ASSESSING THE IMPLEMENTATION OF E-LEARNING MANAGEMENT SYSTEMS AT THE UNIVERSITY OF ZAMBIA.

BY

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A Dissertation submitted to the University of Zambia in partial Fulfillment of the requirements for the award of the Degree In Masters of Business Administration Management Strategy

THE UNIVERSITY OF ZAMBIA

LUSAKA

2024

DECLARATION

I, Jackson M. Sililo, do hereby declare that the work presented in this dissertation is the result of my research work except to the extent indicated in the Acknowledgements and references and comments included in the report and that it has not previously been submitted for any Degree at this or another University.

Signature:…… Date: ……

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APPROVAL

This Dissertation by Jackson M. Sililo is approved as a partial fulfilment of the requirements for the award of the Degree of Master of Business Administration Management Strategy.

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ABSTRACT

E-learning has become the protagonist for change and serves as an avenue for the creation, storing and sharing of knowledge among members of the university communities. The adoption of e-learning management systems by higher education institutions in Zambia has continued to observe poor strides due to high costs in the using and maintaining of e-learning systems, cost of equipment and staff to maintain the products. The main objective of this research was to assess the implementation of e-learning management systems in higher learning institutions in Zambia: A case study of the University of Zambia. To explore the challenges faced by The University of Zambia in adoption of e-learning management systems. The data analysis of this research however, revealed that about 50% of the lecturers remained neutral with only 41% agreeing that the e-learning platform was convenient for their studies. A larger proportion of the students was also neutral (67.28%), with a cumulative total of only 29% agreeing that it was convenient for all their academic work. This therefore means that there was no overwhelming evidence to show that e-learning platform was convenient for lecturers 'studies and students 'academic work. These findings confirm the importance of the expected consequences of using e-learning, suggesting that training programs and organizational policies could be instituted to enhance or modify these expectations as proposed by Thompson, Higgins and Howell (1991).

Keywords: *E-Learning, Higher Learning, adoption, management*

ACKNOWLEDGEMENTS

Firstly, I wish to thank the almighty God for enabling me to undertake this study. His grace and love was upon me throughout the study. This project would not have been possible without the support of many people. Many thanks to Dr. Mayumbo Nyirenda for his guidance throughout the study. Your comments were valuable all the time.

Further gratitude goes to Dr. Moffat Tembo , Mrs. Evelyn Namunjewa “Njewa” Kasempa, Mrs. Yanila Luhanga Mukape, Mrs. Elizabeth Bwebe Bobo Chaile, Mrs. Chibale Phiri Malekani, Ms. Sandra Musonda Chola and Mr. Chanda Collins Njele for your encouragement for me to complete my studies despite my busy schedules at work. To my course mates, I want to say thank you for all the support and the wonderful experiences we shared.

Special gratitude goes to Poniso Sililo, David Ngenda, Paul Phiri, Jonathan Musonda, Musangu Fundulu, Rabecca Mwale, Kudawashe Chitanga and Mubanga Chitanga for your understanding and being there for me.

DEDICATION

To my late mother (Mrs B.M.K Sililo) ,my wonderful brother (Poniso Sililo) and my late brother (Mundia Mukelabai).

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LIST OF ACRONYMS

UNZA	University of Zambia
ICT	Information and Communication Technology
WBT	Web-based training
IBT	Internet-based training
CBT	Computer-based training
CD	Compact Discs
CD ROM	Compact Disc Read Only Memory
WHO	World Health Organization
DVDs	Digital Versatile Discs
CMS	Course Management Systems
LMS	Learning Management Systems
OSS	Open-Source Systems
CS	Commercial Systems
TRA	Theory of Reasoned Action
TPB	Theory of Planned Behavior
SEM	Structural Equation Modeling
SN	Subjective Norm
SPSS	Statistical Package for Social Science
IT	Information Technology
TTF	Task-Technology Fit

CHAPTER 1
INTRODUCTION

E-learning has become the protagonist for change and serves as an avenue for creating, storing, and sharing knowledge among members of the university communities. A better summary of what e-learning is offered by Ghirardini (2011), who says that e-learning uses computer and internet technologies to deliver a broad array of solutions to enable learning and improve performance. E-learning is a general term for teaching and learning activity that uses any electronic device or network entirely or only partially. E-learning is a change from the conventional education or training system to a more ICT-based, personalized, and flexible education system. E-learning may also be referred to as distance learning, virtual education, digital education, web-based training (**WBT**), Internet-based training (**IBT**), computer-based training (**CBT**), or technologically enhanced learning, depending on the emphasis of the delivery method or the components. The delivered learning materials may be text, images, animations, video tutorials, or a computer program (Guragain, 2016).

E-learning is the future. It was projected that in 2015 it would reach $107 Billion, and it did. Research and markets forecast that e-learning will reach $325 by 2025. This article also showed that online courses made $ 46 Billion the previous year. E-learning is already proving to be very popular in universities, and it is estimated that by 2019, roughly half of the university classes worldwide will be offered online". Major multinational companies also use some form of technology to train their staff. The popularity of the Internet and Internet-based applications has increased. It has affected how we conduct our day-to-day activities. People rely increasingly on the internet to find the information they seek or even learn new subjects.

Thus, any university can utilize e-learning opportunities to impart knowledge to its students and staff. This is the case for Zambian universities, as many universities in Zambia are over-enrolling students and looking for ways to expand their reach. E-learning, thus presents a good platform for a university to scale both in enrollments and revenues.

1.1 Background of the study

Learning, as we may know it, has undergone various stages of development throughout history. Technology has greatly shaped how learning is conducted, mainly how lessons are delivered to learners. In the 1980s, the approach was to use conventional instructor-based training. As technology advanced in the 1990s and we had the **CD ROMs** and the web, training delivery also moved a step further and instructors could record their Respondents on **CD ROMs** and use-based content. By the turn of the century in 2000, streaming, synchronizing platforms, and learning management systems had been put in place and were in use. By 2005, the mobile handheld devices were being accommodated into the e-learning process, leading to further developments.

Technology has been appreciated as a basis for competitive advantage for various business sectors. The education sector has also utilized e-learning technology and has recorded some progress in education accessibility. However, Kunda, Chembe & Mukupa, brought out a lack of adequate Internet bandwidth and lack of proper hardware (insufficient number of computers) for Lecturers and students as the primary barrier and obstacle to integrating ICTs in researching, teaching and learning (Kunda, Chembe & Mukupa 2018).

Banda (2016) indicated that out of ten provinces of Zambia, the population stood at 16 million. Out of this population, 11.6 million people had mobile telecommunication tools, signifying a 74% mobile telecommunication penetration rate. In comparison, 6.1 million use mobile data, translating into a 39% mobile data usage penetration rate. As of 2016, 6.1 million people use mobile data, supported by 38,316 internet service providers nationwide. The above statistics prove that mobile phones and internet had become major channels for education, creativity and self-expression for most citizens. However, 30% of the 6.1 million people who use the internet are between 24 and 35. This 30% of the 6.1 million population translates into 1.83 million of the population of the internet users. Of the 1.83 million internet users, only 18% (0.33 million) use it for educational activities such as research, studying, assessments, etc.

1.2 Statement of the problem

In the last 5 years, the Zambian education system has been affected by two major out breaks; Covid and cholera. On October 6, 2017, an outbreak of cholera was confirmed in Zambia after laboratory

confirmation from stool specimens from two patients with acute watery diarrhea. Cholera cases increased rapidly, from several hundred cases in early December 2017 to approximately 2,000 by early January 2018, (Sinyange Et al, 2018). According to the Lusaka times 5th January publication, The regstrar's office issued a statement that indicated that the University would be closing until further notice due to the outbreak, (lusakatimes.com, 2018).

In December 2019, a viral outbreak of pneumonia of unknown origin occurred in Wuhan, China. On 9 January 2020, the World Health Organization (**WHO**) officially announced the discovery of a novel coronavirus: SARS-Cov2. This new virus is the pathogen responsible for this infectious respiratory disease called COVID-19, (Khan, 2021).

On 11 March 2020, the World Health Organization (**WHO**) changed the classification of the novel infection COVID-19 from an epidemic to a pandemic. COVID-19 is a respiratory infection that can range from mild symptoms to moderate to severe illness. Due to the incredibly contagious nature of this virus, it quickly spread across the world and created population density-compliant hotspots, (Intarasuwan Et al, 2020). The University Senate through the registrar's office proceeded to issue a statement that indicated the University Of Zambia would be closed and that learning would continue via their E-learning platforms.

The effective implementation and accessibility of these systems present challenges that need to be addressed. This problem statement aims to identify and articulate the issues surrounding the accessibility of e-learning management systems at universities and propose potential solutions. Despite the increasing reliance on e-learning management systems in higher education, many universities face significant challenges in ensuring equitable access to these platforms for all students, faculty, and staff. The following key problems hinder the efficient utilization of e-learning management systems:

Some universities lack the necessary technological infrastructure (e.g., reliable internet connectivity, sufficient computing devices) to support seamless access to e-learning platforms.

Digital divide: Socioeconomic disparities among students and faculty contribute to uneven access to devices and internet connectivity, limiting the effectiveness of e-learning initiatives.

Disability accommodations: E-learning platforms may not be fully accessible to students with disabilities, including those requiring screen readers, alternative input devices, or other assistive technologies.

Poorly designed user interfaces can impede user experience, particularly for individuals with limited digital literacy or English language proficiency.

Lack of intuitive design elements can lead to confusion and frustration among users, hindering their ability to navigate and utilize e-learning platforms effectively. E-learning platforms may not be compatible with all devices and operating systems, limiting accessibility across different platforms. Technical glitches, system downtimes, and slow loading times can disrupt the learning process and impede access to course materials.

Inadequate training and support for students, faculty, and staff on how to effectively use e-learning platforms hinder their ability to fully utilize available features and functionalities. Inadequate technical support mechanisms leave users without timely assistance in troubleshooting issues related to accessing or using e-learning management systems. To address these challenges and enhance access to e-learning management systems at universities, the following solutions are recommended:

Investment in technological infrastructure to ensure reliable internet connectivity and access to computing devices for all students and faculty. Implementation of policies and initiatives to bridge the digital divide, including providing subsidies for devices and internet access to economically disadvantaged students and faculty. Mandating accessibility standards for e-learning platforms to ensure compliance with disability accommodations and support for assistive technologies.

Improvement of user interface design through user-centered design principles, usability testing, and continuous feedback from stakeholders.

Regular maintenance and updates of e-learning platforms to address compatibility issues and ensure system reliability. Provision of comprehensive training programs and ongoing support for users to enhance their proficiency in utilizing e-learning management systems effectively. Establishment of dedicated technical support services to address user inquiries and resolve technical issues promptly. Enhancing access to e-learning management systems at universities

requires addressing accessibility barriers, improving user interface design, resolving technical issues, and providing adequate training and support for users. By implementing the proposed solutions, universities can create an inclusive learning environment that leverages the full potential of e-learning technologies to support student success and academic excellence.

The University of Zambia has adopted E-learning practices but it is unknown how successful the implementation of these practices is going and what factors are affecting the implementation of e-learning.

1.3The Purpose of the Study

The study aimed to assess the implementation of e-learning management systems at **UNZA**.

1.4 General Objective

To assess the implementation of e-learning management systems at The University of Zambia.

1.4.1 Research Objectives

1. To explore the challenges faced by The University of Zambia in the implementation of e-learning management systems.
2. To describe the factors that affect the implementation of e-learning management systems by students and lecturers.
3. To outline the advantages of implementing e-learning management systems for The University of Zambia.

1.4.2 Research Questions

1. What are the challenges The University of Zambia faces in implementing e-learning management systems?
2. What are the factors that affect the implementation of e-learning management systems by students and lecturers?
3. What are the advantages of implementing e-learning management systems for The University of Zambia?

1.5 Significance of Study

This study was significant on several levels. Firstly, it should be of interest to the management of Schools of higher learning, such as The University of Zambia, to understand the challenges faced by its Respondents and students alike. This will help the institution to address these challenges and improve the implementation of E-Learning Management Systems in Higher Learning institutions in Zambia (Fry et al., 2009)

Implementation, as discussed in this study, was not restricted to processes and procedures to be followed but also encompasses the organizational environment that should be present for the lecturer and student. This was because it was one thing to set up a system and quite another to have the system produce the sort of value required. The latter depends on the organizational environment and is just as important, if not more important, than the structures and procedures (Fry et al., 2009).

1.6 Scope and Location of the Study

The study was confined to the University of Zambia, Great East Road campus. This is because this is the oldest (established in 1965) biggest and highest learning institution in Zambia. Ideally, one would want to study the whole population of universities in Zambia. Still, due to particular constraints such as time and resources, the study was thus restricted to being a case study of The University of Zambia

1.7 Ethical Considerations

The research is subjected to challenges such as cultural beliefs that require specific information not to be given out by respondents, bias, emotional stress on respondents, and lack of voluntarism. The research is for academic purposes; thus, any consequent result will be treated as such. In addition, the code of ethics will be upheld. This entailed that consent would be sought from the respondents; the influence of any form was avoided. The researcher respected the rights and confidentiality of respondents.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter will look at several aspects of the problem being investigated looked at from the perspective of other researches carried out from different parts of the world. We shall firstly look at E-Learning as a whole its self, from which we shall further look at E-learning Systems literature from other researchers, we shall also have a third component which is Theories of e-learning and finally we shall reach a comprehensive conclusion.

2.2 Learning

Learning is acquiring new knowledge or modifying and reinforcing existing knowledge, behavior, skills, values, or preferences and may involve synthesizing different types of information (Bernstein et al., 2018). Dunn et al. (2019) revealed that knowledge and skills acquisition is a complex process that involves a learner's biological characteristics or senses (physiological dimension); personality characteristics such as attention, emotion, motivation, and curiosity (affective dimension); information processing styles such as logical analysis or gut feelings (cognitive dimension); and psychological or individual differences (psychological dimension).

Traditional learning is a face-to-face interaction between the student and educator and between the students themselves and total organizational control over the process (Coleman, 2011). The learning process includes lectures, case studies, team projects, and so forth and it is conducted in a synchronous environment, meaning that the students must be in the same place at the same time to learn (Black, 2002).

2.3 E-Learning

Diana (2012) states that e-learning uses electronic media and ICT in education to facilitate knowledge sharing. It uses internet technologies to deliver various solutions that enhance knowledge and performance. Similarly, Dei (2020) asserts that e-learning is education and knowledge sharing based on modern methods of communication, including the use of computers

and their networks, various audio-visual materials, search engines, electronic libraries, and websites, whether accomplished in the classroom or at a distance. Browaeys (2006) concludes that e-learning is an umbrella term that covers learning and knowledge sharing almost anytime, anywhere on a computer and usually connected to a network to promote higher thinking.

In the opinion of Lwoga (2017), e-learning mainly consists of five characteristics:

1. Learning occurs anytime and anywhere, not only in the classroom.
2. Learners take on the role of organizers. Instructors serve as both the distributors of educational content and facilitators of the learning process.
3. Learning is a lifelong process; thus, it is not linked solely to educational Schools.
4. Learning takes place in communities of learning or communities of practice; learners participate in formal and informal communities.
5. Learning is informal and non-formal at home, at work, and during leisure time and is no longer centered on teachers or Schools.

2.4. E-learning Systems

Various technologies facilitate e-learning (Sendall et al., 2018). Most e-learning uses combinations of techniques: blogs, collaborative software, ePortfolios, and virtual classrooms in knowledge dissemination (Alkhateeb et al., 2010). According to Diana (2012), the technologies are interactive technologies that support many different types of capability. These include internet access to digital versions of materials unavailable locally, internet access to search and transactional services, interactive diagnostic or adaptive tutorials, interactive educational games, remote control access to local physical devices, personalized information and guidance for learning support, and simulations or models of scientific systems.

