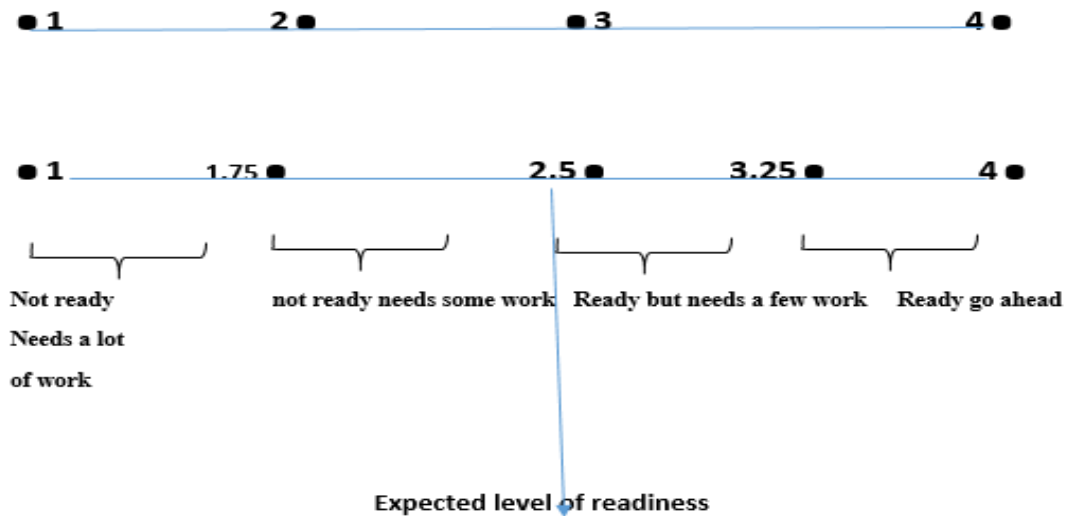


Figure 3.2. Level of E-learning readiness 4 point liker scale measurement

3.10. Quality of data

Questionnaire and interview questions for this research were well designed and tested. Because it was already used for another research and gave a good result, there was no need for the researcher to make a pilot test before Use. However, the researcher conducted a reliability test in order to measure the internal consistency of the questionnaire. Reliability, therefore, refers to test consistency. The method of determining the reliability of a test by internal consistency is Cronbach's alpha. This is a single correlation coefficient that is an estimate of the average of all the correlation coefficients of the items within a test. If alpha is high (0.70 or higher), then this suggests that all of the items are reliable and the entire test is internally consistent. If alpha is low, then at least one of the items is unreliable, and must be identified via item analysis procedure (Hirut, 2011). The items and their Cronbach's alpha of the questionnaire are presented as follow in the following table:

Name of respondents	Number of Items	Cronbach's Alpha
Teachers	55	0.942
Students	53	0.966
Administrators	15	0.802

Table 3.6: Reliability of Items in the Questionnaires

3.11. Ethical considerations

The data collected was used for academic purposes only. The researcher accepted responsibility for maintaining confidentiality, anonymity, respect, professional ethics, security of respondents, rights of respondents and understanding during the process of data collection.

Chapter Four

Data Analysis and Interpretation

4. 1.Quantitative study

A survey's response rate is the percentage of eligible sample cases that responded to a survey. The response rate is important and should not be left to chance since high survey response rates help to ensure that survey results are representative of the target population. Response rate in this survey research was obtained by dividing the number of people who submitted a completed survey by the number of people contacted (sampled) as suggested by (Dykema et al., 2010). Questionnaires were distributed to 173 graduating year students, 135 teachers, 5 administrators, 2 ICT experts and 1 library director. For some personal reasons, not all intended respondents returned the questionnaires. However, 60.6% of graduating year students, 62.9% of teachers, 80% of administrators, 100% of ICT experts and 100% of library director completed and returned their questionnaires as shown in Table 4.1. The total response rate was 62.34%. According Mugenda and Mugenda (as cited in Oketch & Achieng, 2013) a response rate of 50% is always adequate for analysis and reporting. The response rate of 60.6% of graduating year students, 62.9% of teachers, 80% of administrators, 100% of ICT experts and 100% of library director completed and returned their questionnaires. This implies that the response rate for this study was adequate to make reliable conclusions about the study population.

Name of colleges	Target respondents					Actual response rate(returned rate)				
	Teachers	Students	ICT expert	Admin	Library Director	Teachers	Students	Admin	ICT Expert	Library director
Engineering and technology	46	70				35	41			
Natural science	24	30				10	24			
Social science	19	28				16	15			
Health science	4					4				
Agriculture	17	22				10	13			
School of law	5	4				2	2			
Faculty of business and Economics	20	19				10	10			
Sum	135	173	2	5	1	85	105	4	2	1
Total	316					197(62.34)				

Table 4.1: Participants Response Rate of Study (Source: Research data, 2017)

4.2. Respondent's Demographic Profile

The study focused on ASU students, teachers, ICT experts, library director and administrators as profiled in Table 4.1. This section deals with the background information of the respondents. It gives information on the gender of the respondents, age of respondents, name of colleges, departments, computer qualification and their managerial position at the University. This information helps to assess the appropriateness of the respondents to answer the questions regarding e-learning readiness at the University.

4.2.1. Description of Administrator Respondents

Table 4.2 shows that all respondents are male. The two were between 30-35 years old and other two were between 36 -40 years old. Regarding their qualification, two of them hold certificate in computer qualification, the other one has diploma in computer qualification and the remaining one has no computer qualification at all. The statistics shows that those four respondents have different responsibilities in the university and could be considered by this study as having essential experience in understanding the challenges facing and the whole activities in the university.

Respondents	Age	Sex	Responsibility	Computer qualification	No of respondents
Respondent 1	30-35	Male	Quality director	None	1
Respondent 2	30-35	Male	Academic director	Diploma	1
Respondent 3	36-40	Male	Teacher quality director	Certificate	1
Respondent 4	36-40	Male	Academic directorate	Certificate	1

Table 4.2: Respondent's Demographic Profile

4.2.2. Description of ICT Expert Respondents

As showed in Table 4.3 both are male respondents and they are between 26-30 years old. One of them holds degree in computer qualification, while the other one has no computer qualification. Two respondents have different responsibilities in the university that could be considered by this study as essential experience in understanding the challenges facing and the whole activities in the university.

Respondents	Age	Sex	Responsibility	Computer qualification	No of respondents
Respondent 1	26-30	Male	Network Administrator	Degree	1
Respondent 2	26-30	Male	ICT infrastructure director	None	1

Table 4.3: Respondent's Demographic Profile of ICT Experts.

4.2.3. Description of library director Respondent

The library director is male and is in the age group of 25-30 years old. He holds a certificate in Computer qualification and, he had a major responsibility about e-learning.

4.2.4. Description of Teachers Respondents

As shown in Table 4.4 sixty-four teacher respondents are male and twenty-one respondents are female. From those 85 respondents, forty-three are between 22-28 years old. The other thirty-six respondents are between 29 -35 years; and the remaining six respondents are aged 36-42. Regarding their qualification, twenty-one of them hold certificate in computer qualification, twelve

respondents have degree in computer qualification and the remaining fifty-two have no computer qualification; and eighty five teacher respondents are drawn from different colleges and departments as shown in Table 4.5 and Table 4.6 respectively.

Items	Gender		Age				Computer qualification			
	Male	Female	22-28	29-35	36-42	>=43	None	Certificate	Diploma	degree
No of respondents	64	21	43	36	6	0	52	21	0	12
Total	85									

Table 4.4. Demographic Profile of Teachers.

From Table 4.5 most of the respondents are from college of computing and engineering. Because the number of teachers is higher than other colleges.

Name of college	No of respondents	Percentage of the respondents (%)
Agriculture	8	9.4
Computing	19	22.4
Engineering	18	21.2
Faculty of Business and Economics(FBE)	8	9.4
Health science	4	4.7
Natural science	10	11.8
Social science	16	18.8
School of law	2	2.4
Total	85	100%

Table 4.5. College of Teacher Respondents

From Table 4.6 most of the respondents are from department of IS. Because the target of teacher respondents in IS department were present during data collection.

Department of Respondents	No of respondents	No of respondents in percent (%)
Accounting	2	2.4
Agro-Economics	2	2.4
Animal	2	2.4
Biology	2	2.4
Chemistry	1	1.2
Civics	4	4.7
Civil engineering	3	3.5
Construction engineering	3	3.5
Computer science	6	7.1
Economics	2	2.4
Electrical engineering	4	4.7
English	5	5.9
Geography	3	3.5
Geology	2	2.4
Health Officer	2	2.4
Information science (IS)	8	9.4
Information Technology(IT)	5	5.9
Law school	2	2.4
Management	2	2.4
Mathematics	1	1.2
Mechanical engineering	3	3.5
Natural Agricultural Rural Management(NARM)	2	2.4
Other Health	2	2.4
Public Administration management(PADMA)	2	2.4
Physics	1	1.2
Plant science	2	2.4
Psychology	2	2.4
Sociology	2	2.4
Soil Engineering	2	2.4
Sport science	1	1.2
Statics	2	2.4
Water engineering	3	3.5
Total No. of Respondent	85	100%

Table 4.6.Department of teacher respondents

4.2.5. Description of Student Respondents

Table 4.7 Showed that seventy three of the student respondents are male and thirty-two respondents are female. Of those respondents, six of them are aged between 16-20 years. The other 90 respondents are aged between 21 -25 years; and the remaining nine respondents are found between 26-30 years. Nineteen of them hold certificate in computer qualification, three of them hold Diploma in computer qualification and the remaining eighty-three respondents have no computer qualification.

Items	Gender		Age				Computer qualification			
	Male	Female	16-20	21-25	26-30	>=31	none	Certificate	Diploma	degree
No of	73	32	6	90	9	0	83	19	3	0
Total	105		105				105			

Table 4.7. Student Respondents Demographic Profile

Table 4.8 and 4.9 showed that one hundred five student respondents are drawn from different colleges and departments. Most of the respondents are from college of computing and department of computer science. As the reason mentioned in Table 4.1 most of graduating students are from college of computing and departments of CS.

