ADOPTION AND UTILISATION OF WORKPLACE E-LEARNING PRACTICES IN SELECTED NAMIBIAN PUBLIC SECTOR ORGANISATIONS

A DISSERTATION SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN EDUCATION (ADULT EDUCATION)

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ABSTRACT

Recent times are witnessing a substantial increase in the adoption and utilisation of e-learning for education. Furthermore, there is a growing trend of this tool effectively used to facilitate learning and growth inside public sector organisations globally. In this particular study the main aim was to explore the acceptance and use of e-learning practices in a selection of organisations in the public sector of Namibia. The aforementioned objective was achieved by the acquisition of a comprehensive understanding of the contextual setting in which the research was conducted, as well as a thorough analysis of factors that facilitate e-learning. The study adopted an explanatory sequential mixed method approach comprising of quantitative research (questionnaires) and qualitative research (interviews). The literature review revealed gaps, theories and provided guidance on the formulation of the hypotheses and the development of the instruments. Subsequent to the administration of the questionnaires the follow up interviews were conducted. The framework of the study was based on the model; Unified Theory of Acceptance and Use of Technology (UTAUT). The model is aimed at elucidating adoption and utilisation of e-learning practices, specifically focusing on their implementation. The sample size of 162 individuals, consisting of managers and employees, was carefully chosen to ensure representation across various public sector specialties and professional ranks.

Overall, the findings of the study suggest that individuals employed in the public sector had positive view on e-learning use. The limited availability of resources directly contributed to diminished levels of motivation, resulting in unfavourable view towards the practice. It was found further that the literature review, questionnaires and interviews converged since there were not much difference obtained; the methods were rather complementary to one another. The results indicated that e-learning use in

Namibia necessitates a comprehensive and structured model. This study therefore recommends a model that requires the meticulous development of factors to foster a culture of e-learning use. It further recommends the development and implementation of curricula as necessary for adoption and utilisation. The aforementioned recommendations demand the incorporation of organisational factors within a wider framework, encompassing guidelines and initiatives formulated by public sector entities for the collective advantage of the Namibian public sector in its entirety.

The primary recommendation derived from this study is the conversion of Namibia Institute of Public Administration and Management (NIPAM) into the Namibia Public Service College, aiming to fulfil the public sector's overall educational needs. Based on an extensive investigation into the public sector organisations in Namibia and a thorough study of relevant literature, a proposed model has been established. The model referred to as the Adoption and Utilisation of Workplace e-learning in the Public Sector Organisations (AUWEPSO) is being proposed. The model exhibits the capacity to serve as a framework for the effective adoption and utilisation of workplace e-learning practices in organisations within the Namibian public sector and other institutions with similar contextual characteristics.

Portfolio

LIST OF PUBLICATIONS DURING THE DOCTORAL PERIOD

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DEDICATION

The tragic deaths of my mother Ms. Ellen Gabobofane Legopelo and my younger brother Monkgogi King Legopelo unfortunately occurred during the course of this study. They forever remain etched in my memory, trusting in God's comfort for healing.

May their souls find eternal peace in heaven.

DECLARATION

I, Marguerite Margie Serema, 221141960, hereby declare that this study is my own work and is a true reflection of my research, and that this work, or any part thereof has not been submitted for a degree at any other institution. No part of this thesis may be reproduced, stored in any retrieval system, or transmitted in any form, or by means (e.g., electronic, mechanical, photocopying, recording or otherwise) without the prior permission of the author, or The University of Namibia in that behalf. I, Marguerite Margie Serema, grant The University of Namibia the right to reproduce this thesis in whole or in part, in any manner or format, which The University of Namibia may deem fit.

Marguerite Margie Serema		April 2025
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Name of Student	Signature	Date

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LIST OF ABBREVIATIONS/ACRONYMS

4IR	Fourth Industrial Revolution
ASTD	American Society for Training and Development
AUWEPSO	Adoption and Utilisation of Workplace E-learning in the Public Sector Organisations
CAI	Computer Assisted Instruction
CBI	Computer-based Instruction
CBT	Computer-based Training
CIPD	Chartered Institute of Personnel and Development
CRAN	Communications Regulatory Authority of Namibia
IBT	Internet-based Training
ICT	Information and Communications Technology
IDT	Innovation Diffusion Theory
ILE	Institutional Learning Environment
IS	Information Systems
LMS	Learning Management System
NamPower	Namibia Power Corporation (Proprietary) Limited
NeLC	Namibia eLearning Centre
NIPAM	Namibian Institute of Public Administration Management