Sendall et al. (2018) also identified technologies such as communications tools for collaboration with other students and teachers, tools for creativity and design, virtual reality environments for development and manipulation, data analysis, modeling or organization tools and applications, and electronic devices to assist disabled learners. Diana (2012) and Okah et al. (2011) expressed that e-learning technologies and the Internet have opened new learning pathways in educational settings. Advancing this argument, Diana (2012) explained that computers provide diverse tools

for students that encourage autonomous behavior and increase the probability that they will interact with their learning environment. Further, technology-rich classrooms utilize multimedia to increase student interactions and enhance student learning. Jonassen et al. (2013) stated that students could benefit from e-learning when technology is used for problem-solving and information retrieval.

Functionally, e-learning includes various learning strategies and ICT applications for exchanging information and gaining knowledge (Diana, 2012). Muturi (2013) mentioned them as technology applications and processes. These are audio, video, computers, tablets, mobile devices, blogs, webcams, whiteboards, screen casting, learning management systems, learning content management systems, and electronic performance support systems. Lwoga et al. (2017) also stated such **ICT** applications include television and radio, Compact Discs (**CD**s) and Digital Versatile Discs (**DVDs**), video conferencing, mobile technologies, web-based technologies, and electronic learning platforms.

Marfo & Okine (2010) also opine that e-learning systems can be grouped based on the system's management or the cost and support of the system. The management of the system consists of course management systems (**CMS**) and learning management systems (**LMS**), while those based on cost and support consist of open-source systems (**OSS**) and commercial systems (**CS**).

2.5 Learning Management Systems in Education

Learning Management Systems (**LMS**) is learning organized and managed within an integrated system (Dalsgaad, 2016). E-learning management systems organize the learner's materials or information into a harmonized format, including segmented course units with assignments, assessments, and discussions (Downes, 2015). Some widely known examples of e-learning management systems are WebCT, Aculearn, TopClass, Desire2Learn, Moodle, Blackboard, Sakai, and LearnLink. These systems facilitate incorporating videoconferencing, online chat, digital whiteboard, screen captures, polling, voice messaging; with video, graphics, audio and animation import; presentations with voice narration, interactive quizzes, and threaded discussions (Gašević , 2014). They sometimes serve as course management systems (**CMS**) by providing virtual spaces for learner interaction, streamlining the course design process for instructors, and allowing

instructors to author, re-use, or repurpose content effectively with little competencies (Downes, 2015).

Some common features and tools of e-learning management systems include chats, e-mails, wikis, discussion forums, file sharing RSS feeds, weblogs, and social bookmarking" among many others (Dalsgaard, 2016). These tools facilitate learning and teaching strategies. As Dalsgaard (2016) puts it, it introduces and defines educational, social software as "networked tools that support and encourage individuals to learn together while retaining individual control over their time, space, presence, activity, identity and relationship." However, in implementing e-learning management systems to manage online courses, the Universities face some challenges, including cost. As a result, some Universities opt for free and open-source e-learning management systems that are equally efficient in their functions (Aydin and Tirkes, 2010). Open source software (OSS) has the flexibility to redesign the source code to increase quality and user assurance, create space for innovative design and development, make updates that echo the needs of the user, and give a higher level of control of native security features which is not permissible with some commercial software (Aydin and Tirkes, 2010).

2.6 Theoretical Framework

Theories of e-learning: Technology and e-learning, in particular, like any other field, have several related theories that lay a foundation for understanding their implementation. The following are theories that have been reviewed which relate to technology implementation;

Martin Fishbein and Icek Ajzen developed the Reasoned Action (**TRA**) theory. The theory of Reasoned Action is an improvement over Information Integration theory (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). It was the first theoretical perspective to gain widespread acceptance in technology acceptance research (Fishbein & Ajzen, 1975). **TRA** is a versatile behavioural theory that models attitude-behavior relationships. This theory maintains that individuals would use computers if they could see the positive benefits (outcomes) associated with using them.

Figure 1 presents the said Theory.

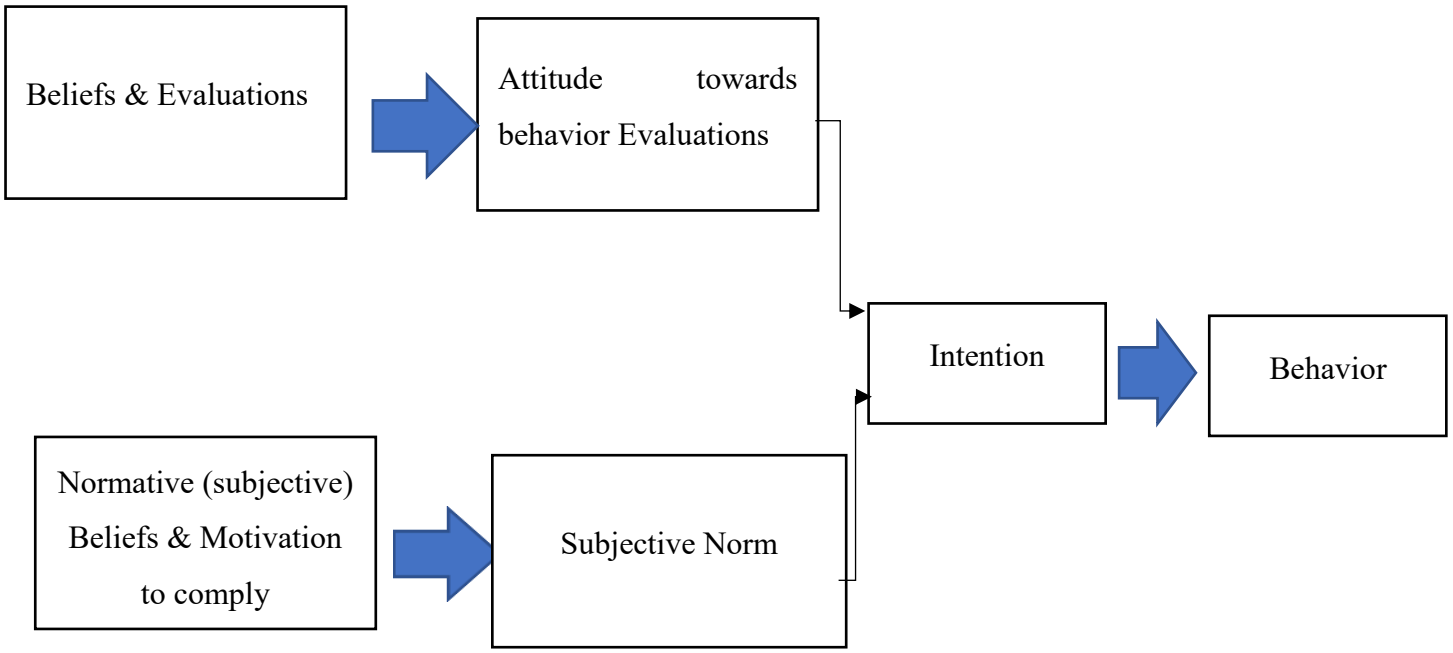


Figure 1: Theory of Reasoned Action Source: Ajzen & Fishbein 2010 cited in Otieno, Liyayla, Odongo & Abeka 2016.

Theory of Reasoned Action (**TRA**) is a series of related concepts and hypotheses postulated by social psychologists to understand and predict human behavior. From the onset of TRA in behavioral research, it has been applied to various situations and is now regarded as one of the most influential theories about intentional human behavior. It is based on the assumption that human beings usually behave sensibly, as the name of the Behavior Intention Normative (subjective) Beliefs & Motivation to comply Attitude towards behavior Evaluations Beliefs & Evaluations Subjective Norm theory suggests, they take account of available information and consider the implications of their actions. The theory postulates that a person's intention to perform or not to perform a behavior is the immediate determinant of that action. For example, the intention to adopt mobile phone payment technology in rural communities can be seen to depend on the users 'volitional behavior. The new users of technology typically consider the latest technology's available information and the implications of implementing or not implementing it. The

information considered may be the cost implications, availability of support services, the technical knowledge required to adopt the technology, and alternative ways of achieving the functions performed by the technology. An attitude is a series of things that affect how we think and behave, while subjective norms are behaviors that we perceive important people expect of us and our desire to comply with them (Otieno, Liyayla, Odongo & Abeka 2016).

Otieno, Liyayla, and Odongo (2016) hypothesize that the stronger the intention to adopt new technology, the more the person is likely to try applying this new technology and, therefore, the greater the possibility that the behavior will be performed. Thus, the primary concern is identifying the factors underlying the formation and change of behavioral intent. A person's intention to behave in a certain way is based on their attitude toward the behavior in question and their perception of the social pressures on them to act in that way, that is, subjective norms‖. The relative contribution of attitudes and subjective norms varies according to the behavioral context and individual involved.

Attitudes are determined by the beliefs about the outcomes of performing the behavior and the evaluation of these expected outcomes. The subjective norm is dependent on assumptions about how others feel the individual should behave and their motivation to comply with these expectations from others. This social pressure may have a bearing on the implementation of new technology. The subjective norm can be crucial in deciding whether to adopt a new technology in any community. Since the theory of Reasoned Action can also be used in technology implementation and general research as a fundamental theoretical framework, some researchers have used it alongside other theories and models in technology implementation, especially when attitudes and perceptions are involved. Attitude and subjective norm are essential determinants of peoples 'intentions to act, such as implementing and using new technology, and between the two constructs, 16 attitude has a significant influence on the intention to adopt and to continue using the new technology (Otieno, Liyayla & Odongo, 2016).

Al-Aulame (2013) discusses the Theory of Reasoned Action (Ajzen & Fishbein, 1980) as one of the earliest models developed to explain technology acceptance in Psychology. The theory was developed to predict and explain the individuals 'volitional behavior and to understand their psychological determinants. The theory assumes that individuals are rational and will act based on

the information available, with individuals 'behavioral intentions being the primary determinant for their actions (Ajzen & Fishbein, 1980). The theory considers intentions as the main predictor of an individual's behavior, and any external effect toward behavior will be through their intentions. According to TRA Fishbein and Ajzen (1975) cited in Yousafzai et al. (2010), the intention has two determinants for people's intentions:

1. Personal influence represents attitude, which refers to the positive or negative evaluations of the behavior performed by the individual (Ajzen, 1985)
2. Social influence is the subjective norm, which can be defined as the degree to which a person believes that people who are important to them think that they should or should not perform the behavior in matter (Ajzen, 1985).

The weight of these two determinates will differ based on the person performing the behavior and the intention being investigated. According to TRA, attitude is formed throughout the person's salient beliefs about a specific behavior. These salient beliefs will connect the person's behavior with the performance outcome. Alshaya and Albarq (2014) carried out a study that examined the applicability of the Theory of Reasoned Action (**TRA**) in the context of Internet banking intention using Structural Equation Modeling (**SEM**). The study was intended to test whether the theory was acceptable in a new context among non-Western cultures. The simplified theory was tested using survey data from 350 respondents. Of these, only 304 questionnaires were usable, while the rest were omitted due to incomplete responses or statistical circumstances. However, the study's results suggested that their generated model could better understand Internet banking behavior among Saudi consumers in Riyadh compared to the **TRA** model. The results indicated that direct paths from attitude to actual behavior and adding a path from SN (Subjective Norm) to attitude would improve the model's predictive power and provide convincing improvement in fit, more so than what had been established by the original **TRA** conceptual model. According to Sheppard, Hartwick, and Warshaw (1988) meta-analysis was done in the 1980s on the **TRA** and found that the theory had strong predictive utility. Still, some researchers, including Professor Icek Ajzen, felt that the theory was deficient in explaining behavior, especially of people who have little or feel they have little power over their behaviors. As a result, Professor Icek Ajzen added a new

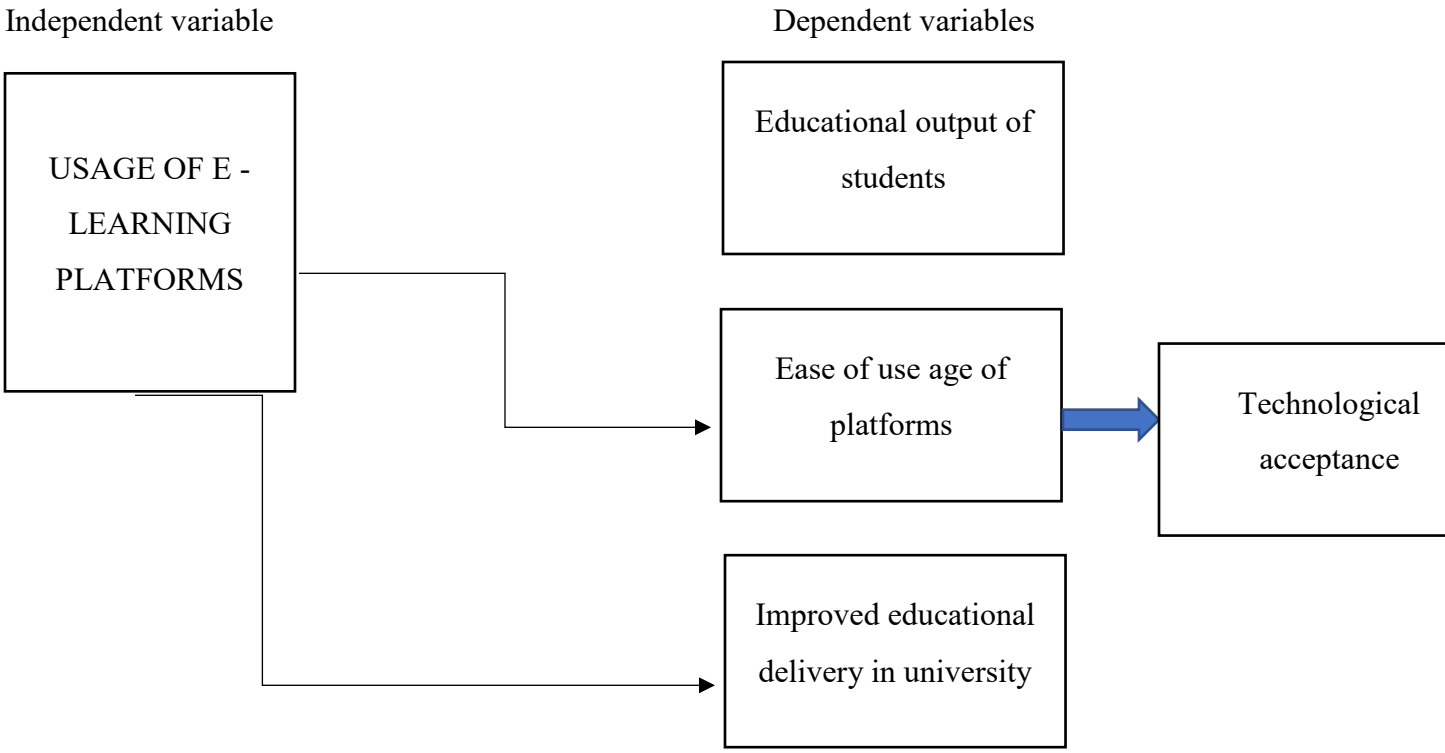
construct to the TRA. The new construct is the concept of perceived behavioral control, which evolved the TRA into the Theory of Planned Behavior (TPB) (Ajzen, 1985).

2.7 Conceptual Framework

Technology usage in education has increased around the world, especially after the Corona pandemic. In fact, academic institutions are investing extensively in developing their technological infrastructure and integrating it into education. Despite this investment and effort by higher education institutions across the globe, it still appears that students do not always make full use of e -learning platforms.

As previously stated, behavioural intention and technology acceptance and use are important because the behavioural intention variable must be considered throughout so that e -learning platforms can be used successfully in university education. Amongst the most crucial components of the system's success is determining students' and teachers' behavioural intention to use the blended modern digital teaching and learning model.