Name of college	No of respondents	Percentage of the respondents (%)
Agriculture	13	12.4
Computing	29	27.6
Engineering	11	10.5
Faculty of Business and Economics(FBE)	11	10.5
Natural science	25	23.8
Social science	2	1.9
School of law	14	13.3
Total	105	100.0%

Table 4.8. College of Respondents of Students

Department of Respondents	No of respondents	No of respondents in percent (%)
Accounting	2	1.9
Agro-economics	3	2.9
animal science	1	1.0
Biology	2	1.9
Chemistry	4	3.8
Civics	2	1.9
Civil	4	3.8
Computer science(CS)	13	12.4
Economics	4	3.8
Electrical Engineering	5	4.8
English	5	4.8
Geography	3	2.9
Geology	3	2.9
Information science(IS)	5	4.8
Information Technology(IT)	11	10.5
Law school	2	1.9
Management	4	3.8
Mathematics	6	5.7
Mechanical Engineering	2	1.9
Natural Agricultural Rural management(NARM)	7	6.7
Public Administration management (PADM)	1	1.0
Physics	3	2.9
Plant science	2	1.9
Psychology	2	1.9
Sociology	3	2.9
Sport science	3	2.9
Statics	3	2.9
Total no of Respondents	105	100%

Table 4.9.Department of the respondents of Students

4.3. ICT Infrastructure for a Successful e-learning readiness

This section briefly discusses some of the relevant characteristics of the respondents whose primary data was collected, coded and entered in SPSS (version 20) package. To achieve the research objectives, frequency tables, percentages, mean and standard deviation were computed to present findings upon which interpretations and conclusions are done.

4.3.1. Administrators

Table 4.10 showed that regarding to ICT Infrastructure readiness for a successful e-learning of the respondents responded that the average percentage is 31.25 %(answered yes). Most of the respondents responded that 68.75 %(answered no).It shows that the responsible body do more on it.

Items	ICT Infrastructure readiness for a Successful E-Learning	
	Yes	NO
There is sufficient ICT hardware for e-learning use	1(25%)	3(75%)
There is a stable Internet connection in the university	1(25%)	3(75%)
There is a steady supply of electricity in the campus	1(25%)	3(75%)
There is an existing contingency plan in case of breakdown	2(50%)	2(50%)
Average	31.25%	68.75%

Table 4.10. ICT Infrastructure Readiness for a Successful E-Learning

4.3.2. Teacher Respondents

Table 4.11 showed that regarding to technology access of teachers, more than half which is 56.8 % (answered yes). While the remaining 43.2 % (answered no). It indicates there is some readiness, even if they need more work and improvements. Although the overall percentage of teachers technology accessibility is greater than the expected readiness, it needs more works on accessibility to a computer with the necessary software installed, accessibility to a computer with a printer installed and accessibility to a computer and Internet connection at home which negatively impact the readiness of e-learning.

Items	Teacher respondents technology accessibility	
	Yes	NO
I own a computer(pc, laptop) / smartphone I have access to a dependable computer (in school, cafes)	82(96.5%)	3(3.5%)
I have access to a computer with the necessary software installed	31(36.5%)	54(63.5)
I have access to a computer with a printer installed	19(22.4%)	66(77.6)
I have access to a computer and Internet connection everywhere.	2(2.4%)	83(97.6)
I have access to a computer with Internet connection	45(52.9)	40(47.1%)
I have access to a computer installed with search engines(ex. Google, Ask) and Internet browsers(ex. IE, Firefox, Google Chrome)	83(96.5%)	2(3.5%)
I have a virus protection on my computer	76(89.4%)	9(10.6%)
Average percentage	56.8%	43.2%

Table. 4.11. Teacher respondents and their technology accessibility

4.3.3. Student Respondents

Table 4.12 Regarding to technology access of students, more than half which is 53 %(answered no). While the remaining 47 %(answered yes). It indicates there is a problem on technology access for students. Due to that it needs additional operations to fill the gap. Although the overall percentage of students' technology accessibility is less than the expected readiness, there are activities which positively affect e-learning readiness regarding to technology accessibility. on the other hand it needs an improvement on accessibility to a computer with the necessary of software installed, accessibility to a computer with a printer installed and accessibility to a computer and Internet connection at home which negatively impact the readiness of e-learning.

Items	Student technology accessibility	
	Yes	NO
I own a computer(pc, laptop) / smartphone I have access to a dependable computer (in school, cafes)	68(64.8)	37(35.2%)
I have access to a computer with the necessary software installed	55(52.4)	50(47.6%)
I have access to a computer with a printer installed	11(10.5)	94(89.5%)
I have access to a computer and Internet connection at home	21(20)	84(80%)
I have access to a computer with Internet connection	56(53.3)	49(46.7)
I have access to a computer installed with search engines(ex. Google, Ask) and Internet browsers(ex. IE, Firefox, Google Chrome)	71(67.6)	34(32.4)
I have a virus protection on my computer	64(61)	41(39)
Average percentage	47.8%	52.2%

Table 4.12. Student Technology Accessibility

4.4. Measuring Administrative support

4.4.1. Administrative Support (Commitment and Policies)

Table 4.13 showed that regarding to administrative Support (Commitment and Policies) ($M_6=2.00$; $< M_{elr} =2.5$), which indicated that not ready needs some work. On the other hand ($M_1=3.25$; $(M_2=2.75$; $M_3=3.5$; $M_4=3.5$; $M_5=2.75$; $M_7=2.5$; $M_8=3.25$; $M_9=3.5$; $M_{10}=3.00 >M_{elr} =2.5$). This indicated that ready but needs a few improvements. It can be observed that the overall mean is greater than the expected e-learning readiness level [$M_o = 3.00 >2.5$]. Although the overall mean of administrative Support (Commitment and Policies) of the institution of readiness is ready, it needs a few improvement on the values that negatively affect (mean of item $<M_{elr}=2.5$).

No	Items	Definitely	Quite likely	Maybe	Not probable	Mean (M _n)	Std.Dev
1	There is a commitment on the part of institutional leaders to use technology to achieve strategic academic goals.	75%	25%	0	0	3.25	.500
2	There is commitment on the part of institutional leaders to use technology to achieve strategic goals and that such commitment extends beyond just using technology.	25%	50%	0	25%	2.75	1.258
3	The institution is willing to employ or assign an academically capable and/or experienced faculty to oversee the implementation of the e-learning environment.	75%	0	25%	0	3.50	1.000
4	The institution is willing to accept e-learning as a mode for teaching and learning.	50%	50%	0	0	3.50	.577
5	The institution support employees who seek out non-traditional development programs or experiences.	0	75%	25%	0	2.75	.500
6	The institution ensures to put up a committee that will work directly with the development of online courses and programs.	0	25%	50%	25%	2.00	.816
7	The institution provides teachers with professional development opportunities to assist them in improving their online teaching.	0	50%	50%	0	2.50	.577
8	The institution support teachers to have access to a network of other online practitioners to discuss pedagogical and curricular issues.	75%	0	0	25%	3.25	1.500
9	The institution is committed to learner-centered instruction.	75%	0	25%	0	3.50	1.000
10	Computing is firmly integrated into institution's culture.	0	100%	0	0	3.00	.000
Over all Mean(m_o)		3.00					

Table 4.13. Administrative Support (Commitment and Policies)

4.5. Resource Support (Financial, Human, Technical)

Table 4.14 illustrated that result of resource support (Financial, Human, Technical) ($M_1=3.00$; $M_2=2.75$; $M_3=2.50$; $M_4=3.00$; $M_5=2.5$; $M_6= 2.75 > Melr =2.5$) and it indicated that they are ready but needs a few improvements. It can be observed that the overall mean is greater than the expected e-learning readiness level [$Mo= 2.75 >2.5$]. Although the overall mean score for Resource Support (Financial, Human, Technical) is higher than the expected level of readiness [$Mo =2.75 >Melr=2.5$], all items under resource support (Financial, Human, Technical) are not that much enough to support e-learning. It can be clearly showed that there is an infant starting but needs an improvement.

No	Items	Definitely	Quite likely	Maybe	Not probably	Mean (Mn)	Std.Dev
1	The institution is financially ready to venture into e-learning.	25%	50%	25%	0	3.00	.816
2	The institution has experienced human resources, or a department that organizes trainings related to online learning.	0	75%	25%	0	2.75	.500
3	The institution have adequate human resources to support an e-learning initiative.	0	50%	50%	0	2.50	.577
4	Adequate and timely support is available to the teacher and students when technical issues arise.	25%	50%	25%	0	3.00	.816
5	The online platform used for course delivery has the necessary system capacity to support the learning activities of the course	25%	25%	25%	25%	2.50	1.291
6	The online platform provides appropriate tools for communication and collaboration.	50%	0	25%	25%	2.75	1.50
Over all Mean(Mo)		2.75					

Table 4.14. Resource Support (Financial, Human, Technical)

Summary of measuring administrative support

Table 4.15 concluded that they are ready but needs a few improvements regarding to administrator support which the overall mean is greater than that of expected e-learning readiness level ($M_o=2.875>2.5$).

Institutional Readiness	Average Mean (Mo)
Administrative Support (commitment, Policies, and Instructional)	3.00
Resource Support (Financial, Human, Technical)	2.75
Over all mean	2.875

Table 4.15.summary of Measuring Administrative support

4.6. ICT Experts E-learning readiness

From Table 4.16 it can be observed that the overall mean is greater than the expected e-learning readiness level [$M_o = 2.6>2.5$]. ICT experts are ready but needs a few improvements to solve the challenges that hinders e-learning readiness.

No	Factors affecting E-learning readiness in your institution	Strongly Agree	Agree to some extent	Strongly disagree	Undecided	Mean (Mn)	Std.Dev
1	Scarcity of ICT resources and infrastructure	50%	50%	0	0	1.5000	.70711
2	Problems in Internet connectivity and bandwidth issue	0	0	50%	50%	3.5000	.70711
3	Difficulty in engaging learners online	0	50%	50%	0	2.5000	.70711
4	Lack of confidence for technical support	0	50%	0	50%	3.0000	1.41421
5	Culture and Poor competencies in English language to identify technical problems regarding to usage	0	50%	50%	0	2.5000	.70711
6	Lack of awareness/know how to troubleshooting	0	50%	50%	0	2.5000	.70711
7	Unwillingness to change learning environment	0	0	100%	0	3.0000	.00000
8	Load shedding of electricity regarding to technical supports	0	50%	50%	0	2.5000	.70711
9	Lack of systemic approach to ICT	0	0	100%	0	3.0000	.00000
10	Ability for technical support	50%	0	50%	0	2.0000	1.41421
Over all Mean(Mo)		2.6					

Table 4.16. Factors affecting E-learning readiness regarding to ICT Experts

4.7. Teachers Technological confidence and Training

Table 4.17 indicated that measuring technological confidence and training. Basic computer skills of teachers are one part of technological confidence and training. Table 4.17 showed that the overall mean of basic Computer skills of teachers is greater than that of the expected ($[Mo=3.42 > melr =3.41]$) which indicated that they are ready but needs a few improvements. Although the overall mean of basic computer skills of teachers is greater than that of the expected, the two items under basic computer skill which are comfortably related to things like installing software, changing configuration settings on their computer and awareness to resolve common hard ware or software problems, they can access a technical support in case they encounter a problem needs some improvement.