OF	Organisational Factors
OPM	Office of Prime Minister
p-value	Significance level
PCLOSE	Probability-Close Fit
PDAs	Personal Digital Assistants
PLE	Personal Learning Environment
PRISMA	Preferred Reporting Items for Systematic Reviews & Meta Analysis
REDCap	Research Electronic Data Capture
SCT	Social Cognitive Theory
TEL	Technology Learning
TN	Telecoms Namibia
TPB	Technology Policy Board
TRA	Theory of Reasoned Action
UTAUT	Unified Theory of Acceptance and Use of Technology

CHAPTER 1

INTRODUCTION

1.1 Introduction

This study focuses on exploring the adoption and utilisation of workplace e-learning practices in Namibian public sector organisations, particularly emphasising employees and managers. The study analysed elements that promote workplace e-learning, including performance, effort, and social and behavioural aspects. Furthermore, it identified perceptions, opportunities and challenges. The study also developed a model based on Unified Theory of Acceptance and Use of Technology (UTAUT) model. This chapter addresses an orientation to the study, a clear statement of the problem, research objectives, the significance of the research, and precise definitions of essential terms. Additionally, the chapter outlines the constraints and scope of this study.

1.1.1 Orientation of the Study

This study aimed to obtain knowledge and understanding of workplace e-learning practices in Namibian public sector organisations. This enabled the development of a model that could guide policymakers, employees, and managers involved in using e-learning technology in Namibia. Employees and managers in this study include people who work in government institutions such as ministries, departments, and other government agencies and parastatals. These people are involved in ensuring the adoption of e-learning systems.

Most importantly, workplace e-learning practices have become increasingly prevalent in modern organisations particularly with the challenge of COVID 19 pandemic. As

alluded by Gopika and Rekha (2023) COVID 19 outbreak has accelerated the rise of digital learning. This study therefore comes at the appropriate time to address the adoption and utilisation of e-learning practices in the public sector. This dynamic employee training and development approach leverages technology to deliver creative and manageable learning experiences (Attwell, 2019). Using e-learning platforms provides a variety of gains, including affordability, scalability, and accessibility. Employees can engage in self-paced learning, accessing courses and resources anytime, anywhere. Interactive modules, videos, quizzes, and simulations make learning engaging and effective. Additionally, e-learning allows organisations to track progress, identify knowledge gaps, and tailor training programmes to individual needs.

With the rapid technological advancements, e-learning practices are poised to continue evolving, driving continuous learning and professional growth (Kapo, Mujkic, Turulja, & Kovačević, 2021). E-learning practices have gained significant traction in recent years as organisations recognise the value of continuous learning and development for their employees. One important aspect of effective e-learning practices is the emphasis on accessibility and convenience. E-learning allows accessibility to training packages and educational materials at their convenience, eliminating time and location constraints. This flexibility is particularly beneficial in today's globalised and remote work environments, where employees may be spread across different time zones or working from various locations (Lin, Huang, & Zhang, 2019). While considering the interlink between e-learning systems and organisational learning, it has been observed that there exists a key challenge for organisations today. These challenges mainly refer to the shift from being an information-oriented organization to emerging as a largely innovative organisation (El Kadiri, et al., 2016).

Although e-learning has been found to provide learning solutions, organisations continue to struggle with issues, including low performance, poor service delivery, and low productivity (Nurhayati & Rachmawati, 2021). Further, a study conducted by Tomlinson and Rabina (2011) in Namibia identified poor implementation, unevenness in websites serving the public, and inadequate internet coverage. Additional challenges to e-learning include expenses and a shift in perspective, insufficient knowledge, financial limitations, a shortage of skilled staff, insignificance, and inadequate infrastructure. These challenges have been argued as causing a threat to the adoption and utilisation of successful e-learning practices, thus needing more exploration and analysis (Mwangi, 2014).

Due to the limited research uptake and application of digital learning in the Namibian public sector employees, e-learning programmes need more local contextual thoughts and direction. Scholars attribute the lack of studies to the novelty of electronic technology in developing countries and the difficulties caused by factors such as limited knowledge of usage, accessibility, and infrastructure reliability (Oroma, Wanga, & Ngumbuke, 2012; DeRouin, Fritzsche, & Salas, 2004). Therefore, there is a need to develop models using local research to guide the implementation and overall practice of electronic technology in organisations. This study includes practical implications as it aims to fill the knowledge gap and contribute towards reducing overreliance on the Global North to inform e-learning practices in developing world contexts. Since e-learning has not yet reached advanced level in developing countries comparative to the developed nations, (Mawere & van Stam, 2019) argue that e-

learning models are failing many African countries since they come with alien interpretations.