Figure 1.1



2.8 Knowledge Gap

This chapter on Literature Review focuses on providing an understanding of the key terms relating to the subject matter, the evolution of E-Learning Management Systems, the current state of E-Learning management Systems, higher education learning as related to E-learning management Systems, E-learning management Systems platforms, theories of E-Learning management Systems, models that foster technology acceptance and use, review of studies done in relation to E-learning management Systems, benefits and challenges of E-Learning Management Systems.

From the reviewed literature, it is clear that most scholars did not add emphasis or consider the effectiveness of eLearning in light of the pandemics that have gripped the world for the past few years and will continue to occur. Our research will bridge this gap of knowledge as we will identify the usefulness of eLearning in learning institutions even in times of pandemics. It, therefore, provides a snapshot of the studies undertaken concerning the subject matter, highlighting the existing gaps as one of the premises for this research. The gap observed was that we shall look at whether cost affects the implementation of eLearning management systems and what social characteristics of users determine implementation.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This Chapter presented the research design and methodology. It outlined ethical issues and all the activities that were undertaken in this study, from the selection of the study setting, target population and sample size determination, and the sampling techniques. It further explained the instruments of data collection and the software that was used in data analysis.

3.2 Study design

This was a cross-sectional, pragmatic, and mixed methods study. This study employed both the qualitative and quantitative approaches. The former was appreciated for string information, while the latter was considerable for numerical data. This being a pragmatic study, pragmatism contrasts positivist and anti-positivist views of scientific discovery. On the one hand, positivism (inductive and deductive research) emphasizes the objective, law-like properties of a brute reality independent of observation (Donaldson, 1992). On the other hand, Wicks and Freeman (1998) state that anti-positivism (interpretivism, constructivism, and retroduction) emphasizes the creative role of active and subjective participants. For a pragmatist, it can be seen that the mandate of science is not to find truth or reality, the existence of which is perpetually in dispute, but to facilitate human problem-solving. According to pragmatist philosopher John Dewey, science is expected to overthrow the notion, which has ruled philosophy since the time of the Greeks and that the office of knowledge should uncover the real antecedents of a phenomenon rather than based on 45 people‘s judgments to gain the kind of understanding which is necessary to deal with the problem in question. The process of undertaking this pragmatic study was first to identify a problem and view it within its broadest context, and this outlook could lead to a better understanding of the problem and ultimately solve the problem of low use of E-Learning Platforms in Tertiary Learning Schools: A case study of the university of Zambia

3.3 Target Population

Gall and Borg (1989) describe target population as all members or hypothetical set of people, objects, animals or events on which the researcher intends to conduct a study. This is in agreement with Kothari (2004), who states that a population is an entire set of objects and events or groups of people, with something in common, for the purpose of determining characteristics. Therefore, population provides space from which elements to be studied are chosen. The target population for this study consisted of current students, Part Time Tutors, Resident Lecturers senior managers in the University of Zambia. The justification for choosing, current students, Part-Time Tutors, Resident Lecturers and senior managers was that they were the ones acquainted with eLearning management at the University of Zambia. Therefore, target population was estimated to be at 46, 206 consisting of 2,000 current students, 200 part-time tutors and six senior managers. But available at the time of the research where only 460.

3.4 Sample Size

The sample size for this study will be 110 student respondents. This sample size will also constitute the key informants (respondents more likely to offer the information tandem-wise to the study's primary objective). The critical informant will consist of 10 technicians and 18 Lecturers

The statistical formula used to come up without sample size was:

What is a good sample size for generalizability?

For populations under 1,000, a minimum ratio of 30 percent (300 individuals) is advisable to ensure representativeness of the sample. For larger populations, such as a population of 10,000, a comparatively small minimum ratio of 10 percent (1,000) of individuals is required to ensure representativeness of the sample.

Looking at the population we were targeting was only 460 it was taken into consideration that 30 percent was representative of the general population of the university of Zambia students and lecturers who were available during the covid pandemic where we were only able to interview 30% of them. Z= P*G%/100

Z=460*30/100

Z=138

3.5 Sampling Procedure/Techniques

The study employed probability and non-probability sampling procedures to identify participants for the study. Probability sampling involves random selection of objects, places or people, where each element of the population is given equal chances (Kombo and Tromp, 2006). Under this technique, stratified random sampling was used to select part-time tutors and current students in Provincial Centres. The part-time tutors were grouped according to provinces. This was followed by applying a simple random sampling technique to select five (5) participants from each subgroup. Similarly, the students were grouped according to their schools and hostels such as humanities agriculture and natural sciences and educations and students hostels from the ruins and the new residential areas. Random sampling was used to select 20 and 30 participants per school student hostels, respectively. Probability sampling was used to select respondents from the groups of former and current student-respondents and part-time tutors. Kombo and Tromp (2006:81) state "This method of sampling aims to be theoretically representative of the study population by maximizing the scope or range of variation of the study". Probability sampling helped to come up with a reasonable number of research participants that is representative of the target population. In this way, the findings of the study were valid in that the conclusions would be based on opinions a broad spectrum of participants. On the other hand, non-probability called purposive is used to choose elements of the population without giving equal chances to them. Purposive sampling was used to sample typical or key informants such as senior managers, who were regarded to have relevant data about the problem under investigation. Resident Lecturers were also purposively sampled because all the ten were involved. Purposive sampling can be likened to the nomination of Members of Parliament in Zambia, where the President of the country nominates members of the public with expertise who do not stand in parliamentary elections. Non-probability or purposive sampling enabled the researcher to focus on possible respondents who had relevant data.

3.6 Instruments for Data Collection

This study categorizes such instruments into primary and secondary sources. The former is taken to mean sources that generate firsthand information. At the same time, the latter is aligned with the sources that offer secondhand complementary information that is cardinal to fulfilling the study (Kothari, 2004).

3.7 Data Analysis

This study analyzed the data using Statistical Package for Social Science (SPSS) and Microsoft Excel, as well as intellectual insight. Collected data was compiled, summarized, and analyzed using the Stata/SE 12.0 Package for Social Sciences research. Stata/SE 12.0 Package for Social Sciences research was used because it is user-friendly in that it is easy to compute frequencies and present the computed data in different graphical forms such as frequency tables, histograms, pie charts, etc. Qualitative data was analyzed by grouping the responses into common themes, coded, and then analyzed thematically. With respect to the analysis of open-ended questions, the reading of all the responses was done to allow grouping of the responses according to the similarity of themes.

3.8 Reliability of findings

Reliability of findings refers to consistency in yielding same results. Kombo and Tromp (2006) state that: “reliability is the measure of how consistent the results from a test are.” Therefore, reliability refers to the research’s ability to give similar results for the same group of respondents if administered at different times. In order to enhance reliability, items in the research instruments were carefully formulated, written in clear language, and refined after piloting. The questionnaires for Resident Lecturers, part-time tutors, former and current students were tested on the Resident Lecturer, part-time tutors and students at Chreso University.

Validity and reliability of findings

Validity and reliability are important elements in determining credibility of any study. The two elements namely validity and reliability, are critical especially in a qualitative study such as this one. A problem arises when dealing with different sources of data such as questionnaires, interviews and documents to ensure that the data is collaborated.

3.9 Independent and Dependent Variables

Our dependent variable was management of e -learning platforms.

Our independent variables where educational output of students, ease of use age of platforms, improved educational delivery in university, technological acceptance and technological acceptance

Summary of Chapter

Chapter Three has presented the methodology used to conduct the study. The chapter presented methodology used for conducting the study. Effort has been made to explain the methodology and research design. The study justified the use of embedded design as a guide for conducting the study. The Chapter identified target population, sample size, sampling technique and research instruments. Data collection procedure spelt out the procedure followed to access research sites, and it provided bench marks for conducting the research. The study also showed how different categories of data were collected and analyzed. This was followed by information on validity and reliability of findings. The ethical consideration was clearly stated to protect the confidentiality and integrity of the informants and respondents. The next Chapter presents findings of the study based on document review, questionnaires and interview guide

CHAPTER 4

RESEARCH FINDINGS

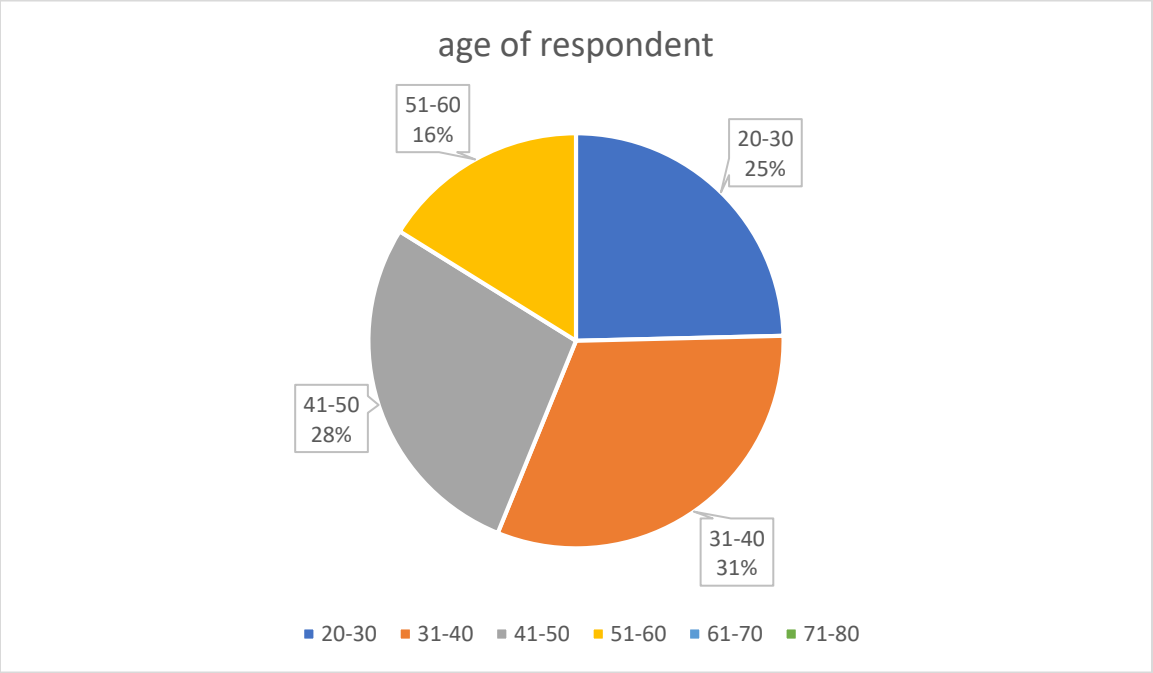
4.1 Introduction

This Chapter presented the findings of the study. The results are presented in tabular and figure formats for easy understanding. Frequency tables and figures were presented first for respondents and students, followed by cross-tabulations, regression, and correlations. The final part of the chapter shows the qualitative analysis phase.

The overall response rate for the study for Respondents and students combined stood at 91% for the University Of Zambia Schools of Learning. The study aimed to establish learners 'and Lecturers 'perspectives on implementing e-learning platforms for learning programs and increase the use of e-learning platforms among them.

4.2 Demographic characteristics of respondents

Figure 2. Age categories for Lecturers, Students, and Technicians



Source: Field data (2021)

Table 1 shows the age groups of Respondents from the University of Zambia. The age group with the highest percentage was those in the age category of 31 to 40 years, with 31%, and the lowest was the age category 51 to 60 years, with 16%.

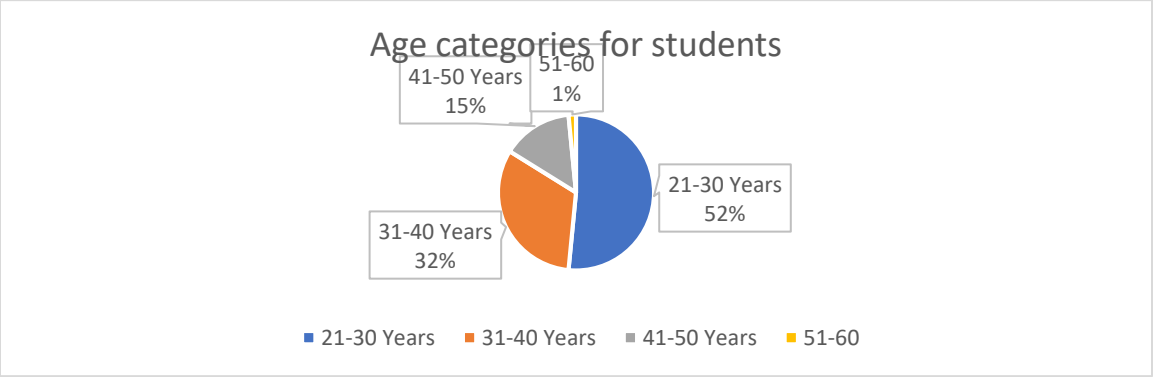
Table 1: Age of Respondents by School

Age category in years	School of Agriculture	School of Humanities	School of Engineering	School of Natural Sciences	Total
20-30 years	9 26.47	16 47.06	5 14.7	4 11.7	(34)100
31-40 Years	11 25.6	15 34.8	9 30	8 18.6	(43)100
41-50 Years %`	8 20.5	15 38.4	9 23.0	6 18	(39)100
51-60 Years %	7 32	9 41	4 18.9	2 9.09	(22)100
61-70 Years %	0 00.00	0 00.00	0 00.00	1 0.71	(1)100
Total %	35 25.4	55 39.9	27 19.5	21 15.2	(138)100

Source: Field data (2021)

Table 1 shows the age category for Respondents in years by School. The school of Humanities had the largest proportion, 47.06%, of the modal age category.

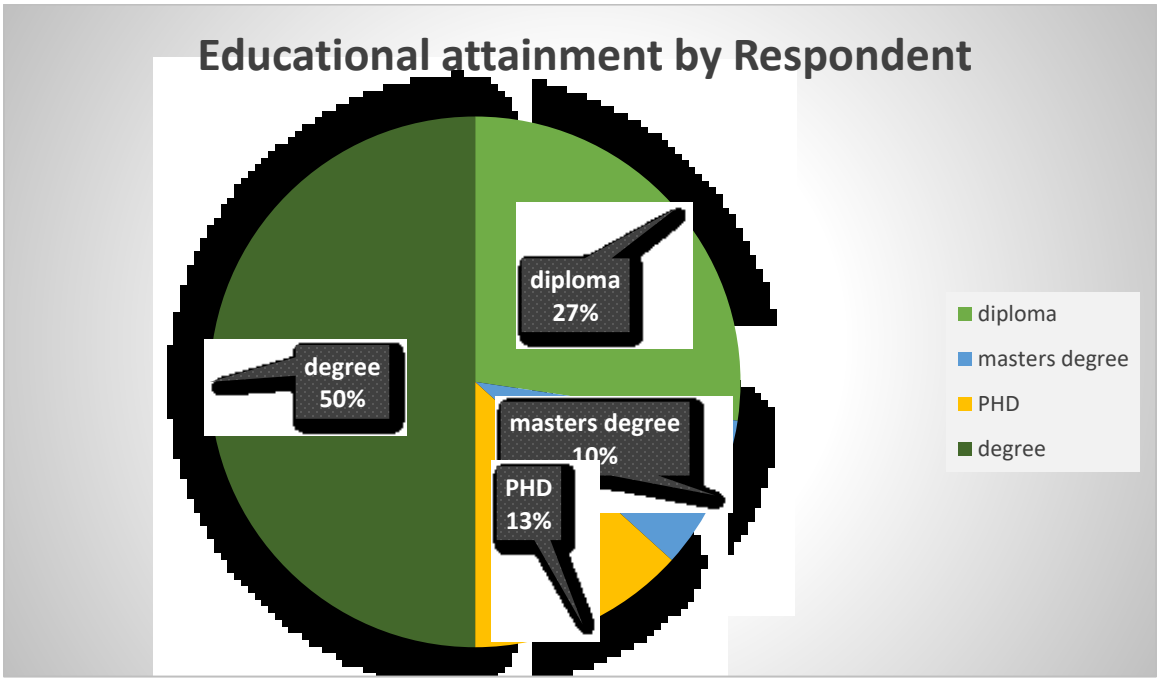
Figure 3: Age categories of students



Source: Field data (2021)

Figure 3 shows age groups among students. The mode age group was 20 to 29 years with 52%, followed by 30 to 39 years with 32%.