No	Basic Computer Skills	very great extent	great extent	little extent	Very least extent	Not at all	Mean(Mn)	Std.Dev
1	I know how to save/open documents to/from a hard disk or other removable storage device.	62.4 %	24.7 %	8.2 %	2.4%	2.4%	4.42	.918
2	I am comfortable with things like installing software and changing configuration settings on my computer.	24.7 %	14.1 %	20. 0%	23.5 %	17.6 %	3.05	1.44 7
3	I know how to resolve common hard ware or software problems or I can access a technical support in case I encounter a problem.	17.6 %	16.5 %	16. 5%	28.2 %	21.2 %	2.81	1.41 0
Over all mean		3.42						

Table 4.17. Basic Computer Skills of Teacher Respondents

Table 4.18 showed that measuring technological confidence and training of teachers. Among those Internet/ online skills is one part of technological confidence and training. It described that the overall mean of Internet / online skills of teachers is greater than that of the expected ([$M_o=3.65 > m_e l r=3.41$]). Regarding to Internet/ online skills of teachers the result showed that they are ready but needs a few improvements.

No	Internet/ online skills	very great extent	great extent	little extent	Very least extent	Not at all	Mean (Mn)	Std.Dev
1	I have an email address and I can open//send with file attachments.	85.9%	2.4%	10.6%	1.2%	0%	4.73	.697
2	I am familiar with online etiquette.	14.1%	15.3%	55.3%	12.9%	2.4%	3.89	.913
3	I now I know how to know how to resolve common hard ware or software problems or I can access a technical support in case I encounter a problem. Surf the Internet and navigate the web pages (go to next, or previous page).	30.6%	41.2%	25.9%	2.4%	0%	4.0000	.81650
4	I can use web browsers (e.g. Internet Explorer, Google Chrome, Mozilla Firefox) confidently	27.1%	27.1%	21.2%	22.4%	2.4%	3.5412	1.18073
5	I know how to resolve common errors while surfing the internet such as “ page not found” or “connection timed out”	32.9%	27.1%	36.5%	3.5%	0%	3.6118	1.35483
6	I know how to access an online library and other resource database.	29.4%	37.6%	11.8%	7.1%	14.1%	2.8941	1.50415
7	I know how to use asynchronous tools (e.g. discussion, boards, chat tools) effectively.	25.9%	8.2%	16.5%	28.2%	21.2%	2.8941	1.54322
Over all mean		3.65						

Table 4.18: Teacher Respondents Internet/ Online skills

Table 4.19 showed that measuring technological confidence and training of teacher respondents. Among those measurement software productivity is one part of technological confidence and training. It described that, the overall mean of Software productivity skill of teacher respondents is less than that of the expected ($[Mo=3.30 < melr=3.41]$).It indicated that they are not ready needs some work.

NO	Software productivity skill of teacher respondents	very great extent	great extent	little extent	Very least extent	Not at all	Mean(M n)	Std.Dev
1	I know what PDF files are and I can download and view them.	40.0 %	27.1 %	27.1 %	5.9 %	0%	3.9059	.95896
2	I am familiar with word and use it comfortably.	32.9 %	32.9 %	25.9 %	8.2 %	0%	3.7647	1.14067
3	Know how to use file compression (winzip, rar, etc.)	32.9 %	32.9 %	11.8 %	22.4 %	0%	2.1765	1.58997
Over all mean		3.30						

Table 4.19: Software Productivity Skill of Teacher Respondents

Table 4.20 showed that measuring technological confidence and training of teacher respondents. Among those measurement training is one part of technological confidence and training. It described that, the overall mean of training of teacher respondents is less than that of the Expected ([$M_o=1.97 < m_{elr}=3.41$]). This implied that they are not ready, needs a lot of work.

No	Training	very great extent	great extent	little extent	Very least extent	Not at all	Mean (Mn)	Std.Dev
1	I have training on the use of the internet.	17.6	7.1	8.2	9.4	57.6	2.1765	1.58997
2	I have attended online classes before.	2.4%	3.5%	22.4%	25.9%	45.9%	1.8353	1.26158
3	I have used a learning management system before	7.1	8.2	15.3	11.8	57.6	1.9529	1.30845
4	I have the skills to modify and add content and assessment using an online learning management system.	4.7	8.2	18.8	17.6	50.6	1.9882	1.21002
5	I have attended seminars/workshops related to online learning activities.	2.4	3.5	22.4	25.9	45.9	1.9059	1.01914
Over all mean		1.97						

Table 4.20: Training of teacher respondents

Regarding technological confidence and training of teacher respondents, Table 4.19 and Table 4.20 are negative factors for readiness of technological confidence and training of teachers. On the other hand the two Tables (4.17 and 4.18) are positive factor for technological confidence and training of teachers. In general technological confidence and training readiness of teachers can be summarized by sum up the individual result of each item. Table 4.21 showed that the overall mean score is less than the expected level of readiness ($M_o=3.085 < M_{elr}=3.41$). Even if they are ready in basic computer skill and internet/online skills, they are not also ready in software application and training skills as shown in Table 4.21. Table 4.21 illustrated that the overall mean score of the participants' responses and the mean scores related to each item. So, Table 4.17- 4.20 can be summarized as follows:

No.	Items	Mean average of each item(Mo)
1	Basic Computer Skills of teacher respondents	3.42
2	Internet/ online skills of teacher respondents	3.65
3	Software application skill of teacher respondents	3.3
4	Training of teacher respondents	1.97
Over all mean(MO)		3.085

Table 4.21: Summary of technological confidence and training readiness of teachers

4.8. Attitudes towards a successful online teaching of teacher respondents

Table 4.22 measures attitudes towards a successful online learner. Among those teaching styles and strategies are one of the attitudes towards a successful online teaching of teachers. It described that the overall mean of teaching styles and strategies of teacher respondents is greater than that of the expected ([Mo=3.13 > melr=2.5]).It indicated that the university is ready but needs a few improvements according to teaching styles and strategies.

NO	Teaching Styles And Strategies of teacher respondents	Very often	Often	Some times	Never	Mean(Mn)	Std. Deviation
1	I use discussion as a teaching strategy for the subjects that I teach.	18.8%	28.2%	50.6%	2.4%	2.6353	.81426
2	I encourage independence and creativity from my student.	30.6%	30.6%	36.5%	2.4%	2.8941	.87319
3	I facilitate and monitor appropriate interaction among students	29.4%	32.9%	37.6%	0%	2.9176	.81958
4	As a teacher , I support student-centered learning	37.6%	28.2%	34.1%	0%	3.0353	.85143
5	I am flexible in dealing with student's needs (due dates, absences, make-up exams)	24.7%	48.2%	24.7%	2.4%	2.9529	.77006
6	Critical thinking and problem solving are important skills for my students.	32.9%	49.4%	17.6%	0%	3.1529	.69874
7	I use strategies to encourage active learning, interaction, participation, and collaboration among students.	35.3%	38.8%	23.5%	2.4%	3.0706	.82791
8	I use effective strategies and techniques that actively engage students in the learning process (e.g. use effective strategies and techniques that actively engage students in the learning process (e.g. team problem-solving, in-class writing, analysis, synthesis and evaluation instead of passive lectures).	38.8%	35.3%	23.5%	2.4%	3.1059	.84549
9	I encourage learning through group interaction.	37.6%	36.5%	25.9%	0%	3.1176	.79300
10	I provide timely, constructive feedback to students about assignments and questions.	34.1%	43.5%	22.4%	0%	3.1176	.74661
11	I use appropriate strategies designed to accommodate the varied talents and skills of my students.	49.4%	43.5%	7.1%	0%	3.4235	.62443
12	I provide student-centered lessons and activities that are based on concepts of active learning and that are connected to real-world applications.	47.1%	41.2%	11.8%	0%	3.3529	.68497
13	My teaching goals and methods address a variety of student learning styles.	38.8%	48.2%	12.9%	0%	3.2588	.67529
14	As a teacher, I view myself as a facilitator.	55.3%	31.8%	12.9%	0%	3.4235	.71342
15	I immediately consult with students to correct problems and keep them on task.	61.2%	28.2%	10.6%	0%	3.5059	.68354
Over all mean		3.13					

Table 4.22: Teaching Styles and Strategies

Table 4.23 measures attitudes towards a successful online learner. Among those teachers' ability towards a successful online is one of the measurement. It described that, the overall mean of abilities of teacher respondents is greater than that of the expected ($[Mo=3.20 > melr=2.5]$).The result showed that the university is ready but needs some improvement regarding to abilities of teacher respondents.

No	Abilities of teacher respondents	Very often	Often	Some times	Never	Mean(M n)	Std. Deviatio
1	Use the internet to locate resources for teaching.	55.3%	32.9%	9.4%	2.4%	3.4118	.76055
2	Work well with students with different cultural background.	48.2%	23.5%	28.2%	0%	3.2000	.85635
3	I communicate with students very well.	60.0%	16.5%	23.5%	0%	3.3647	.84300
4	can work independently, without the traditional class arrangement (students & teacher in the same class at the same time)	31.8%	25.9%	40.0%	2.4%	2.8706	.89693
5	feel I will be able to comfortable work online	31.8%	43.5%	24.7%	0%	3.0706	.75259
6	capable of self-discipline	35.3%	54.1%	10.6%	0%	3.2471	.63445
7	Able to work in a non-structured environment	36.5%	48.2%	15.3%	0%	3.2118	.69169
Over all mean		3.20					

Table 4.23: Abilities teacher respondent

Table 4.24 Measures attitudes towards a successful online learner. Under this, Motivation of teacher respondents is one of the measurement. Overall mean of abilities of teacher respondents is greater than that of the expected ($[Mo=3.41 > melr=2.5]$). The result showed that they are ready but needs some improvement regarding to motivation of teachers.