Efforts on electronic technology practices within the Namibian public sector are prevalent. However, scepticism persists regarding the use and acceptance of electronic techniques, mainly due to the scarcity of scientific research in this area. Without a comprehensive framework or model to guide e-learning adoption and utilisation in Africa, especially in Namibia, the use of electronic devices in government has become ad-hoc and haphazard, and the gains of electronic technology are unlikely to be realised. Therefore, the use of electronic technologies is necessary as they impact the operations of public sector organisations (Msomi, Munapo, & Choga, 2016). This study focuses on selected Namibian public sector organisations with evidence of adopting and utilising workplace e-learning practices.

1.2 Statement of the Problem

Namibian government investments in e-learning are noticeable. For instance, in 2005, the government invested US$1.5 million to train its 9000 civil servants. Altogether, US$25.8 million was allocated for computer training in 2005 (University World News, 2009). In another development, the Namibia eLearning Centre (NeLC) was founded in 2010 to increase the rapid expansion of e-learning to serve private and public institutions (eLearning Africa, 2012). Despite efforts to develop e-learning, Namibia's return on investment is unsatisfactory. As Ngwangwama, Ungerer, and Morrison (2019) argued, there seems to be a lack of appropriate skills, work experience, and poor customer service in Namibia. Although their study focused on management

practices and the effectiveness of organisations, this study attempts to close the gap in e-learning practices since the area seems untapped.

Considering this scarcity, some African studies with similar interests can provide insights and be utilised as benchmarks. For instance, Mutisya and Makokha (2016), in addressing the challenges of e-learning, identified a lack of skill, inadequate trained personnel, and financial constraints to address issues such as bandwidth and e-learning infrastructure. Some of the challenges identified as influential on the hesitancy of e-learning were attitudes and culture. Generally, the culture of an African setting is not attuned or adapted to the latest technology, and regular e-learning practices can pose a hindrance. Idang (2015) alleges that most contemporary Africans struggle to adjust between their primitive cultural beliefs and the seemingly modern culture.

Empirical studies on workplace e-learning adoption and utilisation in public sector organisations are still embryonic but highly pervasive in the developed world (Nyagorme, 2014; Sarabadani, Jafarzadeh, & ShamiZanjani, 2017). As Hamburg (2021) acknowledges, it is imperative to study online education and how digital tools can facilitate both formally structured and unstructured learning in the workplace (p. 284). The advent of COVID-19 has probably initiated the opportunity to change workplace e-learning practices. Hence, there is a need to explore the use of electronic technology within the Namibian public sector to construct models based on African settings (Serema, Shihomeka & Shalyefu, 2023). Therefore, this study aims to explore the adoption and utilisation of workplace e-learning practices in the Namibian public sector organisations, in order to develop the model for its effective implementation.

1.3 Aim of the Study

This study aims to explore the adoption and utilisation of workplace e-learning practices in selected Namibian public sector organisations. The study addresses the specific objectives as listed below.

1.3.1 Research Objectives

The study was guided by the following objectives:

a) To assess the adoption and utilisation of workplace e-learning practices in public sector organisations.
b) To analyse the factors that promote adopting and utilising workplace e-learning practices in public sector organisations.
c) To determine users' perceptions regarding the adoption and utilisation of workplace e-learning practices in selected public sector organisations in Namibia.
d) To identify users' opportunities and challenges on the adoption and utilisation of workplace e-learning practices in selected public sector organisations in Namibia
e) To develop a model for the effective adoption and utilisation of workplace e-learning practices in public sector organisations.

1.4 Hypotheses of the study

The hypotheses were formulated based on the original UTAUT model. The following were the hypotheses of this study;

H_1. Performance Expectancy (PE) will have influence on Behaviour Intention (BI)

H_2. Effort Expectancy (EE) will have influence on BI

H_3. Perceptions (P) will have influence on BI

H_4. Organisational Factors (OF) will have influence on BI

H_5. Facilitating Conditions (FC) will have influence on E-learning use (adoption and utilisation).

H_6. BI will have influence on E-learning use.

H_7. PE will have influence on P

1.5 Significance of the study

The study contributes to the discourse on e-learning and enhance knowledge in the field of Adult Education. E-learning is increasingly recognized as a crucial method for facilitating lifelong learning, particularly in workplace settings. This study emphasizes how e-learning supports continuous professional development. It allows adult learners to engage in self-directed learning that is essential for career advancement and skill enhancement. This aligns with the principles of adult education, which prioritize the needs and experiences of adult learners in educational contexts.