Figure 4: Educational attainment by Respondent



Source: Field data (2021)

Figure 4 shows educational attainment by respondents; Degree was the mode with 50%, and the lowest was PhD with 13%.

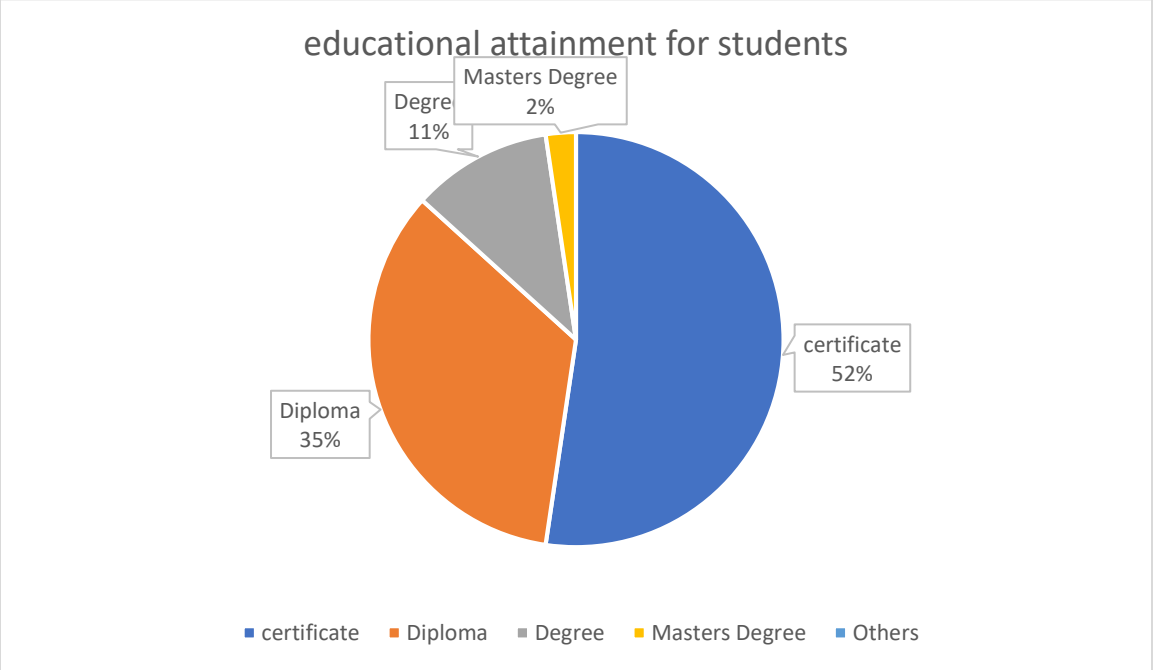
Table 2. Educational attainment by Respondents

Educational attainment	**School of Agriculture**	**School of Humanities**	**School of engineering**	**School of Natural Sciences**	**TOTAL**
Degree %	**18 (25.3)**	**24 (33.8)**	**18 (25.3)**	**11 (15.4)**	71 **(100)**
Masters %	**14 (29.7)**	**19 (40.4)**	**7 (14.8)**	**7 (14.8)**	47 **(100)**
Ph.D. %	**3 (15)**	**12 (60)**	**2 (10)**	**3 (15)**	20 **(100)**
Total %	**35 (25.4)**	**55 (39.9)**	**27 (19.5)**	**21 (15.2)**	138 (100)

Source: Field data (2021)

Figure 4 shows the educational attainment of Respondents in the 4 Schools. Of the modal educational attainment, the school of Humanities represented the largest proportion, 39.9%, followed by the School of Humanities and the School of Natural Sciences with 15.2%. Masters 'was the second most frequent educational attainment among the Respondents, with a proportion of 34.1%, while Degree had the highest percentage, 51.4%.

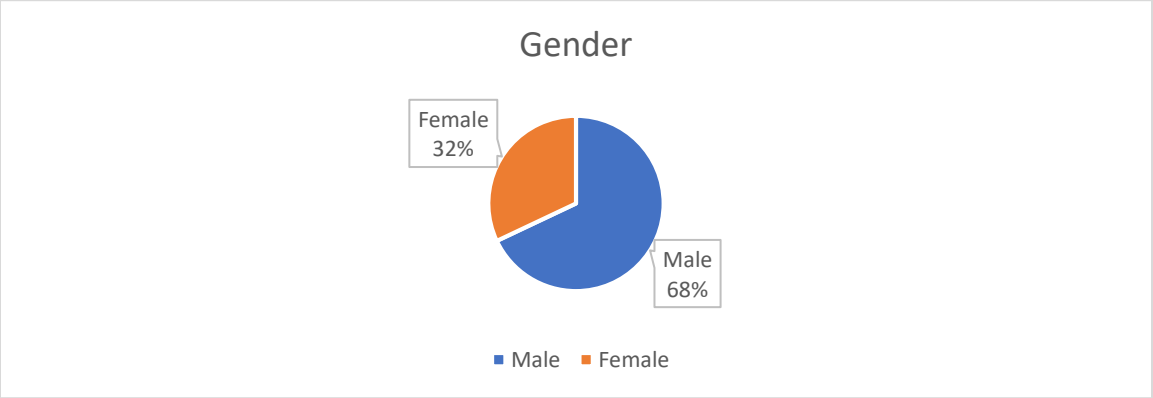
Figure 4: Educational attainment by students



Source: Field data (2021)

Figure 4 shows educational attainment by students in all FOUR Schools; the mode was certificate with 46%, and the lowest was masters with 1%.

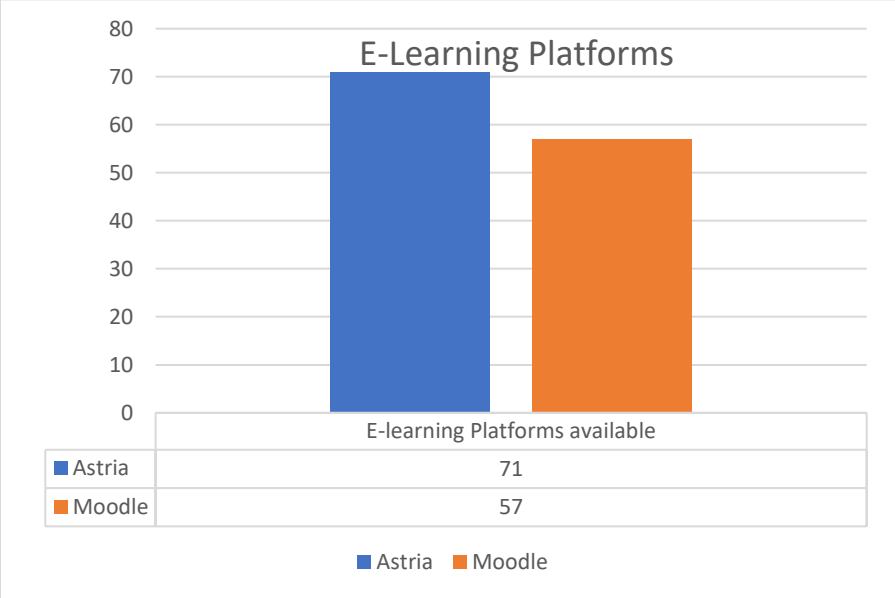
Figure 5: Sex of Respondents



Source: Field data (2021) Figure 5 show sex of the Respondents; male had 68% while female had 32% in all three Schools.

4.3 Research findings presentation

Figure 6: What e-learning platform do you have access to



Source: Field Data (2021)

The study investigated what E-Learning Platform respondents had access to among those being provided by the university. We provided them with a questionnaire to indicate which platforms

where available. Table 3 below shows the responses with regard to purpose of the e-learning platform of student-respondents in the sample.

Table 3: Purpose of the E-Learning Platform

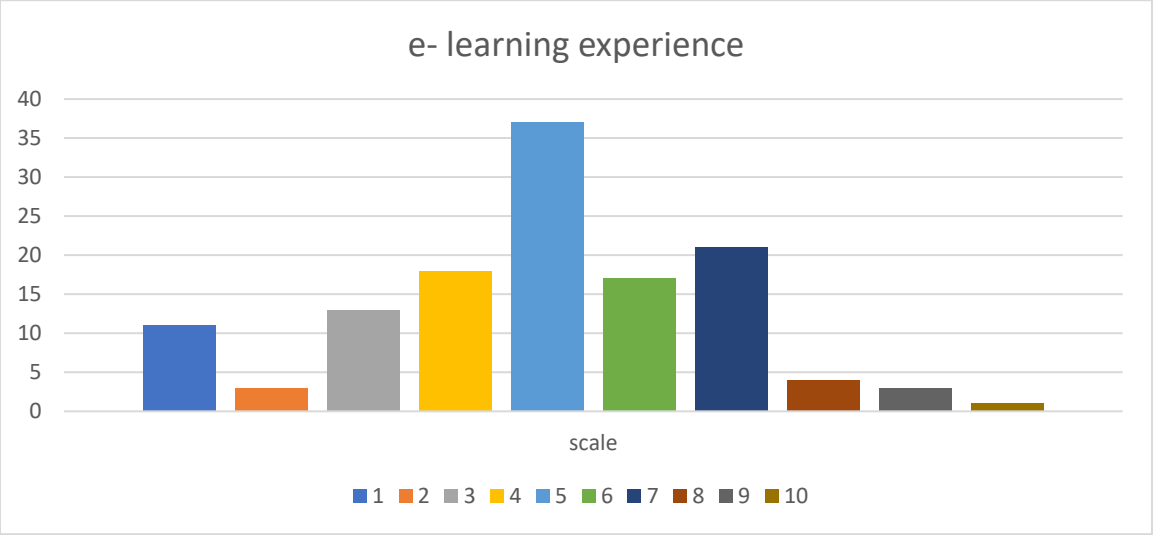
Purpose Of The E-Learning Platform	Frequency
Give live lecture sessions	24
Send recorded video content for the course	9
Communicate with other Respondents on the course Communicate with students	13
Send course assignments to students	61
Send course material to students	79
Communications and updates about the course	63
what purpose do you use the e-learning platform	47

Source: Field data (2021)

This question was a multiple-answer Question; hence, several lecturers and students selected an array of uses, with the highest being using e-Platforms to send course materials with 79 responses, while the lowest was sending recorded videos for the course.

On a scale of 1 to 10, 1 being very low satisfaction and 10 being very high satisfaction, how would rate your e-learning experience

Figure 7: e- learning experience



Source: Field data (2021)

Most of our Respondents and students rated their satisfaction with the University of Zambia E platform At 5, with the least number of respondents putting it at excellent with only 2.

Figure 8: e-learning is beneficial/ instrumental in your lectures

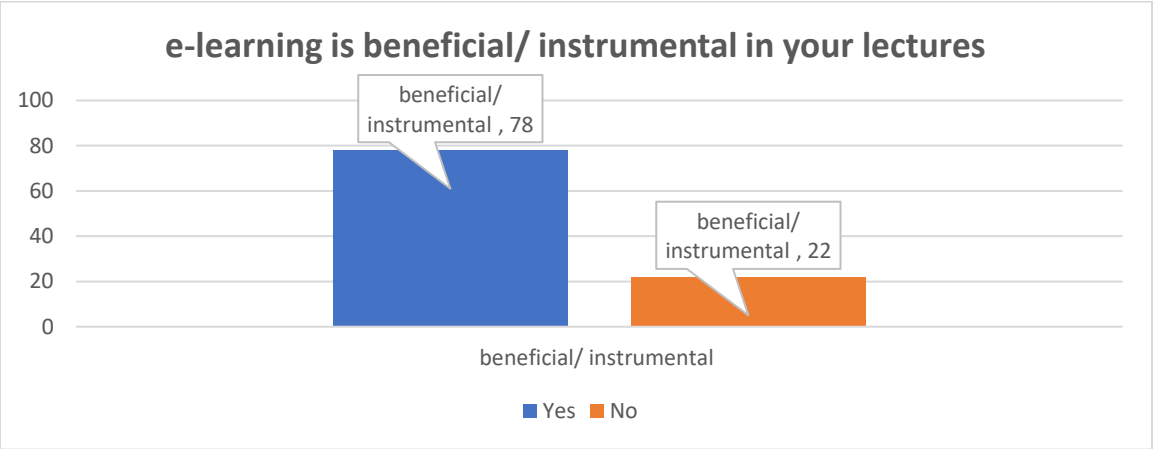


Figure 8: Do you feel e-learning is beneficial/ instrumental in your lectures? Source: Field data (2021)

Most Respondents agreed that e-learning was beneficial in their lectures, 78 of them agreeing, while only 22 refuted the assertion.

Figure 9: Choice of type of lecturing

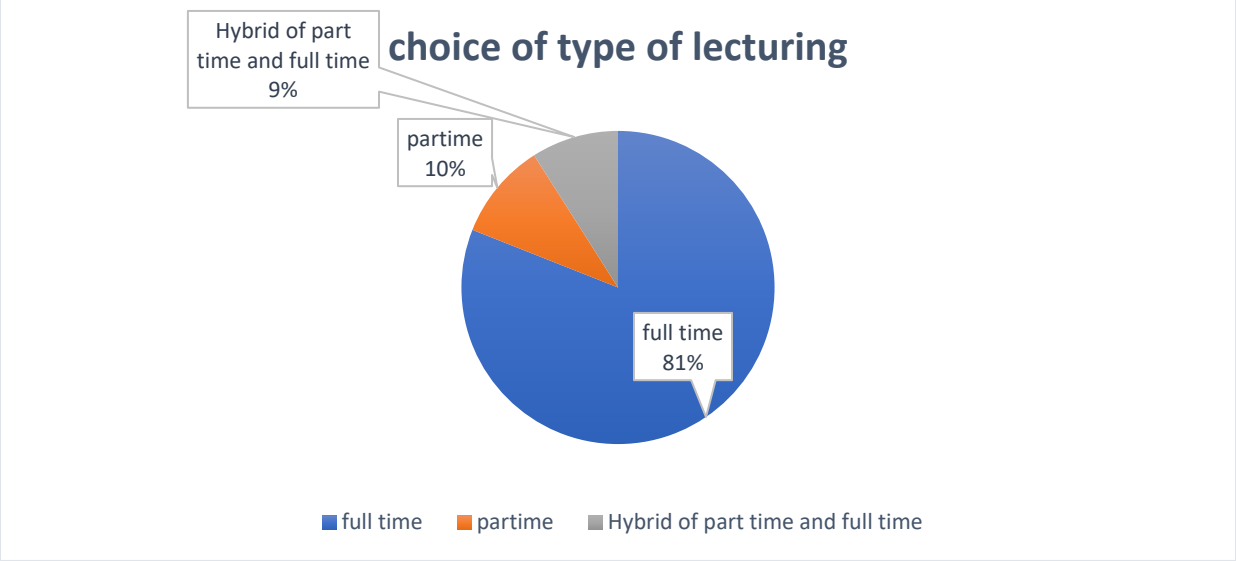


Figure 9: Choice of type of lecturing -Source: Field Data (2021)

When we asked our responding respondents if they were given the option to lecture part-time with the assistance of e-learning or full-time lecturing with live class sessions, the majority preferred lecturing full-time. At the same time, a minority of responses agreed on the latter.