No	Motivation of teacher respondent	Very often	Often	Some times	Never	Mean(Mn)	Std. Deviation
1	My interest in online teaching is motivated by the flexibility it will give me to decide when I do my work	35.3 %	54.1%	10.6 %	0%	3.2471	.63445
2	My interest to teach online is motivated by the opportunity for me to pursue personal interests that are not work-related	34.1 %	41.2%	24.7 %	0%	3.0941	.76569
3	I am committed to teaching	67.1 %	24.7%	8.2%	0%	3.5882	.64169
4	I am highly motivated and enthusiastic	67.1 %	28.2%	4.7%	0%	3.6235	.57686
5	I set a goal before starting a task	63.5	28.2	5.9	2.4	3.5294	.71694
Over all mean		3.41					

Table 4.24: Motivation of teacher respondents

Table 4.25. Measures attitudes towards a successful online learner. Time management of teacher respondents is one of the measurement to attitudes towards a successful online teaching of teachers. The overall mean of those time management of teacher respondents is greater than that of the Expected ($[Mo=3.20 > melr=2.5]$).The result showed that they are ready but needs a few improvements regarding to time management.

No	Time management	Very often	Often	Some times	Never	Mean(Mn)	Std. Devia tion
1	I can dedicate 4 to 6 hours a week (anytime during the day or night) to participate in the online class	48.2%	35.3%	14.1%	2.4%	3.2941	.79916
2	I am willing to log on and contribute to an online classroom discussion and interact with student.	43.5%	31.8%	22.4%	2.4%	3.1647	.85700
3	I am able to create schedules for myself and stick to them	38.8%	38.8%	22.4%	0%	3.1647	.76915
	Over all mean	3.20					

Table 4.25: Time management of teacher respondents

Table 4.26 Measures attitudes towards a successful online learner. Usefulness of e-learning of teacher respondents is one of the measurement to attitudes towards a successful online teaching of teachers. The overall mean of those usefulness of e-learning of teacher respondents is greater than that of the Expected ($[Mo=3.42 > melr=2.5]$).The result showed that they are ready to go ahead regarding to Usefulness of e-learning.

NO	Usefulness of E-Learning of Teacher Respondents	Very often	Often	Some times	Never	Mean	Std. Deviation
1	Teaching is more effective and fun with the use of online learning materials	29.4%	62.4%	8.2%	0%	3.2118	.57929
2	E-learning improves the learning process and experience of students	34.1%	55.3%	10.6%	0%	3.2353	.62957
3	Teaching with e-learning improves my teaching methodology	47.1%	42.4%	10.6%	0%	3.3647	.66988
4	Online collaboration motivates students to actively participate in any discussion	64.7%	29.4%	5.9%	0%	3.5882	.60344
5	Using online resources increases my productivity	77.6%	16.5%	5.9%	0%	3.7176	.56929
Over all mean		3.42					

Table 4.26: Usefulness of e-learning of Teacher Respondents

Regarding attitudes towards a successful online teaching of teachers, all are positive factors for readiness of attitudes towards a successful online teaching of teachers. From Table 4.27 it can be observed that the overall mean score is greater than the expected level of readiness ($M_o=3.272 > M_{elr}=2.5$). Based on this result, it can be inferred that the participants over all attitudes towards a successful online teaching are ready to go ahead.

Table 4.27 showed that the overall mean score of the participants' responses and the mean scores related to each item. Table 4.22- 4.26 can be summarized as follows.

No.	Items	Mean average of each item
1	Teaching Styles And Strategies of teacher respondents	3.13
2	Abilities of teacher respondents	3.20
3	Motivation of teacher respondents	3.41
4	Time management of teacher respondents	3.20
5	Usefulness of teacher respondents	3.42
Over all mean(MO)		3.272

Table 4.27: Attitudes towards a successful online teaching

4.9. Student's technological confidence, support and training

Table 4.28 showed that basic computer skills of students are one part of technological confidence and training. Overall mean of basic computer skills of students is less than that of the expected ($[Mo=3.08 < melr=3.41]$). This implied that they are not ready needs some work.

No	Basic Computer Skills	very great extent	great extent	little extent	Very least extent	Not at all	Mean (Mn)	Std.Dev
1	I know the basic functions of computer hardware components (CPU and monitor) including its peripherals like the printer, speaker and mouse.	14.3%	29.5%	19.0%	22.9%	14.3%	3.0667	1.29546
2	I know how to save/open documents to/from	31.4%	22.9%	15.2%	22.9%	7.6%	3.4762	1.34519
3	I am comfortable with things like installing software and changing configuration settings on my computer.	13.3%	26.7%	26.7%	19.0%	14.3%	3.0571	1.25444
4	I know how to resolve common hardware or software problems or I can access a technical support in case I encounter a problem	6.7%	21.0%	28.6%	26.7%	17.1%	2.7333	1.17069
Over all mean		3.08						

Table 4.28. Basic Computer Skills of student respondents

Table 4.29 showed that measuring technological confidence and training of students. Here, Internet/ online skills are one part of technological confidence and training. Overall mean of Internet/ online skills of student is less than that of the expected ($[Mo=3.09 < melr=3.41]$). It described that they are not ready needs some work regarding to Internet/ online skills.

No	Student respondents Internet/ online skills	very great extent	great extent	little extent	Very least extent	Not at all	Mean (Min)	Std.Dev
1	I can send an email with file attachments	27.6 %	25.7 %	21.9 %	15.2 %	9.5%	3.4667	1.30138
2	I am familiar with online etiquette	7.6 %	22.9 %	22.9 %	28.6 %	18.1 %	2.7333	1.21897
3	I know how to surf the internet and navigate the web	13.3 %	23.8 %	26.7 %	22.9 %	13.3 %	3.0095	1.24418
4	I can use web browsers (eg. Internet Explorer, Google Chrome) confidently	31.4 %	27.6 %	21.9 %	16.2 %	2.9%	3.6857	1.16284
5	I know how to resolve common errors while surfing the internet like “page cannot be found” or “connection time out”	11.4 %	25.7 %	24.8 %	29.5 %	8.6%	3.0190	1.16834
6	I am comfortable with things like doing searches, setting bookmarks, and downloading files	21.0 %	30.5 %	24.8 %	17.1 %	6.7%	3.4190	1.19116
7	I know how to access an online library and other resource database	4.8 %	21.0 %	21.9 %	30.5 %	21.9 %	2.5619	1.18422
8	I know how to use asynchronous tools (eg. Discussion boards, chat tools) effectively	12.4 %	21.0 %	24.8 %	26.7 %	15.2 %	2.8857	1.25816
Over all mean		3.09						

Table 4.29: Student respondents Internet/ online skills

Table 4.30 showed among measurement of technological confidence and training of student respondent, software productivity skill of student respondents is one part of technological confidence and training. Overall mean of Software productivity skill of student is less than that of the Expected ([Mo=3.01<melr=3.41]. It indicated that they are not ready needs some work.

NO	Student respondents Software application skill	very great extent	great extent	little extent	Very least extent	Not at all	Mean(Mn) (Mn)	Std.Dev
1	I know what PDF files are and I can download and view them.	32.4 %	29.5%	19.0%	10.5%	8.6%	3.6667	1.26845
2	I am familiar with word and use it comfortably.	11.4 %	29.5%	34.3%	18.1%	6.7%	3.2095	1.08038
3	Know how to use file compression (winzip, rar, etc.)	32.9 %	32.9%	11.8%	22.4%	0%	2.1765	1.58997
Over all mean		3.01						

Table 4.30: Student Respondents Software Application Skill

Table 4.31 showed that technological confidence and training of student respondents. Here, Student respondents training accessibility is one part of technological confidence and training. Overall mean of training accessibility of student is less than that of the Expected ([Mo=2.28<melr=3.41]. It indicated that they are not ready, needs a lot of work.

No	Student respondents Training accessibility	very great extent	great extent	little extent	Very least	Not at all	Mean (Mn)	Std.Dev
1	I have prior training on e-learning.	2.9%	15.2%	21.9%	32.4%	27.6%	2.3333	1.12375
2	I have attended online classes.	5.7%	10.5%	27.6%	19.0%	37.1%	2.2857	1.23034
3	I have used a learning management system before.	4.8%	14.3%	26.7%	18.1%	36.2%	2.3333	1.23776
4	I have attended seminars/workshops related to online learning activities.	3.8%	16.2%	17.1%	19.0%	43.8%	2.1714	1.25925
Over all mean		2.28						

Table 4.31: Student respondents training accessibility

Table 4.32 showed that technological confidence and training of student respondents. Here, Student respondents Social Support is one part of technological confidence and training. Overall mean of Social Support of student is less than that of the expected ($[Mo=3.08 < melr=3.41]$).It showed that they are not ready needs some work.

No	Social support for student respondents	very great	great extent	little extent	Very least	Not at	Mean (Mn)	Std.Dev
1	My parents encourage me to use the internet for learning purposes	13.3%	21.9%	23.8%	19.0%	21.9%	2.8571	1.34757
2	My parents encourage me to use electronic devices for learning purposes	16.2%	21.9%	23.8%	22.9%	15.2%	3.0095	1.31189
3	My teachers encourage me to use the internet for learning purposes	17.1%	27.6%	35.2%	9.5%	10.5%	3.3143	1.17926
4	My friends encourage me to learn with the use of the internet and electronic materials	21.0%	34.3%	24.8%	13.3%	6.7%	3.4952	1.16126
5	The school provides use e-learning materials and opportunity to learn online	12.4%	23.8%	19.0%	16.2%	28.6%	2.7524	1.41272
Over all		3.08						

Table 4.32: Social Support for Student Respondents

Summary of technological Confidence and Training Readiness of Students

Technological confidence and Training readiness of the students can be summarized by showing the individual results of each item. So, Table 4.33 showed that the overall mean score of the participants' responses and the mean scores of items related to each Item. Table 4.28 to Table 4.32 can be summarized as follows. It can be observed that the overall mean score is less than the expected level of readiness ($M_o=2.908 < M_{elr}=3.41$).Based on the result that shown from Table 4.33, it can be inferred that the participants over all technological confidence and Training readiness are not ready that needs some work.

No.	Items	Mean average of each item
1	Basic Computer Skills	3.08
2	Internet/ online skills	3.09
3	Software application skill	3.01
4	Training	2.28
5	Social support	3.08
	Over all mean(MO)	2.908

Table 4.33: Summary of technological confidence and training readiness of students

4.10. Attitudes towards a successful online learner

Table 4.34 measures attitudes towards a successful online learner. Among those Study Habits of student respondents are one of the attitudes towards a successful online learners of students. Overall mean of study habits of student respondents is greater than that of the expected ($[Mo=2.88 > melr=2.5]$). It indicated that they are ready but needs a few improvements.