There is no study yet in Namibia that sought to explore adoption and utilisation of e-learning practices in the public sector. Therefore, this study would contribute in informing policy formulation, strategic planning, curriculum design, research, and consultancy on this area, with the aim of improving public sector productivity and quality service delivery. Moreover, this study is anticipated to provide insights into e-learning practices in Namibia, suitable for the development of purposeful e-learning interventions. Hence the need to develop a model that could be relevant to the context of the Namibian public service. The developed model for e-learning adoption and

utilisation practices could also be used as a guide by the Namibian government in planning and using electronic systems in public organisations.

Furthermore, the views and perceptions might provide insight to enhance knowledge and best practices on e-learning in public sector organisations. Management can benefit from e-learning cost-effectiveness, flexibility, and customised learning for employee skills enhancement as well as the overall functioning of organisations. It can eventually contribute to improving the efficiency and competitiveness of an organisation overall. Additionally, this study can help provide insight into issues that enhance the use of electronic technology in professional settings.

1.6 Delimitations of the study

The scope of this study encompasses the Namibian public sector and all publicly managed or supported organisations, corporations, and agencies. Therefore, the findings cannot be generalised to any organisations and institutions other than Namibia's government or public sector organisations.

The research focuses on selected public sector organisations and parastatals that have adopted, utilised and are responsible for e-learning policies, platforms, processes, and services, namely the Office of the Prime Minister (OPM), Namibian Institute of Public Administration Management (NIPAM), Namibia Power Corporation (Proprietary) Limited (NamPower), Communications Regulatory Authority of Namibia (CRAN), and Telecoms Namibia (TN). The study population comprises managers and non-management employees in these public sector organisations.

The study also, includes users' perceptions, attitudes, opportunities, and challenges regarding adopting and utilising e-learning practices. At the same time, it proposes the most appropriate model for adopting and utilising workplace e-learning practices in the public sector. The study does not cover the application and evaluation of electronic systems or compare the public sector with other sectors or countries.

1.7 Definitions of terms used in the study.

The terms used in this study have been explained below:

- **Adoption:** is defined as a decision to make a full use of a technology and encompasses the stages of integration, implementation, and use (Rogers, 2010 in Rjab, Mellouli, & Corbett, 2023).
- **Attitude:** "a user's positive or negative feelings about displaying the intended behaviour" (Davis et al. 1989, p. 553).
- **Effort expectancy**: "the level of ease in association with the level use of the system" (Venkatesh et al., 2003, p.450).
- **E-learning:** The suitable implementation of the internet technology for strengthening skills, knowledge, and the delivery of learning content (Masood, Jabeen, Tariq & Rubbani, 2021).
- **E-learning practices: "**All educational activities that are carried out by individuals or groups working online or offline, and synchronously or asynchronously via networked or standalone computers and other electronic devices" (Naidu, 2006, p.1).
- **Facilitating conditions**: "the degree to which an individual trusts that an organisation's technical infrastructure is there to help with the use of the system" (Venkatesh, Morris, Davis, & Davis, 2003, p. 453).

- **Organisational Factors:** Organisational factors could be viewed as the company's capabilities and processes at coordinating its resources and putting them into productive use (Ongwae, Lagat, & Odunga, 2018).
- **Performance expectancy: "**the extent to which an individual trusts the use of the system will assist them in enhancing job performance" (Venkatesh, Morris, Davis, & Davis, 2003, p.447).
- **Public sector**: The public sector is a segment of the economy that includes all organisations owned and operated through the government **(**Baa, & Chattoraj, 2022)**.**
- **Social influence**: "the level to which a particular person perceives that critical others believe he or she should make use of the new system" (Venkatesh, Morris, Davis, & Davis, 2003, p. 451).
- **Utilisation**: Utilisation is defined as; "the act of using processes and resources for learning" (Seels & Richey, 1994, p.46).

1.8 Format of the Dissertation

The outline of this dissertation is comprised of seven chapters.

Chapter 1 introduces the topic, providing a background to the study, a statement of the problem, research objectives, hypotheses of the study, significance of the study, limitations, and delimitations, as well as definitions of the terms used.

Chapter 2 presents an extensive review of relevant literature including the systematic review.

Additionally, the chapter covers a thorough discussion of the models and theories that explain the adoption and use of technology, such as the Unified Theory of

Acceptance and Use of Technology (UTAUT), which is the model adopted as a framework for this study.

Chapter 3 outlines the methodology adopted for this research, including the research design, data collection methods, hypotheses and analytical techniques used.