Table 4: Perception of Ease of use of e-learning platform among Respondents by institution

Institution		**E-learning platform is relatively easy to use – Respondents and students**					
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
School of Engineering	Frequency %	2 7.4	14 51.9	9 33.3	1 3.7	1 3.7	27 100.0
School of Humanities	Frequency %	15 27.2	17 30.9	11 20	7 12.7	5 9.09	55 100.00
School of Agricultural Science	Frequency %	9 25.7	13 37.1	6 17.1	5 14.2	2 5.71	35 100.00
School of Natural Sciences	Frequency %	1 4.76	15 71.4	2 9.5	2 9.5	1 4.76	21 100
Total	Frequency %	27	59	28	15	9	138 100.00

Source: Field Data (2021)

Table 4 shows 59 students agreed with the perception of Ease of use of e-learning platform among Respondents, with the highest number coming from the school of humanities with 17 of the students agreeing. At the same time, the lowest was the School of Engineering. This shows that several students found eLearning to be easy to use.

Table 5: perspectives by Schools on their implementation of e-learning Management systems

Institution		**E-learning platform is relatively easy to use – Respondents and students**					
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
School of Engineering	Frequency %	1 3.7	12 44.4	7 25.9	5 18.5	2 7.4	27 100.00
School of Humanities	Frequency %	12 21.8	33 61.8	8 14.5	1 1.81	1 1.81	55 100.0
School of Agricultural Science	Frequency %	4 11.4	18 51.4	8 22.8	3 8.6	2 5.7	35 100.00

School of Natural Sciences	Frequency %	3 14.2	7 3.33	6 28.5	3 14.28	2 9.5	21 100
Total	Frequency %	20 14.49	70 50.72	29 21.02	12 8.7	7 5.07	138 100.00

Source: Field Data (2021)

Table 5 shows 70 students agreed with the perception that the **E-learning platform is fairly easy to use,** with the highest number coming from the School of Humanities, with 61.8% of the students agreeing, while the lowest being the School of Natural Sciences with only 3.33% of the respondents agreeing. This shows that several students found eLearning to be easy to use.

Table 6 Perceived ease of use of the E-learning platform among Respondents

E-learning platform is fairly easy to use	Percentage
Strongly Agree	5.76
Agree	79.14
Neutral	9.35
Disagree	5.04
Strongly Disagree	0.75
Total	100

Source: Field Data (2021)

When our respondents were asked about the ease of use of the E-learning Platforms, A majority of 79% agreed that they were easy to use, while 0.75% strongly disagreed.

Table 7: E-learning platform is convenient for my studies

E-learning platform is fairly easy to use	Percentage
Strongly Agree	7.19
Agree	33.81
Neutral	49.64
Disagree	10.79
Strongly Disagree	2.88
Total	100

Source: Field data (2021)

We asked if the platforms were convenient for studies, and 49.64% of respondents were neutral, while the least strongly disagreed.

Table 8: The E-learning platform interface is well-designed for anyone with basic computer skills

E-learning platform is fairly easy to use	Frequency	Percentage
Strongly Agree	4	2.88
Agree	81	58.69
Neutral	34	24.46
Disagree	15	10.79
Strongly Disagree	4	2.88
Total	138	100.00

Source: Field data (2021)

Our respondents were questioned whether the E-learning platform interface is well designed for anyone with basic computer skills, of which a majority 58.99 agreed while only 2.88 strongly disagreed.

Table 9: E-learning platform has challenges in usage

E-learning platform is fairly easy to use	Frequency	Percentage
Strongly Agree	3	2.16
Agree	48	35.25
Neutral	55	39.57
Disagree	26	18.71
Strongly Disagree	6	4.32
Total	138	100.00

Source: Field data (2021)

We asked the lecturers and students if they faced challenges in using the platforms, and a majority of 39.57% were neutral, while 35.25% agreed.

Table 10: E-learning platform has relatively low internet security protection

The E-learning platform is Secure	Frequency	Percentage
Strongly Agree	5	3.60
Agree	32	23.02
Neutral	64	46.76
Disagree	37	26.62
Strongly Disagree	0	000
Total	138	100.00

Source: Field data (2021)

We asked our respondents how they felt about the security of the platforms, and as shown in Table 10, 64 of the respondents felt neutral about the security of the platform, while 37 disagreed.

Table 11: E-learning makes learner-lecturer interaction more effective i.e., feedback on assignments, clarifications on lessons, and general academic guidance

E-learning platform is fairly easy to use	Frequency	Percentage
Strongly Agree	3	2.16
Agree	48	35.25
Neutral	55	39.57
Disagree	26	18.71
Strongly Disagree	6	4.32
Total	138	100.00

Source: Field data (2021)

When asked whether E-learning makes learner-lecturer interaction more effective, i.e., feedback on assignments, clarifications on lessons, and general academic guidance, a majority of 39.57 were neutral, while a minority of 4.32% strongly disagreed.

Figure 10: **challenges faced by both lecturers and students**

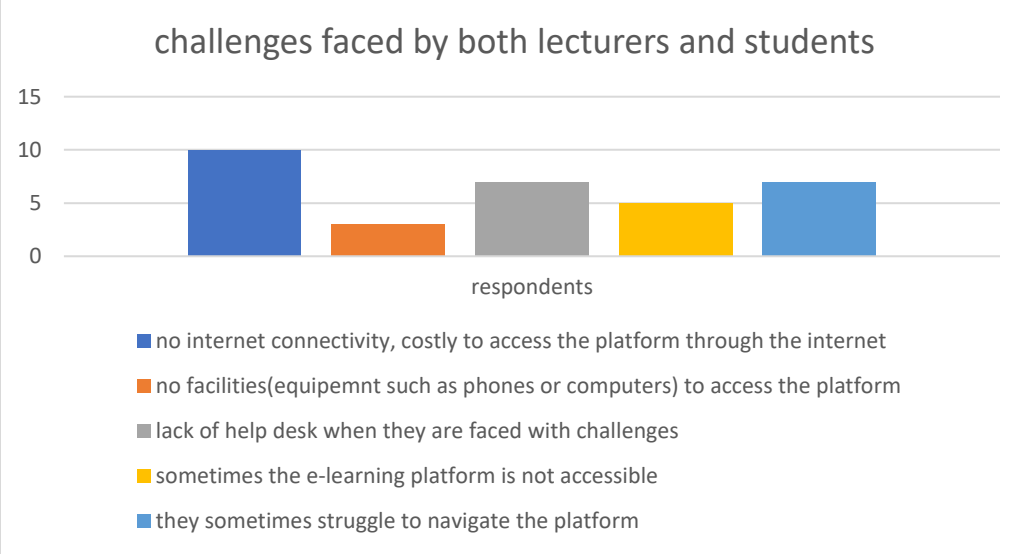


Figure 10: challenges faced by both lecturers and students to access the current e-learning platform - Source: Field data (2021)

The study investigated challenges faced by both lecturers and students to access the current e-learning platform of student-respondents. Figure 10 above shows the distribution of age range of student-respondents in the sample. 10 (100%) technicians, responded that the biggest problem noticed was no internet connectivity and costly access to the platform through internet café. Only one technician mentioned that the challenges were sometimes the navigation through the platforms. The rest of the responses were equally distributed, where the second most mentioned challenge was found to be no facilities (equipment such as phones or computers) to access the platform.

Figure 11: Out Sourcing

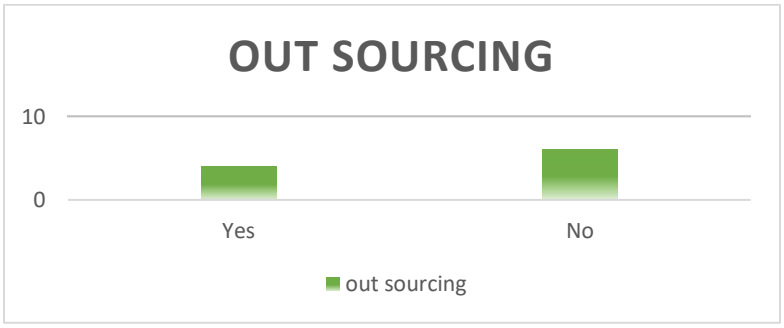


Figure 11: Out Sourcing -Source: Field data (2021)

The researcher attempted to understand if it would be essential to outsource a company to develop or modify an e-learning platform. The majority of 6 (60%) technicians responded that no and it would be more sustainable to build capacity in the already existing or available platform. The last yes response came from 4 respondents, which amounted to 40.

Figure 12: Platform Cost

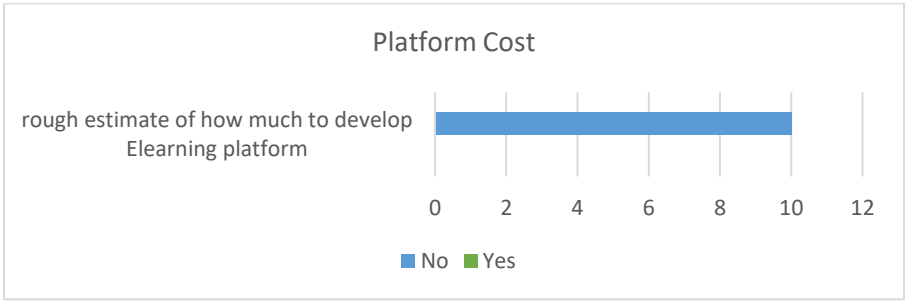
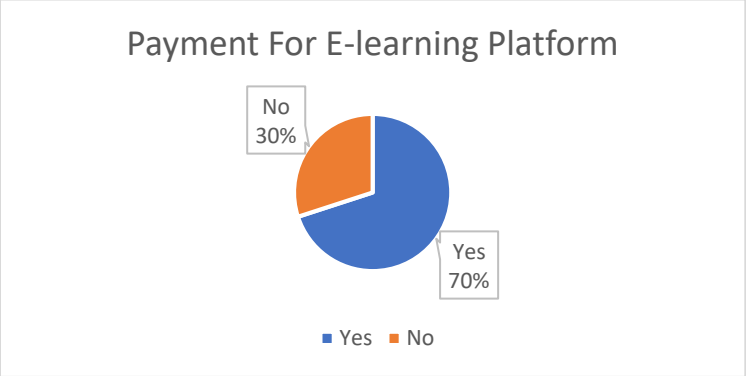


Figure 12: Platform Cost -Source: Field data (2021)

The researcher established a rough estimate of how much it costs to develop the Unza Moodle e-learning platform. All our technicians 10 (100%) said no, they had no idea how much it costs. We also tried to establish the running costs of the Moodle platform's operating costs, resulting in the same where all our respondents said they had no information.

We also tried to assess if the Unza-moodle platform required new personnel to be hired or consulted at any one point. Most technicians, 10 (100%), agreed that competent cict personnel are employed for this purpose, that there is no need for hiring, and that it just depends on the user.

Figure 13: Payment For E-learning Platform



Source: Field data (2021)

We investigated if students had to pay to access the e-learning platform, and the majority, 7 (70%), said yes, as the fee is factored into the tuition fees. The remaining three technicians had little idea if a fee was attached.

1. **To explore the challenges faced by The University of Zambia in creating its e-learning platform and thus explain the failure of The University of Zambia in owning its e-learning platform.**

   The study investigated if the universities technicians created or been part of a team that had developed an app or platform for an institution or organization to understand their knowledge on eLearning platforms. We carried out one to one interviews using our interview guides and the following was there responses:

A majority of 8 (80%) responded yes, with only 20%) saying no, as shown in the figure 13 below.

Figure 14: Created or Been Part of Team Developed an App or Platform

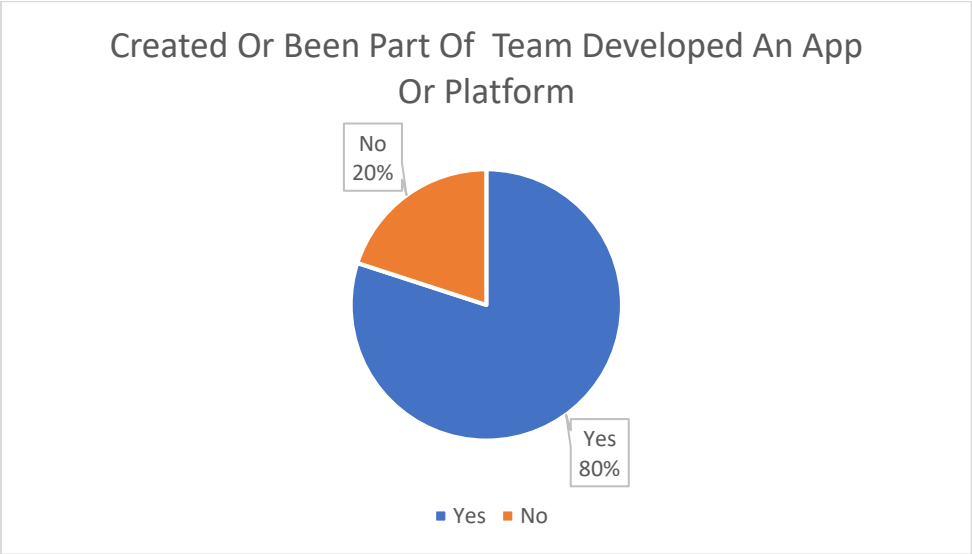


Figure 14: Created Or Been Part of Team Developed an App or Platform - Source: Field data (2021)

We assessed how important it was for input from the organization paying for the app or platform when it comes app/platform creation; our technical respondents clearly stated it was important. According to Technician one, "*as there was a need for institutions to acquire System hardware Infrastructure Costs (Servers, Clean power, Internet, network equipment) and obtaining all system requirements (getting full system requirements can be a challenge if you are trying to implement a new system)" (*Technical respondent, Technician one*).*

Technician two mentioned that *"it is important to have a server in-house but then incorporate it with other platform rights such as Zoom and Microsoft Teams, which will make it user-friendly" (*Technical respondent, Technician two*).*

He also mentioned that an in-house platform would be important as long as they had a good group of technicians to build and run it as they won't be paying for it cause there employees actually are working on it.

We attempted to investigate the challenges faced in creating apps/platforms for institutions and it was mentioned that some of the challenges where data migration which is one of the challenges

that may face especially if data is in different formats worse of if it's in hard copies another challenge mentioned by our technicians was system Uptime where if the installation is not ready to spend in good backup and fail over systems including the system will fail to meet the expectations.

Another challenge mentioned was that there might difficulty in communicating how the school wants it to work and how it can be built, there might be some discrepancies in communication of outcome. Hence there is need for a technician with a good know-how of how the platform should work.

The researcher attempted to establish how challenges can be overcome, and according to Technician three, "*Solution to the challenges would be to sit down with a professional and give them full information on what they need and the full extent of a particular platform or app that you are producing*" (Technical respondent, Technician four).