No	Study habits of student respondents.	Very often	Often	Some times	Never	Mean(Mn)	Std. Deviation
1	When I have an important assignment	47.6%	24.8%	23.8%	3.8%	3.1619	.92116
2	I prefer to study or work alone	41%	25.7%	24.8%	8.6%	2.9905	1.00475
3	I look forward to learning new skills and master them quickly	34.3%	34.3%	25.7%	5.7%	2.9810	.93006
4	As a learner, I am highly confident	42.9%	34.3%	20.0%	2.9%	3.1714	.84872
5	I am able to refrain from distractions and stay on task while studying	22.9%	34.3%	32.4%	10.5%	2.6952	.94180
6	When asked to learn new technologies, I do not put it off	25.7%	37.1%	25.7%	11.4%	2.7714	.96334
7	I am determined to stick to studies despite challenging situations	28.6%	24.8%	36.2%	10.5%	2.7143	.99725
8	I don't need direct lecture to understand learning materials	23.8%	27.6%	34.3%	14.3%	2.6095	1.00475
Over all mean		2.88					

Table 4.34: Study Habits of student respondents

Table 4.35 showed that attitudes towards a successful online learner. Here, Student respondents' ability is one part of attitudes towards a successful online learner. Overall mean of abilities of student respondents is greater than that of the Expected ($[Mo=3.007 > melr=2.5]$). It indicated that they are ready but needs a few improvements.

No	Abilities of student respondents	Very often	Often	Some times	Never	Mean(Mn)	Std. Deviation
1	I am able to express my thoughts and ideas in writing	33.3%	36.2%	27.6%	2.9%	3.0000	.85485
2	I am a self-starter	32.4	41.0	20.0	6.7	2.9905	.89330
3	I am able to communicate effectively with others using online technologies	29.5%	28.6%	34.3%	7.6%	2.8000	.95475
4	I take responsibility for my own learning	41.9%	36.2%	15.2%	6.7%	3.1333	.91006
5	Taking responsibility for staying in contact with my instructor would be easy for me	39.0%	35.2%	23.8%	1.9%	3.1143	.83567
Over all mean		3.007					

Table 4.35: Abilities of student respondents

Table 4.36 showed that attitudes towards a successful online learner. Here, Student respondents' motivation is one part of attitudes towards a successful online learner. Overall mean of motivation of student respondents is greater than that of the expected ($[Mo=2.83 > melr=2.5]$).the result indicated that they are ready but needs a few improvements.

No	Student respondents' motivation	Very often	Often	Some times	Never	Mean	Std. Deviation
1	I consider flexibility in time as an important motivating factor in taking an online class	28.6%	32.4%	31.4%	7.6%	2.8190	.93830
2	I am highly motivated and enthusiastic to take an online course	30.5%	37.1%	23.8%	8.6%	2.8952	.93976
3	I enjoy learning that is both interesting and challenging and I am motivated in such situations to go beyond the minimum requirements	28.6%	36.2%	25.7%	9.5%	2.8381	.95196
4	I would be able to remain motivated even though the instructor is not online at all times	23.8%	37.1%	26.7%	12.4%	2.7238	.96571
5	I set a goal before starting a task	36.2%	30.5%	27.6%	5.7%	2.9714	.93497
6	I would be able to complete my work even when there are in my home (eg. Television, children and such).	22.9%	39.0%	30.5%	7.6%	2.7714	.89073
Over all mean		2.83					

Table 4.36: Student respondents' motivation

Table 4.37 showed that attitudes towards a successful online learner. Here, time management of student respondents is one part of attitudes towards a successful online learner. Overall mean of time management of student respondents is greater than that of the expected ($[Mo=2.71 > me_{lr}=2.5]$). It indicated that they are ready but needs a few improvements.

NO	Time Management of student respondents	Very often	Often	Some times	Never	Mean	Std. Deviation
1	Considering my schedule, I am able to spend significant time and energy to engage in online learning class	20.0%	34.3%	39.0%	6.7%	2.6762	.87151
2	I do not have trouble getting things done on time	19.0%	29.5%	41.0%	10.5%	2.5714	.91837
3	I am able to organize my time well so that work and tasks don't build up	19.0%	41.9%	30.5%	8.6%	2.7143	.87392
4	I can sacrifice personal time to complete assignments and readings	32.4%	32.4%	27.6%	7.6%	2.8952	.94994
Over all mean		2.71					

Table 4.37: Time Management of student respondents

Table 4.38 showed that attitudes towards a successful online learner. Here, usefulness of e-learning of student respondents is one part of attitudes towards a successful online learner. Overall mean of usefulness of e-learning of student respondents is greater than that of the expected ($[Mo=3.03 > melr=2.5]$). The result showed that they are ready but needs a few improvements.

NO	Usefulness of e-learning	Very often	Often	Some times	Never	Mean	Std. Deviation
1	Learning would be more effective with the use of online learning materials	37.1%	36.2%	20.0%	6.7%	3.0381	.91907
2	E-learning would improve my learning process	40.0%	33.3%	20.0%	6.7%	3.0667	.93301
3	Learning online reduces the time I spend on unproductive activities	40.0%	31.4%	21.9%	6.7%	3.0476	.94443
4	Learning online saves me money I spend on printed learning materials and transportation cost	41.9%	34.3%	16.2%	7.6%	3.1048	.93976
5	Online collaboration improves my written communication and analytical thinking skills.	28.6%	40.0%	24.8%	6.7%	2.9048	.89361
Over all mean		3.03					

Table 4.38: Usefulness of e-learning

Regarding attitudes towards a successful online learners of students, all are positive factors of readiness of attitudes towards a successful online learners of students. From Table 4.39, it can be observed that the overall mean score is greater than the expected level of readiness ($M_o=2.8914 > M_{elr}=2.5$). Based on this result, it can be inferred that the participants over all attitudes towards a successful online learners are ready but needs a few improvements. In general attitudes towards a successful online learners of students can be summarized as follow.

No.	Items	Mean average of each item
1	Study habits of student respondents.	2.88
2	Abilities	3.007
3	Motivation	2.83
4	Time management	2.71
5	Usefulness	3.03
Over all mean(MO)		2.8914

Table 4.39. Attitudes towards a successful online learner overall readiness

4.11. Qualitative Study

4.11.1. Response Rate

The interviewee who was an academic vice president selected purposively. The reason why academic vice president was selected is that the majority of his activities is related to teaching and learning process .Furthermore, he is in a better position to know about teaching system, future e-learning plan of the university and students and teachers' awareness about e-learning. The interview question were prepared in English and interviewed in English. There were no any translator, simply the questions are prepared in English and asked to him and the researcher wrote what he said. He gave a constructive response about definition of e-learning , Current status, awareness and attitude consideration of the university regarding e-learning, institutional readiness and initiatives, factors that affects e-learning readiness in the university and future plan regarding to e-learning .

4.11.2. Findings from the Interview with Academic Vice President (AVP) of the University

Definition of E-learning

As the interviewee could express “e-learning is an electronic learning which can teaching and learning process can be delivered by electronically through email, internet, etc. It is also very important for academic institution. If there is e-learning in the universities, it has so many benefits. First, it can reduce the amount of face to face lecture time. Second, it can avoid the shortage of human and material resources. Third, it improves and acquire technological knowledge (developing technological skill). Fourth, it could give more practical, interactive and collaborative activities to the students.

Current status, awareness and attitude of the University of e-learning

According to interviewee “the attitude and awareness of the community in the university is different for different departments. In fact around engineering and technology there is good attitude and awareness about e-learning more than other departments because they are nearest and most of their activities invite them to use electronic materials. Teachers and students are familiar to use internet, email, yahoo, etc. whereas in other departments there is no that much know how about it. Therefore, to create the awareness and attitudes for the communities as whole it needs more researches and training”.

E-learning readiness in the institution

According to interviewee “e-learning needs so many preparedness. Among those there should be internet connection, there also should be sufficient lab classes, the libraries should be ready, there should be comfortable classes to deliver the courses, there should be experts who have knowledge about e-learning and it should be financially ready. Even though ASU is ready in internet connection, lab classes and also financially, there is not that much enough as it required. Therefore, to be ready more such types of research is very important for the university”.

E-learning initiatives in institution

As interviewee expressed that integration of Information and Communication Technologies (ICTs) in education sector has completely changed dynamics of teaching and learning process; and has undeniable impact on learning outcomes. Consequently, the learning outcome as well as expand the learning opportunities. By now every things are dependent on technology. Therefore everybody is initiated for it.

Main factors that affects E-learning readiness in the university

The factors that affect e-learning readiness are:-financial, Infrastructure, human resource, experts and network installation. In general availability of hardware, faster Internet Connectivity, awareness, availability of reliable electricity, open source software, appropriate policies, provision of technical support for e-learning, appropriate content, appropriate languages and improving training for teachers on e-learning in all levels are factors that affect e-learning readiness.

Future plan regarding to E-learning

As interviewee, “this research can initiate the community to think about e-learning readiness of our university .We want to that ASU should be a competent university as other old universities. So we should plan to do on the readiness of e-learning activities”.

The major tasks that should be done towards the readiness of e-learning at HEIs are enormous. As the interviewees claimed, “some of the future plan on the readiness of e-learning are preparing e-learning labs (for extending lab), preparing Workshops for creating awareness, discussion on how to create motivation in the staff and preparing continuous training to run their courses. The interviewee commented that our university needs such types of researches to be stable learning and teaching process specially supported by technological teaching learning process. If we can be research based the government also supports us facilitate to start e-learning”. Finally he said that “We think together, we work together for the development of our university”.

4.12. Findings from Library director

The director of library asked open ended question, since he is in a related position to give clues regarding the readiness and the responsibility of the library of e-learning. He answered a constructive response for his open ended questions that consists definition or know how, readiness of the library for e-learning and responsibility.

Definition of E-learning

As he defined e-learning is all about the electronic or digital information which are accessed by the users by using electronic instruments like computers through online/Internet. It is also half or all parts of the courses are delivered by using computer by the help of Internet.

Readiness of the library for E-learning and Responsibility

As he explains, “the library have started digital libraries partially. But it is not ready for e-learning by now. The problems that hinder for e-learning readiness are:-resources, experts, fear of the learner, fear of the teachers, and no any research that are done around it before”. ASU is at the infant age in such activities. Most of learners and teachers have no that much capacity to do with Internets, and have no any sufficient resources as it requires. So it needs so many works. According to the director, “as a director if the university have interest to ready for e-learning he can take responsibility to ready library for e-learning use as much as possible”.