Technician five added that the best way to overcome these problems is setting up a good team, "*the team is supposed to understand the task at hand to best communicate in building it up*." (Technical respondent, Technician five)

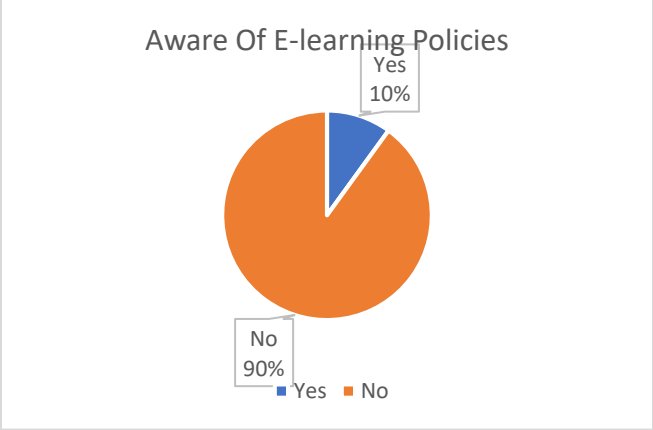
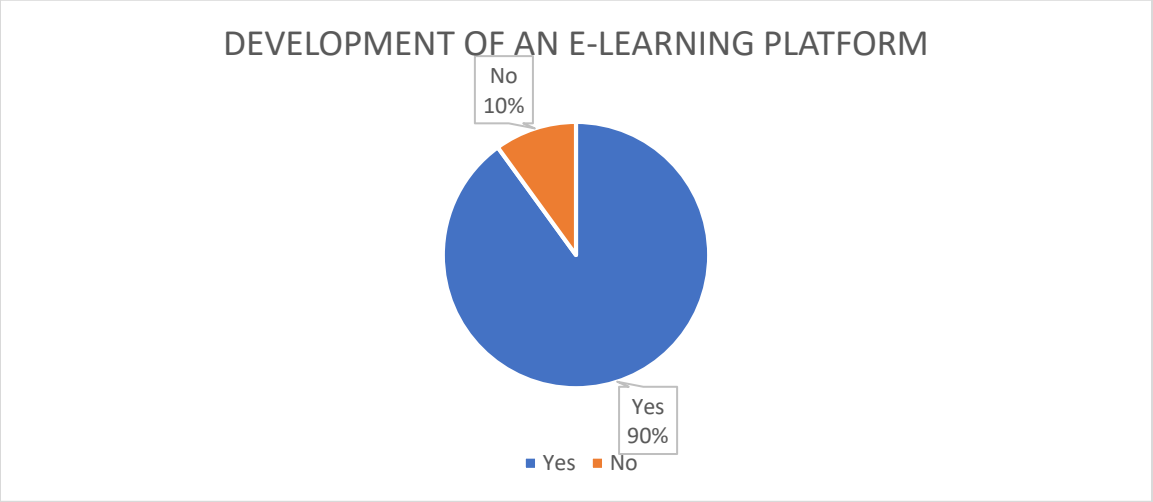


Figure 15: Aware Of E-learning Policies -Source: Field data (2021)

A majority of our respondents had no clear knowledge on e-learning policies a majority of 90% of or respondent said no while only one agreed that he did have some knowledge on some policies not knowing if they are actually in effect in Zambia.

The researcher tried to establish if all our respondents where express in the questions at hand hence we asked if they had ever worked on the development of an E-learning platform or anything similar. The response showed that they were mostly conversant with the topic.

Figure 16: Development of an E-Learning Platform



Source: Field data (2021)

The researcher assessed how long it would take to build an E-learning platform that can accommodate over 30000 users and our respondents mostly said between 3 to 12 months with the right conditions in place.

It was established from our questioning of our technical respondents that the length of preparation of a platform for 30000 user was dependent on the availability of resources by the institution in question, but in an ideal situation with all necessary resources available it would take 6 to 12 months.

According to Technician one " *The development of a E-learning platform is dependent on the availability of necessary resources and expertise if that is in place it can take from 6 to 12 months to develop a fully-fledged E-learning platform" (Technical respondent, A* Technician one *).*

According to Technician two *"An e-learning platform for so much people would take from 3 months to 1 year to prepare a well-functioning platform with respect to how complicated it is*

*intended to be, and what the platform is supposed to deliver." (*Technical respondent, Technician two*).*

In our investigation we also wanted to understand how much it would cost to develop such a platform and it was established from our respondents that it would cost from 50000 to 350000 kwacha to set up a E-learning platform.

According to Technician three *"that a platform could cost from anything between 50000 to 250000 to come up with a well-functioning platform*" (Technical respondent, Technician three).

Technician four responded that "it *depended on the complexity of the platform and what other rights the institution was willing to include such as zoom, Microsoft team to mention a few which would have to be incorporated and considered in the building of the platform for e-learning."* (Technical respondent, Technician four).

The researcher attempted to understand if an institution wanted to host said platform, what basic things do they need to have and take into consideration and it was established that the main component was infrastructure to hold the platform such as servers and the necessary it equipment with the right specialist to build it.

According to Technician five he mentioned that "*I would recommend they customize an open source system to their requirements or use a framework to which they can own the source code"* (Technical respondent, Technician five).

The researcher to establish what challenges an institution like the University of Zambia could face in development of its own E-learning platform knowing it has a computer science department wing and it was stated that the main challenge was

According to Technician six he sated "there *would be need for ups system for backup in case of power outages which is able to kick in immediate to avoid down time. Multiple servers for back up redundancy and a backup to the servers in case the main server provider is down and other similar contingencies. For the server infrastructure it's best that they own but for server environment I would recommend colocation at a dedicated data center such as Infratel"* (Technical respondent, Technician six)."

"*The skilled professionals to get the platform up and running, they may not have the man power and the necessary disciplines that might be needed in building it as it is not only up to the computer specialist. They may not have the required infrastructure to house the necessary technologies such as the server cooler and the servers themselves for the e-learning platform."*
(Technical respondent, Technician seven).

The researcher attempted to get some recommendations from our technicians on how the University could navigate the challenges mentioned in Q12 and they stated that mainly it was recommended that the university hire experts in the field in order to set up the platform efficiently and effectively in good time. The other recommendation was that they get a cluster of more computers, and regularly carry out diagnostic checks and debugging the software regularly for it to host its own platform.

CHAPTER 5

DISCUSSION OF RESULTS

5.1 Introduction

This Chapter presents the discussion of the results obtained in the data analysis. It sought to find any possible comparisons or contrasts with previous studies and was the basis of the recommendations made.

1 What are the advantages of implementing e-learning management systems for The University of Zambia?

The reasons that came out to account for the levels of e-learning platform implementation in the university were that; e-learning platform is easy to use, the platform was convenient for studies and assignments, e-learning platform was well-designed for anyone with basic computer skills, there was a perceived risks in using the e-learning platform (relatively low internet security protection, electricity outages having an effect, may encourage plagiarism and affect learners 'privacy), and that the e-learning platform is useful (through providing creative compliment to the standard learning method, and that e-learning platform made learner-lecturer interaction more effective).

Perceived ease of use of the e-learning platform

On the basis of the responses from learners and lecturers, there was a statistically significant relationship between perceived ease of use of the e-learning platform with the institution of learning. About 84.9% of the lecturers agreed (79.14 for 'Agree' and 5.76% for 'Strongly agree') that the platform is fairly easy to use. On the other hand, 65.2% of the students also agreed (50.72% for 'Agree' and 14.49% for 'Strongly agree') that the platform is fairly easy to use. Similar results were obtained in the context of easy to use for studies and assessments. (Table 6) Goodhue and Thompson (1995) presented precursors of utilization which included beliefs of using a system. This could be one explanation for this perception. Elkaseh, Wong, and Fung (2015), in a study on The Acceptance of E-learning as a Tool for Teaching and Learning in Libyan Higher

Education, found that perceived enjoyment has a significant direct effect on perceived ease of use and perceived usefulness on both teachers and learners.

The results also revealed that social influence has a direct effect on students 'perceived ease of use and perceived usefulness of e-learning, but no significant direct effect on lecturers' perceived ease of use and perceived usefulness of e-learning. In the same vein, Soneka and Phiri (2019) carried out a study whose objective was to assess the factors that influenced the level of e-tax systems implementation in Zambia. The data collected was analyzed using descriptive statistics and results showed that E-tax system in Zambia was useful, easy to use and also secure. The results of this study therefore have many elements in common with similar studies that have been undertaken in the past whose explanations could be used to provide the reasons for such an outcome.

With regards to convenience for studies and assignments; Omer, Klomsri, Tedre, Popova, Klingberg-Allvin, and Osman (2015), conducted a study where the results showed that students have a very positive attitude towards e-learning and they perceived that e-learning enhanced their educational experiences.

The data analysis of this research however, revealed that about 49.64% of the respondents remained neutral with only 41% agreeing that the e-learning platform was convenient for their studies This therefore means that there was no overwhelming evidence to show that e-learning platform was convenient for lecturers 'studies and students 'academic work. These findings confirm the importance of the expected consequences of using e-learning, suggesting that training programs and organizational policies could be instituted to enhance or modify these expectations as proposed by Thompson, Higgins and Howell (1991), in their study to help better understand the factors that influenced the use of PC technology.

In terms of the e-learning platform being well-designed for anyone with basic computer skills, the results for this variable indicated that over 60% of the respondents agreed that the interface is well-designed for anyone with basic computer skills. The results of Kiget, Wanyembi and Peters (2014), in their study Evaluating Usability of E-Learning Systems in Universities, showed that user friendliness of IT has a strong positive relationship with the use of Learner Management Systems. The study looked at user friendliness only and was a case study of one of the public Kenyan

universities whose results cannot be generalized to all Kenyan universities due to its narrow sample size. The results of the study could however be used to support the findings in this research.

Notwithstanding the above outcomes, significant proportions of both lecturers and learners indicated that they experienced challenges in using the e-learning platform. For instance, about 37.4% of the lecturers indicated having challenges in using the e-learning platform while about 8.5% of the learners indicated experiencing some challenges too. The majority for both the learners indicated a neutral stand point to this perspective which implies that while there were challenges experienced, they did not outweigh the perceived ease of use overall. Like any other system, e-learning also has some drawbacks.

As Guragain (2016) put it, the e-learning platform being flexible is not always as good as it may cause laziness and thus reduce efficiency. Some of the major challenges according to them are; low motivation, technology-dependency, compatibility issues, reliability of the content, social isolation, expenses management, disadvantages disabled students, and none effective in all cases.

In some cases, therefore, face-to-face Learning process might be more effective than learning online as e-learning sometimes lacks two-way communication.

2. **What are the challenges faced by The University of Zambia in implementation of E-Learning management Systems in Higher Learning institutions in Zambia.**

The four key elements under this perspective were; relatively low internet security protection, electricity outages, possible plagiarism and affect learners 'privacy. While there was a statistically significant relationship between the perception of risk of the e-learning platform and institutions of learning based on lecturers 'and learners 'perceptions; see Tables 10, the majority in both cases indicated a neutral stance to whether the platform had a relatively low internet security protection (49.64 of the lecturers were neutral and 75% of the students were neutral), with the second largest proportions falling on the end of Disagree 'in both cases. This therefore, means that the respondents did not perceive the eLearning platform to have a relatively low internet security protection.

This finding indicates that the users are relatively satisfied with the performance and technological characteristics of the platform. High performance implies a high level of task-technology fit and

satisfaction with the Information Technology (Goodhue & Thompson, 1995). The technology characteristics are described in two perspectives; Technical and Communication. In the technical view, technology characteristics refer to the capabilities of the system such as quality, reliability and functionality (Ansong, 2017).

On whether the e-learning platform encouraged plagiarism, both the lecturers and learners reported neutral ‘responses on the most part (41% for lecturers and 54% for learners). This was followed by higher percentages for the response Disagree (41.7% for lecturers and 24% for students in that order). The combination of these two results entails that the respondents do not uphold the perception that the platform encourages plagiarism. In what could support this outcome, D'Ambra, Wilson and Akter (2013) in their study on how well the use of e-books meets the requirements of academics, used the task-technology fit (TTF) model to explore the inter-relationships of e-books, the affordances offered by smart readers, the information needs of academics, and the "fit" of technology to tasks as well as performance. They proposed that the implementation of e-books would be dependent on how academics perceive the fit of this new medium to the tasks they undertake as well as what added-value functionality is delivered by the information technology that delivers the content. It therefore means that the use of the e-learning platform enhances the quality of study and assignments

It was mentioned that some of the challenges where data migration which is one of the challenges that may face especially if data is in different formats worse of if it's in hard copies another challenge mentioned by our technicians was system Uptime where if the installation is not ready to spend in good backup and fail over systems including the system will fail to meet the expectations.

We assessed how important it was for input from the organization paying for the app or platform when it comes app / platform creation, our technical respondents clearly stated it was important.

Technician 1 added on by mentioning that the best way to overcome these problems is setting up a good team, “*the team is supposed to understand the task at hand so as to best communicate in building it up*”.

A majority of our respondents had no clear knowledge on e-learning policies a majority of 90% of or respondent said no will only one agreed that he did have some knowledge on some policies not knowing if they are actually in effect in Zambia.

It was established from our questioning of our technical respondents that the length of preparation of a platform for 30000 user was dependent on the availability of resources by the institution in question, but in an ideal situation with all necessary resources available it would take 6 to 12 months.

In our investigation we also wanted to understand how much it would cost to develop such a platform and it was established from our respondents that it would cost from 50000 to 350000 kwacha to set up a E-learning platform.

The researcher tried to understand if an institution wanted to host said platform, what basic things do they need to have and take into consideration and it was established that the main component was infrastructure to hold the platform such as servers and the necessary it equipment with the right specialist to build it.

Challenges an institution like the University of Zambia could face in implementation of its own E-learning platform knowing it has a computer science department wing.

It was recommended that the university hire experts in the field in order to set up the platform efficiently and effectively in good time. The other recommendation was that they get a cluster of more computers, and regularly carry out diagnostic checks and debugging the software regularly for it to host its own platform.

3 What are the factors that affect the implementation of e-learning management systems by students and lecturers?

From our research it was established that there where little factors that affected the implementation of eLearning management systems. This can be seen from the 79.14 % of lecturers who Perceived ease of use of the E-learning platform among lectures, while 58.69% of the students agreed that E-learning platform interface is well designed for anyone with basic computer skills.

5.2 Summary of Findings

The study demonstrated that the level of use of the e-learning platform usage in the institutions of learning is relatively high and in as much as the respondents expressed that they frequently used the platform, that the platform is fairly easy to use, and that the platform was effective for their academic assessments and assignments, there were grey areas in many other issues. The next Chapter spells out the conclusions and recommendations. The study revealed four key factors that had significant and positive effects on users' intent to use online technology, including the perceived usefulness, perceived ease of use, teacher influence, university management commitment, and availability of student technical assistance.

The implementation of e-learning technology has become a major challenge for many academic institutions during the Covid-19 pandemic. More and more institutions are questioning the success of implementing this technology and are seeking to understand their implementation process.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter was aimed at discussing the conclusion and recommendations of this research with respect to our findings from the data collected from our respondents. With the understanding of the above, the results of this research have brought to light the following conclusions and recommendations.

6.2 Conclusion

The conclusion reached for our first objective was that the challenges faced by The University of Zambia in implementation of e-learning management systems had four key elements under this perspective which were relatively low internet security protection, electricity outages, possible plagiarism and affect learners 'privacy. It was concluded that these factors including the cost of implementation where the main concerns in the implementation of eLearning management systems.

The second objective was to describe the factors that affect the implementation of e-learning management systems by students and lecturers, where the research concluded that e-learning platform where easy to use hence on our respondents end implementation would not be an issue. It was also concluded that the platform was convenient for studies and assignments, e-learning platform were well-designed for anyone with basic computer skills and that the e-learning platform are useful (through providing creative compliment to the standard learning method, and that e-learning platform made learner-lecturer interaction more effective).

In conclusion of our third objective where we attempted to outline the advantages for implementation of e-learning management systems for The University of Zambia it was established that the users are relatively satisfied with the performance and technological characteristics of the platform. High performance implies a high level of task-technology fit and satisfaction with the Information Technology

1. The findings under the qualitative data satisfied the objective of this research. It was inferred therefore that the following were the key bottlenecks to e-learning increased use; E-learning platforms were still under development, inadequate training for the use of the e-learning platforms, lack of adequate facilities to use on e-learning platforms and inadequate training on the use of e-learning platforms.

2. Additionally, it was also concluded that social influence has a direct effect on students 'perceived ease of use and perceived usefulness of e-learning, but no significant direct effect on lecturers' perceived ease of use and perceived usefulness of e-learning.

3. The results of this study therefore had many elements in common with similar studies that have been undertaken in the past whose explanations could be used to provide the reasons for such an outcome.

4. There was not much risk associated with usage of the e-learning platform.

6.3 Recommendations

Based on the conclusions above, the following were the recommendations:

1. There is expressed need to improve and revise the e-learning platform to make them more user friendly, the platforms require a high concentration/intensity when using them, and that the users experienced challenges when using the e-learning platform.

2. The colleges must also invest in alternative sources of power such as Diesel- or petrol-powered generator sets and solar power in order to counter load.

3. There is need for the institutions to consider retraining users for the e-learning platforms to be fully utilized and the colleges must run intensive tutorials that will help people to gain knowledge on how e-learning platforms are used. The notion that prevailed among the lecturers was that the training must take into account of the fact that there are users that do not fully know how to use computers and such users will require special attention.

4. The users need to be explained to on the purposes and benefits of e-learning platform so that they can own the platforms and use them as their personal academic tool.

5. There is evidence for the need to implement the above measures aimed at improving the e-learning platforms use in the three institutions, which may be applied to other University of Zambia.

APPENDIX I: WORKPLAN

ACTIVITY	**PROJECT TIMELINE**								
	2021								
	FEB	**MCH**	**APR**	**MAY**	**JUN**	**JLY**	**AUG**	**SEPT**	
Planning and design proposal			**Xx**						
Finalize the research proposal				**Xx**	**Xx**				
Ethical committee approval						**Xx**	**Xx**		
Defense of proposal								**Xx**	
Data collection								**Xx**	
Administering of questionnaires								**Xx**	
Data analysis and monitoring								**Xx**	

Data management and monitoring								**Xx**	
Data analysis									**Xx**
Writing of the thesis									**Xx**
Submission of Research Report									**Xx**

APPENDIX II: BUDGET

ACTIVITY A

Literature Review;

Transportation to and from home to the internet cafes for literature collection at:

K10, per day for 8 days - K80

Meals during data collection at

K 10 per day for 8 days - K80

SUBTOTAL - K160

ACTIVITY B

Preparation of draft proposal

Internet charges –K60

One ream of paper – K30

SUBTOTAL – K90

ACTIVITY C

Preparation of draft questionnaire and interview guide

Printing of questionnaire at

K2 per page x 8 pages – K16

Printing interview guide at

K2 per page x 2 pages – K4

Printings of data drawn from Internet sources at

K2 per page x 50 pages – K100

SUBTOTAL – K120

ACTIVITY D

Preparation of final proposal and data collection tools

Printing of final proposal at

K2 per page x 15 pages – K30

Photocopies of 2 copies of proposals (1 to submit plus 1 to keep).

1 x K 0.300 per page x 15 pages x 2 copies –K 9

Binding of two copies of the

Proposal at K 7 each – K14

SUBTOTAL **– K53**

ACTIVITY E

Fieldwork;

K10 per day for 31 days – K310

SUBTOTAL **- K310**

ACTIVITY F

Data analysis and draft report

1 ream of Paper – K30

Collection of analysis programme –K120

K2 per page x 30 pages – K60

SUBTOTAL **– K210**

ACTIVITY G

Printing of final report at

K 2 per page x 70 pages – K 140

Photocopying final report (2 reports)

1 report x K0.300 per page x 30 ages x 2 Reports	– K21
Binding (2 copies) x K7 each	– K7
SUBTOTAL	**– K168**
GRAND TOTAL	**– K1111**

APPENDIX III: QUESTIONNAIRE 1

Jackson Sililo

The University of Zambia, Graduate School of Business

Dear Respondent,

I am a student at the University of Zambia, carrying out a research on the 'Assessing the implementation of e-learning management systems at the university of Zambia.' This is in partial fulfillment of the requirement for the award of Degree in Masters of Business Administration with a bias in strategic management.

This is academic research hence confidentiality is very much emphasized. To ensure this, your name and personal details will not be collected and so will they appear anywhere in the report.

Kindly spare some time to complete the questionnaire attached. Then you in advance.

Yours Faithfully,

Jackson Sililo

QUESTIONAIRE FOR THE UNIVERSITY OF ZAMBIA STUDENTS

Assess the implementation of e-learning management systems at the University of Zambia.

Dear Respondent:

Please be reassured that this questionnaire is purely for academic purposes designed to for obtaining information on a project aimed at designing a commercial e-learning platform for the University of Zambia. This research is part of the requirement for the award of a master's Degree in Business Administration at the University of Zambia and therefore the information obtained will be treated with the utmost of confidentiality.

Please tick or fill where necessary.

1. Your gender
2. 2. What was your age on your last birthday? ……
3. 4. What programme are you currently doing? ……
4. 6. What is your current year of study

Section A: Use of E-Learning Platforms

A1. What e-learning platform do you have access to?

☐ Moodle ☐ Astria

☐ I do not know

A2. How exactly do you access the e-learning platform?

☐ Phone ☐ Laptop ☐ Desktop ☐ Internet Cafe

I have no ☐ access to the platform

Other……

A3. For what purpose do you use the e-learning platform?

☐ Receive communications and updates about the course

☐ Receive course material from the lecturer

☐ Share course material with other students

☐ Communicate to the lecturer

☐ Communicate with other students on the course

☐ Watch recorded video content for the course

☐ Join live lecture sessions

Other……..

……

A4. Does the school provide any other facilities for you to access e-learning platform?

☐ Yes ☐ No ☐ Sometimes

A5. Is there a department (IT) that gives you support in case you have problems in accessing the e-learning platform?

☐ Yes ☐ No ☐ Sometimes

A6. On a scale of 1 to 10, 1 being very low satisfaction and 10 being very high satisfaction, how would you rate your e-learning experience?

1	2	3	4	5	6	7	8	9	10

A7. On a scale of 1 to 10, 1 being very low value and 10 being very high value, how would you rate the value of e-learning in your course?

1	2	3	4	5	6	7	8	9	10

Section B: Advantages of Using E-learning Platforms

B1. Do you feel e-learning is beneficial/ instrumental in your studies?

☐ Yes ☐ No ☐ Sometimes

B2. What would you say are some of the benefits of e-learning to you personally?

☐ Ease of access to course content

☐ Access to course content at place and time convenient to me

☐ Being able to ask lecturer questions in real time

☐ Being able to interact with other students on the platform

Other……

…….

B3. If given an option to study on part-time with the assist of e-leaning or full time study with live class sessions, what would you prefer?

☐ Part-time with e-learning

☐ Full time study

☐ A hybrid of part-time and full time

B4. Would you recommend other students use e-learning in their programs??

☐ Yes ☐ No ☐ Maybe

Section C: Challenges in Using of E-learning Platforms

C1. Have you faced challenges in using the e-learning platform?

☐ Yes ☐ No ☐ Sometimes

C2. What are some of the challenges that you have faced as you try and access/ use the e-learning platform?

☐ No internet connectivity, costly to access platform through internet café.

☐ No facilities (equipment such as phones or computers) to access the platform with.

☐ Lack of a help desk when I am faced with a challenge

☐ Sometimes the e-learning platform is not accessible due to technical difficulties caused by the service provider

☐ I sometimes struggle to navigate through the platform, it is not user friendly

Other……

…….

C3. If yes to C1 above, Please number the challenges in order of severity/ seriousness with 1 being the most severe and subsequent numbers being less severe.

☐ No internet connectivity, costly to access platform through internet café.

☐ No facilities (equipment such as phones or computers) to access the platform with.

☐ Lack of a help desk when I am faced with a challenge

☐ Sometimes the e-learning platform is not accessible due to technical difficulties caused by the service provider

☐ I sometimes struggle to navigate through the platform, it is not user friendly

Other……

…….

C4. Do you think there is value in continuing to use e-learning platforms or you think the university is better off without e-learning?

☐ Yes, there is value ☐ No there is no value ☐ I am indifferent

C5. Do you offer assistance to other students on how to use the e-learning platform?

☐ Yes ☐ No ☐ Sometimes

E-learning platform is fairly easy to use

a) Strongly agree
b) Agree
c) Neutral
d) Disagree
e) Strongly disagree

The user interface for e-learning is well designed for any one no matter one‘s computer literacy level

a) Strongly agree
b) Agree
c) Neutral
d) Disagree
e) Strongly disagree

E-learning platform has relatively low internet security protection

a) Strongly agree
b) Agree
c) Neutral
d) Disagree
e) Strongly disagree

E-learning platform encourages plagiarism of academic work

a) Strongly agree
b) Agree
c) Neutral
d) Disagree
e) Strongly disagree

E-learning makes learner-lecturer interaction more effective i.e. feedback on assignments, clarifications on lessons and general academic guidance

a) Strongly agree
b) Agree
c) Neutral
d) Disagree
e) Strongly disagree

Section D: Technological Aspects of E-learning platforms

D1. Content

D1.1 What type of content do you currently have access to on your current e-learning platform?

☐ Documents	☐ Digital Audio & Video	☐ Authoring tools
☐ Visual tools	☐ Knowledge	☐ Search engines
☐ Newsletter	☐ Learner online	☐ Journal
☐ Learner web	☐ Post area	☐ Web link manager
☐ Audio capturing	☐ Video capturing	☐ Edutainment

D1.2 What type of content would you like to see in your ideal e-learning platform?

☐ Documents	☐ Digital Audio & Video	☐ Authoring tools
☐ Visual tools	☐ Knowledge	☐ Search engines
☐ Newsletter	☐ Learner online	☐ Journal
☐ Learner web	☐ Post area	☐ Web link manager
☐ Audio capturing	☐ Video capturing	☐ Edutainment

D1.3. Of the contents you have ticked above, please number the most 10 important, 1 being the most important and 10 being the least important.

☐ Documents	☐ Digital Audio & Video	☐ Authoring tools
☐ Visual tools	☐ Knowledge	☐ Search engines
☐ Newsletter	☐ Learner online	☐ Journal
☐ Learner web	☐ Post area	☐ Web link manager
☐ Audio capturing	☐ Video capturing	☐ Edutainment

D2. Communication

D2.1 What communication features do you use on your current e-learning platform?

☐ Discussion area	☐ Forum	☐ Chat
☐ Social network	☐ Synchronous	☐ Email

D2.2. What communication features would you like to see in your ideal e-learning platform?

☐ Discussion area	☐ Forum	☐ Chat
☐ Social network	☐ Synchronous	☐ Email

D2.3. Of the contents you have ticked above, please number them in order of importance, 1 being the most important and subsequent numbers (2,3,4 etc.) being the least important.

☐ Discussion area ☐ Forum ☐ Chat

☐ Social network ☐ Synchronous ☐ Email

D3. Collaboration

D3.1. What collaboration features do you use on your current e-learning platform?

☐ Multiuser dialog ☐ Sharing tools ☐ One on one mentoring

☐ Ask an expert area ☐ Problem/ Solution area

D3.2. What collaboration features would you like to see in your ideal e-learning platform?

☐ Multiuser dialog ☐ Sharing tools ☐ One on one mentoring

☐ Ask an expert area ☐ Problem/ Solution area

D3.3. Of the contents you have ticked above, please number them in order of importance, 1 being the most important and subsequent numbers (2, 3, 4 etc.) being the least important.

☐ Multiuser dialog ☐ Sharing tools ☐ One on one mentoring

☐ Ask an expert area ☐ Problem/ Solution area

Section E: Activities on E-learning platform

E1. Models

E1.1. What models of e-learning are you currently exposed to?

☐ Open learning (For example workshops, seminars, a night class/ course, distance course)

☐ Distributed learning (Material is shared widely and can be accessed through technology)

☐ Learning communities (Students come together through technology and support each other)

☐ Communities of practice (Informal groups that share the same interests in a subject)

☐ Knowledge building communities (Investing resources in the collective upgrading of

E1.2. What model of e-learning would you like to see being offered on your ideal e-learning platform?

- ☐ Open learning (For example workshops, seminars, a night class/ course, distance course)
- ☐ Distributed learning (Material is shared widely and can be accessed through technology)
- ☐ Learning communities (Students come together through technology and support each other)
- ☐ Communities of practice (Informal groups that share the same interests in a subject)
- ☐ Knowledge building communities (Investing resources in the collective upgrading of

E1.3. Of the learning models you have ticked above, please number them in order of importance, 1 being the most important and subsequent numbers (2, 3, 4 etc.) being the least important.

- ☐ Open learning (For example workshops, seminars, a night class/ course, distance course)
- ☐ Distributed learning (Material is shared widely and can be accessed through technology)
- ☐ Learning communities (Students come together through technology and support each other)
- ☐ Communities of practice (Informal groups that share the same interests in a subject)
- ☐ Knowledge building communities (Investing resources in the collective upgrading of

E2. Instructional Strategies (How the lecturer engages the students)

E2.1. What strategy for sharing information is used by your lectures on your current e-learning platform?

- ☐ Instructions shared in context
- ☐ Being able to be assessed
- ☐ Role playing
- ☐ Sharingyour perspective
- ☐ Problem solving
- ☐ Presentations and cued content
- ☐ Sequenced lessons
- ☐ Collaborations
- ☐ Modeling and explaining

E2.2. What strategy for sharing information by your lectures would you like to see in your ideal e-learning platform?

- ☐ Instructions shared in context
- ☐ Presentations and cued content
- ☐ Being able to be assessed
- ☐ Sequenced lessons
- ☐ Role playing
- ☐ Collaborations
- ☐ Sharingyour perspective
- ☐ Modeling and explaining
- ☐ Problem solving

E2.3. Of the learning models you have ticked above, please number them in order of importance, 1 being the most important and subsequent numbers (2, 3, 4 etc.) being the least important

- ☐ Instructions shared in context
- ☐ Presentations and cued content
- ☐ Being able to be assessed
- ☐ Sequenced lessons
- ☐ Role playing
- ☐ Collaborations
- ☐ Sharing your perspective
- ☐ Modeling and explaining
- ☐ Problem solving

Thank you.

APPENDIX III: QUESTIONNAIRE 2

Jackson Sililo

The University of Zambia, Graduate School of Business

Dear Respondent,

I am a student at the University of Zambia, carrying out a research on the 'Assessing the implementation of e-learning management systems at of the university of Zambia.' This is in partial fulfillment of the requirement for the award of Degree in Masters of Business Administration with a bias in strategic management.

This is academic research hence confidentiality is very much emphasized. To ensure this, your name and personal details will not be collected and so will they appear anywhere in the report.

Kindly spare some time to complete the questionnaire attached. Then you in advance.

Yours Faithfully,

Jackson Sililo

QUESTIONAIRE FOR THE UNIVERSITY OF ZAMBIA RESPONDENTS

Assessing the implementation of e-learning management systems at The University of Zambia.

Dear Respondent:

Please be reassured that this questionnaire is purely for academic purposes designed to for obtaining information on a project aimed at designing a commercial e-learning platform for the University of Zambia. This research is part of the requirement for the award of a master's Degree in Business Administration at the University of Zambia and therefore the information obtained will be treated with the utmost of confidentiality.

Please tick or fill where necessary.

1. Your gender
2. 2. What was your age on your last birthday? ……
3. 4. What programme are you currently doing? ……
4. 6. What is your current year of study

Section A: Use of E-Learning Platforms

A1. What e-learning platform do you have access to?

☐ Moodle ☐ Astria

☐ I do not know

A2. How exactly do you access the e-learning platform?

☐ Phone ☐ Laptop ☐ Desktop ☐ Internet Cafe

☐ I have no access to the platform

Other……

A3. For what purpose do you use the e-learning platform?

☐ Communications and updates about the course

☐ Send course material to students

☐ Send course assignments to students

☐ Communicate with students

☐ Communicate with other Respondents on the course

☐ Send recorded video content for the course

☐ Give live lecture sessions

Other…….

……

A4. Does the school provide any other facilities for you to access e-learning platform?

☐ Yes ☐ No ☐ Sometimes

A5. Is there a department (IT) that gives you support in case you have problems in accessing the e-learning platform?

☐ Yes ☐ No ☐ Sometimes

A6. On a scale of 1 to 10, 1 being very low satisfaction and 10 being very high satisfaction, how would you rate your e-learning experience?