Chapter Five

Conclusions and Recommendations

5.1. Summary of findings

This chapter presents summary of findings, conclusions and recommendations. The use of e-learning is an attractive method of teaching and learning strategy for many HEIs around the world. Therefore, it is important to assess e-learning readiness, including technological aspects and attitudes to be successful in the implementation and adoption of e-learning. In this study the assessment of readiness of ASU was done by considering technology access, technological confidence and training, attitudes towards a successful online teaching and learning, readiness factors, ICT infrastructure readiness for a successful e-learning, administrative support (commitment and policies) and resource support (financial, human, technical) of teachers and graduating students, ICT experts, library director and administrator staffs. According to the assessment that have done there is some positive readiness and negative factors that hinders readiness of e-learning. There is need for change of mindset especially for administrators that ICT infrastructure is not the only indicator for e-learning adoption, but how ready the learners and teachers are able to use them in an enabling environment. The study used a stratified sampling technique and purposive sampling to come up with the sample for the study. The researcher used questionnaires and interviews as research instruments for data collection. The quantitative data was analyzed using descriptive statistics, using Statistical Package for the Social Sciences (SPSS V20) and the qualitative data was analyzed by using word expression.

The first objective of this study was to examine technological accessibility in the University teachers and students. The second objective was to examine students' and teachers', attitudes and abilities of use technology towards a successful online teaching and learning , ICT Infrastructure readiness for a successful e-learning of administrators and factors affecting e-learning readiness in the institution of ICT experts. The third objective was to assess financial, human and technical supports. The result showed that administrative Support (Commitment and Policies) and resource Support (Financial, Human, Technical) of administrators.

The finding showed that regarding technology access of teachers, 56.8% of the respondents respond that they have technology access to practice e-learning and the remaining 43.2% of the respondents can't get technology access. It indicates there is some readiness, even if they need some improvements. And regarding to teachers, attitudes and abilities of use technology towards a successful online teaching, the result showed as they have positive attitudes which is [Mo=3.272 > Melr =2.5]. Lastly, they are not ready needs some work regarding technological confidence and training ([Mo=3.085 < Melr =3.4].

Concerning technology access of students, 53% of respondents respond that they have no technology access to practice e-learning. The remaining 47% of the respondents can get technology access. It indicates there is a problem on technology access for students. This can be taken as hinders for e-learning readiness. And regarding to students, attitudes and abilities of use technology towards a successful online learning, the result showed as they have positive attitudes which is [Mo=2.8914 > Melr =2.5]. Finally, they are not ready needs more work regarding technological confidence and training [Mo=2.908 < Melr =3.4].

Concerning ICT infrastructure of a successful e-learning readiness of administrators, the problem is on sufficient ICT hardware for e-learning use, a stable internet connection in the university, the presence of a steady of electricity supply in the campus. On the other hand, only about 50% of the respondents have an existing contingency plan. It indicates that there is great problem of ICT infrastructures to be ready. And the result of administrative Support (Commitment and Policies) and resource support (Financial, Human, Technical) of administrators showed that [Mo= 2.875>2.5]. It indicates that they are ready but needs a few improvements. ICT experts are ready, need some improvements to solve the challenges that hinders e-learning readiness which is [Mo = 2.6>2.5].

5.2 conclusion

E-learning is one of an important topic, especially for universities'. For an effective implementation of an e-learning program first assessments of its readiness is critical issue. Assessing the readiness of the university needs its appropriate model. For this research among different models the researcher adopted an appropriate model which is related to the work. The model consists demographic factors, technological readiness, content readiness and cultural readiness. The study focused on teachers, students, administrators, ICT experts and library director. In general assessment; teachers regarding to technology access and attitudes towards a successful online teaching, students regarding to attitudes towards a successful online learner, administrators regarding to administrative support and ICT experts regarding to their responsibility are ready but needs improvements. The remaining assessments are not ready needs more work. As the assessment finding indicated that, even if there are some readiness that motivates to think beyond on the implementation of e-learning, there are also factors that are not ready to it. This thesis is used to identify a factor which are ready from a factor which is not ready.

Technological accessibility or availability, faster Internet connectivity, improved software, awareness on the value of e-learning, availability of reliable electricity, awareness and motivation of users, technical support for e-learning, availability of appropriate content in appropriate languages, training and seminars for teachers, students and ICT experts in e-learning, social, resource and administrative supports are an effective indicator of e-learning readiness.

The results of this study indicated that the required readiness which delays e-learning in the institution are the infrastructure problem, lack of awareness and motivation, lack of ICT skill, lack of training facilities, technological confidence and training teachers and students and lack of ICT infrastructure of a successful e-learning readiness of administrators.

5.3. Recommendations

Based on the findings of this research, the researcher recommended on the need of the following measures in order to improve the readiness of e-learning system and minimize the problems they are facing right now.

- University management and a responsible body invest more on e-learning readiness by improving the factors which is ready but needs improvement and on the other hand factors which are not ready that requires more work. Since the university is one of the new generation universities, it needs so many activities to fulfill its infrastructure.
- A thoughtful effort is required to enhance accessibility to be reliable and fast Internet connectivity and other ICT's for learning. A training and seminar plan can be settled to build capacity of the concerned body about e-learning. Provide creative solutions for student's access to online tools. Mechanisms should also be put in place to motivate learners to pursue online courses. Online communication and discussion should be encouraged. There should be continuous provision of computer trainings and up-skilling all teaching staff in e-learning capability.
- The government invest and give attention for the readiness of e-learning to solve the problems that occur there.
- Finally, the researcher recommended that further research can be held to spread and enhance this research mainly focused on developing an appropriate e-learning model for Asossa University to adopt or implement e-learning.

Reference

1. Al-adwan, A., & Smedley, J. (2012). Implementing e-learning in the Jordanian higher education system: factors affecting impact. *International journal of education and development using information and communication technology (IJEDICT)*, 8(1), 121-135.
2. Albandoz, J. P. (2001). Population and sample. Sampling techniques. Partial support of the European Community in the framework of the Sokrates programme., University of Seville, Management Mathematics for European Schools.
3. Al-Huneidi, A., & Schreurs, J. (2012). *E-learning readiness in organizations Case Kbc Bank*. *IJAC*, 5 (1), 1-7.
4. Alshaher, A. A.-F. (2013). The McKinsey 7s Model Framework for E-Learning system readiness Assessment. *International journal of advances in engineering & technology*, 6 (5), 1948-1966.
5. Aydin, C.H, & Tasci, D. (2005). Measuring Readiness for e-learning: Reflections from an Emerging Country. *Educational Technology & Society*, 8(4), 244-257.
6. Azimi, H. M. (2013). Readiness for implementation of e-learning in colleges of education. *Journal Of Novel Applied Sciences (JNASCI)*, 2(12), 769-775.
7. Chapnick, S. (2000). Are you ready for e-learning? *ASTD'S Online Magazine all about learning*.
8. Doculan, J. A. (2016). E-Learning Readiness Assessment Tool For. *International Journal On Integrating Technology In Education (IJITE)* ,5(2), 33-43.
9. Dykema, J., Elver, K., Schaeffer, N. & Stevenson, J. (2010). *A Guide to Designing And Implementing Surveys*. *Survey Guide*, University Of Wisconsin Survey Center, Office Of Quality Improvement.

10. Engholm, P. (2001). What Determines An Organisation's Readiness For E-Learning? Msc Thesis, Monash University, Australia, Managment.
11. Fitzpatrick, T. (2012). Key success factors of elearning in education: A professional development model to evaluate and support elearning. David , 789-795.
12. Haney, D. (2002). Assessing organizational readiness for e-learning: 70 questions to ask. Performance Improvement, 41 (4), 8-13.
13. Hirut, B. (2011). The challenges and current status of elearning in ethiopian higher education Institutions: Case of Mekelle University. Msc Thesis, Addis Abeba University, Information Science.
14. Israel, G. D. (2009). Determining Sample Size. Florida: Peod-University of Florida.
15. James-Springer, C. (2016). Building a tool for determining e-learning readiness of organizations:a design and development study. Phd thesis, virginia polytechnic institute and state university, philosophy.
16. Kadri, H. (2007). E-learning:study with one course and two environments. Msc thesis, university of taritu, computer scinece.
17. Kashorda, M., & Waema,T.M. (2011). E-readiness assessment framework – a tool for institutional self-assessment. University of nairobi, information systems.

18. Kaur, K., & Abas, Z. W. (2004). An Assessment of E-learning Readiness at the Open University Malaysia. *Paper Presented At The International Conference On Computers In Education (Iccee2004)*, Melbourne, Australia.
19. Kothari, C.R. (2004). *Research Methodology: Methods and Techniques*. Second Revised Edition.
20. Lopes, C. T. (2007). Evaluating e-learning Readiness in a Health Sciences Higher Education Institution. Paper Presented at the Iadis International Conference E-Learning 2007, Porto, Portugal.
21. Mahmud, K., & Khonikagope. (2009). Challenges of Implementing E-Learning for Higher Education in Least Developed Countries: A Case Study on Bangladesh. *International Conference on Information and Multimedia Technology*.
22. Makori, G., Ndirangu, M., & Ogola, F. (2013). Information and communication technology use among teacher education students in universities in kenya. *International journal of scientific & technology research*, 2(11), 176-179.
23. Memene, D., & Simmons. (2015). A Study Of Elearning Implementation Readiness In Togolese Higher Education Institutes (HEI(S)). *International Journal Of Scientific & Technology Research*, 4(02), 24-28.
24. Mercado, C. A. (2008). Readiness assessment tool for an elearning environment implementation. *Special issue of the international journal of the computer, the internet and management*, 16, 18.1-18.11.
25. Mosa, A. Mahrin, N. & Ibrahimi, R. (2016). Technological aspects of e-learning readiness in higher education. *Ccsenet.org/cis*, 9(1), 113-127. Canadian center of science and education.

26. Mulugeta, S. (2015). Theoretical Perspective: E-Learning Challenges And Proposed Framework In Developing Countries. Beyond Development. Time For A New Ict4d Paradigm?Proceedings Of The 9th Idia Conference, (Pp. 368-377). Nungwi,Zanzibar.
27. Navani, Y., & Ansari, M. A. (2016). A study of e-learning readiness of university faculty. *International journal of current research*, 8(08), 52-56.
28. Nawaz, A. (2013). Review using e-learning as a tool for ‘education for all’ in developing states. *International journal of science and technology educational reseacrh*, 4(3), 38-46.
29. Ngamporncha, A., & Admas, J. (2016). Students’ Acceptance And Readiness For E-Learning In Northeastern Thailand. *International Journal Of Educational Technology In Higher Education*.
30. Oketch, & Achieng, H. (2013). E-learning readiness assessment model in kenyas’ higher education institutions: A case study of university of nairobi. Msc thesis, university of nairobi, management science.
31. Oketch, H., Njihia, J., &Wausi, A. (2014). E-learning readiness assessment model in Kenya s’ higher education institutions: A case study of university of Nairobi. *International journal of scientific knowledge*, 5(6), 29-41.
32. Okinda, R. A. (2014). Assessing e-learning readiness at the kenya technical teachers college. *Journal of learning for development(JLAD)*,1(3).
33. Olatokun, W.M., & Opesade, O. A. (2008). An e-readiness assessment of Nigeria’s Premier University (Part 1). In *International Journal of education and development using information and communication technology (IJEDICT)*, 4(2).

34. Oliver, R., & Towers, S. (2000). *Up Time: Information Communication Technology: Literacy and Access for Tertiary Students in Australia*, Canberra: Department Of Education, Training and Youth Affairs.
35. Olson, J., Codde, J., deMaagd, K., Tarkelson, E., Sinclair, J., Yook, S., & Egidio, R. (2011). An Analysis of e-learning Impacts & Best Practices in Developing Countries With Reference to Secondary School Education in Tanzania. The ICT4D Program, Michigan State University, The College Of Engineering.
36. Ouma, G. O. (2013). Level of e-learning implementation readiness in public secondary schools: a study of rachuonyo north and. Msc Thesis, Kisii University, Information System.
37. Ouma, G. O., Awuor, F. M., & Kyambo, B. (2013). E-learning readiness in Public Secondary Schools in Keny. *European Journal of Open, Distance, and e-learning*, 16(2), 97-110.
38. Parlakkılıç, A. (2015). E-learning readiness in Medicine: Turkish Family Medicine (Fm) Physicians Case. *The Turkish Online Journal of Educational Technology*, 14 (2), 59-62.
39. Rasouli, A., Rahabania, Z., & Attaran, M. (2016). Students' readiness for e-learning application in Higher Education. *Malaysian Online Journal Of Educational Technology(MOJET)*, 4 (3), 52-60.
40. Rhema, A., & Miliszewska, I. (2014). Analysis of student attitudes towards e-learning: The case of engineering students in Libya. *Issues in Informing Science and Information Technology*, 11, 169-190.
41. Rohayani.AH, A., Kurniabudi, & Sharipuddin. (2015). A literature review: readiness factors to measuring e-learning readiness in higher education. *Procedia computer science*, 59, 230-234.

42. Rosenberg, M.J. (2000a). *E-learning: strategies for delivering knowledge in the digital age*: New York:Mcgraw-Hill.
43. Red, E. R., Borlongan, H. G., Briagas, T. T., & Mendoza, M. J. (2013). An Assessment of the eLearning Readiness State of Faculty Members and Students. *International Journal of the Computer, the Internet and Management*, 21(3), 20-26.
44. Saekow, A. & Samson, D. (2011), "E-learning readiness of Thailand's Universities Comparing USA'S Cases", *International Journal of education, E-business, E-management And E-learning*, 1(2), 126.
45. Schreurs, J. Sammour, G. & Ehlers, U. (2012.). *E-learning readiness in organizations: case kbc bank*.
46. Song, S. M. (2010). *E-learning investigating students' acceptance of online learning in hospitality programs*. Iowa state university.
47. Tarus, J., Gichoya, D., & Muumbo, A. (2015). Challenges of implementing e-learning in Kenya: A case of Kenyan public universities. *The international review of research in open and distributed learning*, 16(1).
48. Tesfalidet, K.,& Nirmala, M. (2015). The impact of e-learning to enhance quality of education:the case of adama science and technology university. *African journal of computing & ict*, 8(1), 155-162.
49. Tubaishat, A., & Lansari, A. (2011). Are students ready to adopt e-learning? A preliminary e-readiness study of a university in the gulf region. *International journal of information and communication technology research*, 1(5), 210.

50. Ünal, .Y, Alır, G., & Soydal, I. (2014). Student's readiness for e-learning: An assessment on Hacettepe University Department of Information Management, 137–147.
51. Vate-U-Lan, P., & Ed.D. (2007). Readiness of elearning connectivity in thailand. *special issue of the international journal of the computer, the internet and management*, 15, 21.1-21.7.
52. Wagner,N. Khaled,H.& Milena, H. (2008). Who is responsible for e-learning success in higher education? A stakeholders' analysis. *International forum of educational technology & society (IFETS)* , 26-36.
53. Yamane, T. (1967). *Statistics, an introductory analysis* (2nd Ed.). New York: Harper and row.
54. Youssef, A. B. (2008). The impact of ict on student performance in higher education: direct effects, indirect effects and organisational change. 45-56.
55. Five most important methods for statistical data analysis. (2017) .Retrieved march 29, 2017, from <http://www.bigskyassociates.com/blog/bid/356764/5-Most-Important-Methods-For-Statistical-Data-Analysis>
56. Measures of Central Tendency. (2017). Retrieved April 1, 2017, from <https://statistics.laerd.com/statistical-guides/measures-central-tendency-mean-mode-median.php>
57. Analyzing Likert Data. (2012). Retrieved may 12, 2017, from <https://www.joe.org/joe/2012april/tt2.php>.

Appendices
Addis Ababa University
School Of Graduate Studies
School Of Information Science

Appendices A: Research Questionnaires

Dear respondents:

My name is Yenework Belayneh, a post-graduate student at the school of Information Science at Addis Ababa University. Currently I am doing a Master's thesis entitled as “**ASSESSMENT OF E-LEARNING READINESS OF ASOSSA UNIVERSITY (ASU)**”.

The objective of this questionnaire is to collect data from teachers, students, library director, ICT experts and administrative officers in order to investigate E-Learning readiness of ASU and to suggest possible recommendations to implement the usage of E-learning in the university. Therefore, I kindly request you to spend about half an hour of time to complete this questionnaire to the best of your abilities.

All the information you will provide will be kept strictly confidential. Moreover, the information that you will provide is quite useful to achieve the objective of the study.

I would like to thank in advance for your cooperation in completing the questionnaire.

Directions

If you have any questions regarding to the questionnaire, you can contact me (Yenework Belayneh).

Note: - Dear respondents' you should focus on the questions only with yours!!!!

After completing the questionnaire you should return back the questioner sheet for the person who gives it.

QUESTIONNAIRE ONE

Teachers' Questionnaire

The following Questionnaires are for only Instructors who are selected from all departments.

PART I: Personal information

- 1) Specify your gender Male Female
- 2) Your age
 22-28 29-35 36-42 43 and above
- 3) What is the name of your college? _____
- 4) What is the name of your department? _____
- 5) What is your computer-related qualification?
A. Certificate B. Diploma C. Degree D. None

Part II:-It is presented in Tables 1.1, 1.2 and 1.3, the three sections of the teacher instrument which measures Technology access, Technological confidence and Training, and Attitudes toward a successful online teacher. Table 1 measures technology access and answerable with Yes (√) or No (X).

Table 1. 1. Technology Access

Technology Access	1	I own a computer(pc, laptop) / smartphone I have access to a dependable computer (in school, cafes)	
	2	I have access to a computer with the necessary software installed	
	3	I have access to a computer with a printer installed	
	4	I have access to a computer and internet connection at home	
	5	I have access to a computer with internet connection	
	6	I have access to a computer installed with search engines(ex. Google, Ask) and internet browsers(ex. IE, Firefox, Google Chrome)	
	7	I have a virus protection on my computer	

Table 1.2 presents questions to measure technological confidence and training. It is a 5-point Likert Scale response where 1= Not at all, 2=Very least extent, 3= Little extent, 4= Great extent, 5= very great extent with each statement. Answer by putting the numbers on the space provided.

Table 2.1 Technological confidence and Training

Basic Computer Skills	1	I know how to save/open documents to/from a hard disk or other removable storage device.	
	2	I am comfortable with things like installing software and changing configuration settings on my computer.	
	3	I know how to resolve common hard ware or software problems or I can access a technical support in case I encounter a problem.	
Internet/ online skills	1	I have an email address and I can open//send with file attachments.	
	2	I am familiar with online etiquette.	
	3	I now I know how to surf the internet and navigate the web pages (go to next, or previous page).	
	4	I can use web browsers (e.g. Internet Explorer, Google Chrome, Mozilla Firefox) confidently	
	5	I know how to resolve common errors while surfing the internet such as “ page not found” or “connection timed out”	
	6	I am comfortable with things like doing searches, setting, bookmarks, and downloading files.	
	7	I know how to access an online library and other resource database.	
	8	I know how to use asynchronous tools (e.g. discussion, boards, chat tools) effectively.	
Software productivity skill	1	I know what PDF files are and I can download and view them.	
	2	I am familiar with word and use it comfortably.	
	3	I know how to use file compression (winzip, rar, etc.)	
Training	1	I have training on the use of the internet.	
	2	I have attended online classes before.	
	3	I have used a learning management system before	
	4	I have the skills to modify and add content and assessment using an online learning management system.	
	5	I have attended seminars/ workshops related to online learning activities.	

Table 1.3 measures attitudes towards a successful online learner. It is a 4-point Likert scale response where 1=Never, 2= Sometimes, 3= Often, 4= Very often.

Table 1.3. Attitudes towards a successful online teaching

Teaching Styles And Strategies	1	I use discussion as a teaching strategy for the subjects that I teach.	
	2	I encourage independence and creativity from my student.	
	3	I facilitate and monitor appropriate interaction among students	
	4	As a teacher , I support student-centered learning	
	5	I am flexible in dealing with student’s needs (due dates, absences, make-up exams)	
	6	Critical thinking and problem solving are important skills for my students.	
	7	I use strategies to encourage active learning, interaction, participation, and collaboration among students.	
	8	I use effective strategies and techniques that actively engage students in the learning process (e.g. use effective strategies and techniques that actively engage students in the learning process (e.g. team problem-solving, in-class writing, analysis, synthesis and evaluation instead of passive lectures).	
	9	I encourage learning through group interaction.	
	10	I provide timely, constructive feedback to students about assignments and questions.	
	11	I use appropriate strategies designed to accommodate the varied talents and skills of my students.	
	12	I provide student-centered lessons and activities that are based on concepts of active learning and that are connected to real-world applications.	
	13	My teaching goals and methods address a variety of student learning styles.	
	14	As a teacher, I view myself as a facilitator.	