1	2	3	4	5	6	7	8	9	10

A7. On a scale of 1 to 10, 1 being very low value and 10 being very high value, how would you rate the value of e-learning in your course?

1	2	3	4	5	6	7	8	9	10

Section B: Advantages of Using E-learning Platforms

B1. Do you feel e-learning is beneficial/ instrumental in your lectures?

☐ Yes ☐ No ☐ Sometimes

B2. What would you say are some of the benefits of e-learning to you personally?

☐ Ease of sharing of course content with students

☐ Sending of course content at place and time convenient to me

☐ Being able to answer student questions in real time

☐ Being able to interact with other Respondents on the platform

Other……

…….

B3. If given an option to lecture on part-time with the assist of e-leaning or full time lecturing with live class sessions, what would you prefer?

☐ Part-time with e-learning

☐ Full time study

☐ hybrid of part-time and full time

B4. Would you recommend other Respondents to use e-learning in their courses?

☐ Yes ☐ No ☐ Maybe

Section C: Challenges in Using of E-learning Platforms

C1. Have you faced challenges in using the e-learning platform?

☐ Yes ☐ No ☐ Sometimes

C2. What are some of the challenges that you have faced as you try and access/ use the e-learning platform?

☐ No internet connectivity, costly to access platform through internet café.

☐ No facilities (equipment such as phones or computers) to access the platform with.

☐ Lack of a help desk when I am faced with a challenge

☐ Sometimes the e-learning platform is not accessible due to technical difficulties caused by the service provider

☐ I sometimes struggle to navigate through the platform, it is not user friendly

Other……

…….

C3. If yes to C1 above, Please number the challenges in order of severity/ seriousness with 1 being the most severe and subsequent numbers being less severe.

☐ No internet connectivity, costly to access platform through internet café.

☐ No facilities (equipment such as phones or computers) to access the platform with.

☐ Lack of a help desk when I am faced with a challenge

☐ Sometimes the e-learning platform is not accessible due to technical difficulties caused by the service provider

☐ I sometimes struggle to navigate through the platform, it is not user friendly

Other……

…….

C4. Do you think there is value in continuing to use e-learning platforms or you think the university is better off without e-learning?

☐ Yes, there is value ☐ No there is no value ☐ I am indifferent

C5. Do you offer assistance to other Respondents on how to use the e-learning platform?

☐ Yes ☐ No ☐ Sometimes

E-learning platform is fairly easy to use

a) Strongly agree
b) Agree
c) Neutral
d) Disagree
e) Strongly disagree

The user interface for e-learning is well designed for any one no matter one‘s computer literacy level

a) Strongly agree
b) Agree
c) Neutral
d) Disagree
e) Strongly disagree

E-learning platform has relatively low internet security protection

a) Strongly agree
b) Agree
c) Neutral

d) Disagree
e) Strongly disagree

E-learning platform encourages plagiarism of academic work

a) Strongly agree
b) Agree
c) Neutral
d) Disagree
e) Strongly disagree

E-learning makes learner-lecturer interaction more effective i.e. feedback on assignments, clarifications on lessons and general academic guidance

a) Strongly agree
b) Agree
c) Neutral
d) Disagree
e) Strongly disagree

Section D: Technological Aspects of E-learning platforms

D1. Content

D1.1 What type of content are you currently able to deliver on your current e-learning platform?

☐ Documents	☐ Digital Audio & Video	☐ Authoring tools
☐ Visual tools	☐ Knowledge	☐ Search engines
☐ Newsletter	☐ Learner online	☐ Journal
☐ Learner web	☐ Post area	☐ Web link manager
☐ Audio capturing	☐ Video capturing	☐ Edutainment

D1.2 What type of content would you like to see in your ideal e-learning platform?

☐ Documents	☐ Digital Audio & Video	☐ Authoring tools
☐ Visual tools	☐ Knowledge	☐ Search engines
☐ Newsletter	☐ Learner online	☐ Journal
☐ Learner web	☐ Post area	☐ Web link manager
☐ Audio capturing	☐ Video capturing	☐ Edutainment

D1.3. Of the contents you have ticked above, please number the most 10 important, 1 being the most important and 10 being the least important.

☐ Documents	☐ Digital Audio & Video	☐ Authoring tools
☐ Visual tools	☐ Knowledge	☐ Search engines
☐ Newsletter	☐ Learner online	☐ Journal
☐ Learner web	☐ Post area	☐ Web link manager
☐ Audio capturing	☐ Video capturing	☐ Edutainment

D2. Communication

D2.1 What communication features do you use on your current e-learning platform?

☐ Discussion area	☐ Forum	☐ Chat
☐ Social network	☐ Synchronous	☐ Email

D2.2. What communication features would you like to see in your ideal e-learning platform?

☐ Discussion area	☐ Forum	☐ Chat
☐ Social network	☐ Synchronous	☐ Email

D2.3. Of the contents you have ticked above, please number them in order of importance, 1 being the most important and subsequent numbers (2,3,4 etc.) being the least important.

☐ Discussion area ☐ Forum ☐ Chat

☐ Social network ☐ Synchronous ☐ Email

D3. Collaboration

D3.1. What collaboration features do you use on your current e-learning platform?

☐ Multiuser dialog ☐ Sharing tools ☐ One on one mentoring

☐ Ask an expert area ☐ Problem/ Solution area

D3.2. What collaboration features would you like to see in your ideal e-learning platform?

☐ Multiuser dialog ☐ Sharing tools ☐ One on one mentoring

☐ Ask an expert area ☐ Problem/ Solution area

D3.3. Of the contents you have ticked above, please number them in order of importance, 1 being the most important and subsequent numbers (2, 3, 4 etc.) being the least important.

☐ Multiuser dialog ☐ Sharing tools ☐ One on one mentoring

☐ Ask an expert area ☐ Problem/ Solution area

Section E: Activities on E-learning platform

E1. Models

E1.1. What models of e-learning are you currently using?

☐ Open learning (For example workshops, seminars, a night class/ course, distance course)

☐ Distributed learning (Material is shared widely and can be accessed through technology)

☐ Learning communities (Students come together through technology and support each other)

☐ Communities of practice (Informal groups that share the same interests in a subject)

☐ Knowledge building communities (Investing resources in the collective upgrading of

E1.2. What model of e-learning would you like to see being added as options on your ideal e-learning platform?

☐ Open learning (For example workshops, seminars, a night class/ course, distance course)

☐ Distributed learning (Material is shared widely and can be accessed through technology)

☐ Learning communities (Students come together through technology and support each other)

☐ Communities of practice (Informal groups that share the same interests in a subject)

☐ Knowledge building communities (Investing resources in the collective upgrading of

E1.3. Of the learning models you have ticked above, please number them in order of importance, 1 being the most important and subsequent numbers (2, 3, 4 etc.) being the least important.

☐ Open learning (For example workshops, seminars, a night class/ course, distance course)

☐ Distributed learning (Material is shared widely and can be accessed through technology)

☐ Learning communities (Students come together through technology and support each other)

☐ Communities of practice (Informal groups that share the same interests in a subject)

☐ Knowledge building communities (Investing resources in the collective upgrading of

E2. Instructional Strategies (How the lecturer engages the students)

E2.1. What strategy for sharing information with your students do you use on your current e-learning platform?

- [ ] Instructions shared in context
- [ ] Presentations and cued content
- [ ] Being able to be assessed
- [ ] Sequenced lessons
- [ ] Role playing
- [ ] Collaborations
- [ ] Sharingyour perspective
- [ ] Modeling and explaining
- [ ] Problem solving

E2.2. What strategy for sharing information with your students would you like to see added on as an option in your ideal e-learning platform?

- [ ] Instructions shared in context
- [ ] Presentations and cued content
- [ ] Being able to be assessed
- [ ] Sequenced lessons
- [ ] Role playing
- [ ] Collaborations
- [ ] Sharingyour perspective
- [ ] Modeling and explaining
- [ ] Problem solving

2.3. Of the learning models you have ticked above, please number them in order of importance, 1 being the most important and subsequent numbers (2, 3, 4 etc.) being the least important

- [ ] Instructions shared in context
- [ ] Presentations and cued content
- [ ] Being able to be assessed
- [ ] Sequenced lessons
- [ ] Role playing
- [ ] Collaborations
- [ ] Sharingyour perspective
- [ ] Modeling and explaining
- [ ] Problem solving

APPENDIX III: QUESTIONNAIRE 3

Jackson Sililo

The University of Zambia, Graduate School of Business

Dear Respondent,

I am a student at the University of Zambia, carrying out a research on the 'Assessing the implementation of e-learning management systems at the university of Zambia.' This is in partial fulfillment of the requirement for the award of Degree in Masters of Business Administration with a bias in strategic management.

This is academic research hence confidentiality is very much emphasized. To ensure this, your name and personal details will not be collected and so will they appear anywhere in the report.

Kindly spare some time to complete the questionnaire attached. Thank you in advance.

Yours Faithfully,

Jackson Sililo

QUESTIONAIRE FOR THE UNIVERSITY OF ZAMBIA E-LEARNING COORDINATOR

Assessing the implementation of e-learning management systems at The University of Zambia.

Dear Respondent:

Please be reassured that this questionnaire is purely for academic purposes designed to for obtaining information on a project aimed at designing a commercial e-learning platform for the University of Zambia. This research is part of the requirement for the award of a master's Degree in Business Administration at the University of Zambia and therefore the information obtained will be treated with the utmost of confidentiality.

Please tick or fill where necessary.

Section A: Use of E-Learning Platforms

1. How many Respondents have you trained to use the e-learning platform offered by the University of Zambia?

…….....

2. What is the name of the service provider for the e-learning platform?

☐ Moodle ☐ Austria ☐ THE UNIVERSITY OF ZAMBIA

Other…….

3. How exactly can the Respondents and students access the e-learning platform?

☐ Phone ☐ Laptop ☐ Desktop ☐ Internet Cafe

4. For what purpose would they be able to use the e-learning platform for?

☐ Give communications and updates about the course

☐ Give course material to the students

☐ Share course material with other lectures

☐ Communicate to the students

☐ Communicate with other Respondents on the course

☐ Upload video content for the course

☐ Conduct live lecture sessions

Other……

……

……

……

5. Does the school provide any other facilities for students and Respondents to access the e-learning platform?

☐ Yes ☐ No ☐ Sometimes

6. If yes to the question above, what facilities does the university offer to Students and Respondents in order to help them access the e-learning platform?

7. Is there a department (IT) that gives you support in case you have problems in accessing the e-learning platform?

☐ Yes ☐ No ☐ Sometimes

8. As a coordinator, what challenges do you face when preparing, organizing and conducting e-learning seminars for Respondents for the sake of showing them how to use the e-platform?

Section B: Advantages of Using E-learning Platforms

1. Do you feel e-learning is beneficial/ instrumental to the university?

☐ Yes ☐ No ☐ Sometimes

2. What would you say are some of the benefits of e-learning to the university?

……
…….

3. Do you think the current e-learning platform can provide the option to Respondents to lecture on part-time with the assist of e-leaning or conduct full time lectures with live class sessions on the e-learning platform?

Section C: Challenges in Using of E-learning Platforms

2. Do Respondents and students face challenges in using e-learning platform?

☐ Yes ☐ No ☐ Sometimes

3. What challenges are you aware of that both students and Respondents face when using the current e-learning platform?

☐ No internet connectivity, costly to access platform through internet café.

☐ No facilities (equipment such as phones or computers) to access the platform with.

☐ Lack of a help desk when I am faced with a challenge

☐ Sometimes the e-learning platform is not accessible due to technical difficulties caused by the service provider

☐ They sometimes struggle to navigate through the platform, it is not user friendly

Other……
…….

4. If yes to C1 above, Please number the challenges in order of severity/ seriousness with 1 being the most severe and subsequent numbers being less severe.

☐ No internet connectivity, costly to access platform through internet café.

☐ No facilities (equipment such as phones or computers) to access the platform with.

☐ Lack of a help desk when I am faced with a challenge

☐ Sometimes the e-learning platform is not accessible due to technical difficulties caused by the service provider

☐ I sometimes struggle to navigate through the platform, it is not user friendly

Other……

…….

4 Do you think there is value in continuing to use e-learning platforms or you think the university is better off without e-learning?

☐ Yes there is value ☐ No there is no value ☐ I am indifferent

6. Do you offer assistance to Respondents and students on how to use the e-learning platform?

☐ Yes ☐ No ☐ Sometimes

Section D: E-learning framework

1. Do students have to pay to THE UNIVERSITY OF ZAMBIA in order to have access to the e-learning platform?

……

.

2. How do students pay for access to the e-learning platform?

3. What features would you advise to be added on your ideal e-learning platform?

☐ Live video sessions

☐ Live interactions with lecturer and other students

☐ Video recordings of course content

☐ Soft copy books, class notes

Other……

……..

4. For your identified list if features you would like to see in an ideal e-learning platform, please arrange this list in your preferred order of importance with 1 being the most important and subsequent numbers being less important.

☐ Live video sessions

☐ Live interactions with lecturer and other students

☐ Video recordings of course content

☐ Soft copy books, class notes

Other……

…….

5. Do you believe it would be necessary to outsource a company to develop or modify these features?

SECTION E: OPERATIONA COST

1. Are you in a position to disclose a rough estimate of how much it cost to develop the university of Zambia moodle E-learning platform?

☐ Yes ☐ No

2. If yes to E1, what is the rough estimate?

3. How much would you say are the running costs of operating the UNIVERSITY OF ZAMBIA moodle platform?

4. Did the university of Zambia-moodle platform require new personnel to be hired or consulted at any one point?

5. If yes to E5, how many personnel were hired or consulted and how much were they paid?

6. Which data center stores the data base for the UNIVERSITY OF ZAMBIA moodle platform?

7. How much does THE UNIVERSITY OF ZAMBIA pay to keep its data for the university of Zambia moodle platform?

8. Have you considered a hybrid system with regards to keeping its data?

APPENDIX III: INTERVIEW GUIDE

Jackson Sililo

The University of Zambia, Graduate School of Business

Dear Respondent,

I am a student at the University of Zambia, carrying out a research on the 'Assessing the implementation of E-learning management systems at The University of Zambia.' This is in partial fulfillment of the requirement for the award of Degree in Masters of Business Administration with a bias in strategic management.

This is an academic research hence confidentiality is very much emphasized. To ensure this, your name and personal details will not be collected and so will they appear anywhere in the report.

Kindly spare some time to complete the questionnaire attached. Thank you in advance.

Yours Faithfully,

Jackson Sililo

INTERVIEW GUIDE FOR SOFTWARE DEVELOPERS AND IT TECHNICIANS

Assessing the implementation of E-learning management systems at The University of Zambia.'

Dear Respondent:

Please be reassured that this questionnaire is purely for academic purposes designed to for obtaining information on a project aimed at assessing the implementation of E-learning management systems at the University of Zambia. This research is part of the requirement for the award of a master's Degree in Business Administration at the University of Zambia and therefore the information obtained will be treated with the utmost of confidentiality.

Q1: Have you created or been part of a team that has developed an app or platform for an institution or organization?

Q2: How important is the input from the organization paying for the app or platform when it comes app / platform creation?

Q3: What are some of the challenges you have faced in creating apps/platforms for institutions?

Q4: How can the challenges be overcome?

Q5: Are you aware of e-Learning policies?

Q6: Have you ever worked on the development of an E-learning platform or anything similar?

Q7: How long would it take to build an E-learning platform that can accommodate over 30000 users?

Q8: How much would it cost to develop such a platform?

Q9: if an institution wanted to host said platform, what basic things do they need to have and take into consideration?

Q10: would you recommend that an institution hosts its own platform?

Q11: Is the communication of creating the universities own e-learning platform by key stakeholders effective?

Q12: What challenges would an institution like the university of Zambia face in development of its own E-learning platform knowing it has a computer science department/ wing?

Q13: Any recommendations on how it could navigate the challenges mentioned in Q12?

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