	15	I immediately consult with students to correct problems and keep them on task.	
Abilities	1	I use the internet to locate resources for teaching.	
	2	I work well with students with different cultural background.	
	3	I communicate with students very well.	
	4	I can work independently, without the traditional class arrangement (students & teacher in the same class at the same time)	
	5	I feel I will be able to comfortable work online	
	6	I am capable of self-discipline	
	7	I able to work in a non-structured environment	
Motivation	1	My interest in online teaching is motivated by the flexibility it will give me to decide when I do my work	
	2	My interest to teach online is motivated by the opportunity for me to pursue personal interests that are not work-related	
	3	I am committed to teaching	
	4	I am highly motivated and enthusiastic	
	5	I set a goal before starting a task	
Time management	1	I can dedicate 4 to 6 hours a week (anytime during the day or night) to participate in the online class	
	2	I am willing to log on and contribute to an online classroom discussion and interact with student.	
	3	I am able to create schedules for myself and stick to them	
Usefulness	1	Teaching is more effective and fun with the use of online learning materials	
	2	E-learning improves the learning process and experience of students	
	3	Teaching with e-learning improves my teaching methodology	
	4	Online collaboration motivates students to actively participate in any discussion	
	5	Using online resources increases my productivity	

QUESTIONNAIRE TWO

Student' Questionnaire

The following Questionnaires are for only graduating students who are selected from all departments.

PART I: Personal information

- 1) Specify your gender Male Female
- 2) Your age
 16-20 21-25 26-30 31 and above
- 3) What is the name of your college? _____
- 4) What is the name of your department? _____
- 5) What is your computer-related qualification?
A. Certificate B. Diploma C. Degree D. None

PART II: Tables 2.1, 2.2, and 2.3 present the three sections of the student questionnaire along technology access, Technological confidence, support and training, and, Attitudes towards a successful online learner.

The section Technology Access is answerable with Yes (√) or No(X) in front of the question.

Table 2.1. Technology Access

Technology Access	1	I own a computer(pc, laptop) / smartphone	
	2	I have access to a computer with the necessary software installed	
	3	I have access to a computer with a printer installed	
	4	I have access to a computer and internet connection at home	
	5	I have access to a computer in campus or internet cafes with internet connection	
	6	I have access to a computer installed with search engines(ex. Google, Ask) and internet browsers(ex. IE, Firefox, Google Chrome)	
	7	I have a virus protection on my computer	

Table 2.2 is focused on measuring technological confidence, support and training. It is a 5-point Likert Scale response where 1= Not at all, 2=Very least extent, 3= little extent, 4= Great extent, 5= very great extent with each statement. Put the number that you have choice in front of the question.

Table 2.2 Technological Confidence, Support and Training

	1	I know the basic functions of computer hardware components (CPU and monitor) including its peripherals like the printer, speaker and mouse.	
	2	I am comfortable with things like installing software and changing configuration settings on my computer.	
	3	I know how to resolve common hardware or software problems or I can access a technical support in case I encounter a problem	
	4	I know how to save/open documents to/from	
Internet/ online skills	1	I can send an email with file attachments	
	2	I am familiar with online etiquette	
	3	I know how to surf the internet and navigate the web	
	4	I can use web browsers (eg. Internet Explorer, Google Chrome) confidently	
	5	I know how to resolve common errors while surfing the internet like “page cannot be found” or “connection time out”	
	6	I am comfortable with things like doing searches, setting bookmarks, and downloading files	
	7	I know how to access an online library and other resource database	
	8	I know how to use asynchronous tools (eg. Discussion boards, chat tools) effectively	
Software application skills	1	I know what PDF files are and I can download and view them	
	2	I am comfortable with Microsoft office and use it comfortably	
	3	I am able to have several applications opened at the same time and move between them	
Training	1	I have prior training on e-learning	
	2	I have attended online classes	
	3	I have used a learning management system before	
	4	I have attended seminars/workshops related to online learning activities	
Social support	1	My parents encourage me to use the internet for learning purposes	
	2	My parents encourage me to use electronic devices for learning purposes	
	3	My teachers encourage me to use the internet for learning purposes	
	4	My friends encourage me to learn with the use of the internet and electronic materials	
	5	The school provides use e-learning materials and opportunity to learn online	

Table 2.3 measures attitudes towards a successful online learner. It is a 4-point Likert scale response where 1=Never, 2= Sometimes, 3= Often, 4= Very often.

Table 2.3. Attitudes towards a successful online learner

Study Habits	1	When I have an important assignment	
	2	I prefer to study or work alone	
	3	I look forward to learning new skills and master them quickly	
	4	As a learner, I am highly confident	
	5	I am able to refrain from distractions and stay on task while studying	
	6	When asked to learn new technologies, I do not put it off	
	7	I am determined to stick to studies despite challenging situations	
	8	I don't need direct lecture to understand learning materials	
Abilities	1	I am able to express my thoughts and ideas in writing	
	2	I am a self-starter	
	3	I am able to communicate effectively with others using online technologies	
	4	I take responsibility for my own learning	
	5	Taking responsibility for staying in contact with my instructor would be easy for me	
Motivation	1	I consider flexibility in time as an important motivating factor in taking an online class	
	2	I am highly motivated and enthusiastic to take an online course	
	3	I enjoy learning that is both interesting and challenging and I am motivated in such situations to go beyond the minimum requirements	
	4	I would be able to remain motivated even though the instructor is not online at all times	
	5	I set a goal before starting a task	
	6	I would be able to complete my work even when there are in my home (eg. Television, children and such).	
time Management	1	Considering my schedule, I am able to spend significant time and energy to engage in online learning class	
	2	I do not have trouble getting things done on time	
	3	I am able to organize my time well so that work and tasks don't build up	
	4	I can sacrifice personal time to complete assignments and readings	
Usefulness	1	Learning would be more effective with the use of online learning materials	
	2	E-learning would improve my learning process	
	3	Learning online reduces the time I spend on unproductive activities	
	4	Learning online saves me money I spend on printed learning materials and transportation cost	
	5	Online collaboration improves my written communication and analytical thinking skills.	

QUESTIONNAIRE THREE

Institutional Questionnaire

The following Questionnaires are for only administrative who are selected from the university.

Part: Personal information.

- 1) Specify your gender Male Female
- 2) Your age
 30-35 36-40 41-45 46 and above
- 3) What is your responsibility in the university? _____
- 4) What is your computer-related qualification?
A. Certificate B. Diploma C. Degree D. None

Part II: Tables 3.1, 3.2, and 3.3 present the dimensions of the questionnaire for administrators along ICT infrastructure, administrative support, and resource support. Table 3.1. Presents questions on ICT infrastructure readiness which are answerable with Yes ((√)) or No(X).

Table 3.1. ICT Infrastructure for a Successful E-Learning Implementation

1	There is sufficient ICT hardware for E-learning use	
2	There is a stable internet connection in the university	
3	There is a steady supply of electricity in the campus	
4	There is a an existing contingency plan in case of breakdown	

Tables 3.2 and 3.3 measure Administrative support along commitment and policies and resource support along human, financial and technical aspects. It is a 4-point Likert scale where 1 = probably not, 2=Maybe, 3= Quite likely 4= definitely.

Table 3.2. Administrative Support (Commitment and Policies)

1	There is a commitment on the part of institutional leaders to use technology to achieve strategic academic goals.	
2	There is commitment on the part of institutional leaders to use technology to achieve strategic goals and that such commitment extends beyond just using technology.	
3	The institution is willing to employ or assign an academically capable and/or experienced faculty to oversee the implementation of the E-learning environment.	
4	The institution is willing to accept E-learning as a mode for teaching and learning.	
5	The institution support employees who seek out non-traditional development programs or experiences.	
6	The institution ensures to put up a committee that will work directly with the development of online courses and programs.	
7	The institution provides teachers with professional development opportunities to assist them in improving their online teaching.	
8	The institution support teachers to have access to a network of other online practitioners to discuss pedagogical and curricular issues.	
9	The institution is committed to learner-centered instruction.	
10	Computing is firmly integrated into institution's culture.	

Table 3.3. Resource Support (Financial, Human, Technical)

1	The institution is financially ready to venture into E-learning	
2	The institution has experienced human resources, or a department that organizes trainings related to online learning	
3	The institution have adequate human resources to support an E-learning initiative	
4	Adequate and timely support is available to the teacher and students when technical issues arise.	
5	The online platform used for course delivery has the necessary system capacity to support the learning activities of the course	
6	The online platform provides appropriate tools for communication and collaboration.	

QUESTIONNAIRE FOUR

ICT Expert' Questionnaire

Part I: The following Questionnaires are for only ICT experts in the university who are randomly selected.

Personal information

1) Specify your gender Male Female

2) Your age

16-20 21-25 26-30 31 and above

3) What is your responsibility in the university? _____

4) What is your computer-related qualification?

A. Certificate B. Diploma C. Degree D. Others E. None

Part II: Table 7: What factors can affect E-learning readiness in your institution?

Description: 1= Strongly Agree 2=Agree to some extent 3=Strongly Disagree 4= Undecided		1	2	3	4
No	Factors affecting E-learning readiness in your institution				
1	Scarcity of ICT resources and infrastructure				
2	Problems in internet connectivity and bandwidth issue				
3	Difficulty in engaging learners online				
4	Lack of confidence for technical support				
5	Culture and Poor competencies in English language to identify technical problems regarding to usage				
6	Lack of awareness/know how to troubleshooting				
7	Unwillingness to change learning environment regarding to Experts				
8	Load shedding of electricity regarding to technical supports				
9	Lack of systemic approach to ICT				
10	Ability for technical support				

QUESTIONNAIRE FIVE

Library director Questionnaire

Part I: The following Questionnaires are for only library director in the university.

Part I: Personal information

1) Specify your gender Male Female

2) Your age

20-24 25-30 31-35 36 and above

3) What is your responsibility in the university? _____

4) What is your computer-related qualification?

A. Certificate B. Diploma C. Degree D. Others E. None

5) What do you think about E-learning related to library?

.....

6) Is the library ready to start E-learning?

A. Yes B.NO

7) If your answer for question 5 “NO” what problems are in library that hinders the readiness of E-learning?

.....

8) What is your responsibility for E-learning readiness of the university as a director?

.....

9) Any comments and suggestions?

Appendix B: Research Interview Questions

Interview Questions:

- 1) What do you think about E-learning?
- 2) What is the current status, awareness and attitude consideration of the institute regarding E-learning?
- 3) Is there any E-learning readiness in the institution?
- 4) Do you think that E-learning can support capacity development activities at your institution?
- 5) What E-learning initiatives are there in your institution?
- 6) What are the main factors that affects E-learning readiness in the university?
- 7) What will be the future plan regarding to E-learning?
- 8) Any comments and suggestions?

Note: The questions of the questionnaires and interviews are adopted from Special issue of the international journal of the computer, the internet and management and International Journal on Integrating Technology in Education (IJITE) (Mercado, 2008); (Doculan, 2016) and (Hirut,2011) thesis and some questions are added by me.

Appendix C: DECLARATION

I declare this thesis is my original work and has not been presented for a degree in any other university.

Date

This thesis has been submitted for examination with approval of my advisor.

Advisor