Chapter 4 presents and discusses quantitative research findings.

Chapter 5 presents qualitative research findings and consolidates the findings of both quantitative and qualitative phases.

Chapter 6 presents the developed conceptual model: E-learning adoption and Utilisation of Workplace E-learning in Public Sector Organisations (AUWEPSO).

Chapter 7 presents conclusions and recommendations on the effective adoption and use of e-learning in Namibian public sector organisations. It also suggests areas for future research.

1.9 Chapter Summary

This chapter contends that there is a scarcity of research on the adoption and utilisation of e-learning methods in public sector organisations, specifically in Namibia. Thus, exploring this domain aimed to comprehend and create a conceptual model rooted in the UTAUT model. The established model is expected to offer guidance to Namibian public sector organisations. This chapter emphasised the study's focus and participants to demonstrate its contextual position. The study also provided the context, stated the problem, and established the four objectives guiding the research. The chapter addressed the study's importance, constraints, and boundaries and concluded by defining the words utilised in the study.

The following chapter introduces the literature review, which comprehensively covers a thorough discussion of the models and theories that explain the adoption and use of technology, particularly the (UTAUT), adopted as a framework for this study.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter offers an in-depth overview of the literature related to the research topic. The discussion has identified several issues, such as definitions, perceptions, opportunities, and challenges related to the adoption and utilisation of workplace e-learning practices. The literature review findings provided insights into the research conducted.

The search was broadened to include literature on workplace e-learning practices to uncover data to acquire any pertinent information with potential relevance to the public sector. In the end, the researcher found all published studies by conducting a thorough analysis of the available literature. The researcher elucidated the literature's shortcomings in workplace e-learning practices in the public sector, along with the underlying factors. It was further acknowledged that the significant potential for conducting research was necessary to enhance comprehension of the views, opportunities, and difficulties associated with workplace e-learning practices.

Although digital technology is widely used in the public sector, the academic literature on e-learning in this area needs more substantial insights. Research indicates that the area is still at infancy level in the organisational context (Liu, Huang & Lin, 2012; Serema, Shihomeka & Shalyefu, 2023). Additionally, recent reports also show that e-learning in Sub-Saharan Africa and some parts of Asia are still grappling at embryonic stage (Trines, 2018). Despite academics performing more research, technology use in

their fields has remained the same. Furthermore, this study deficit has been highlighted to other educational experts. This study notes a scarcity of research on applying UTAUT in the public sector technologies particularly in Africa. The researcher undertook a comprehensive review of the current literature to consolidate and synthesize the many works related to the issue. The process involved explaining the search methodology in detail, thus extracting and analysing data from the selected studies (Sinha, Menon, & John, 2022). Subsequently, the process included formulating of the hypotheses, theoretical framework and data collection instruments.

In a nutshell, the chapter presents a justification for recognising fundamental gaps that necessitate an examination of this topic (Machi, 2022). It also examines concepts and models of adoption and utilisation to select an appropriate model to guide this study.

2.2 Definition of E-learning

E-learning is essentially linked to the increase in part-time, remote learning, lifelong learning, and the incorporation of technology and internet usage (Hubackova, 2015; Williams & Goldberg, 2005). Consequently, discrepancies exist in the interpretations of e-learning, which the methodologies and preferences of researchers could potentially influence. Similarly, Sangrà, Vlachopoulos, and Cabrera (2012) agree with the aforementioned statement regarding the beginning of e-learning; they also link the concept to the development of distant learning.

During the literature review about this definition a study conducted by Sangrà et al., (2012) classified e-learning into four characteristics: technology-driven, delivery system-oriented, communication-oriented, and educational paradigm-oriented. The

term includes using electronic media in numerous educational situations, online learning using computer and mobile devices, and remote learning and training programmes. More crucially, e-learning is essential for online education and training using electronic media and web technology (Sangrà et al., 2012). In another study González-Videgaray (2007) defined the term as an educational approach that uses information and communication technology to enable online pedagogical interaction between students and the curriculum, instructors, and students, or among students themselves through the web. Another commonly known definition is a medium for communication, engagement, and collaboration. E-learning is also defined within the educational paradigm as an approach to enhance informed learning, administration, and delivery. Therefore, it facilitates both synchronous and asynchronous learning and teaching activities (Sangrà et al., 2012).

Al-atabi and Al-noori (2020) define e-learning as the electronic delivery of instructional content. It would encompass nearly any form of education that imparts skills or distributes information in a highly organised manner. E-learning programmes have been implemented using learning management systems (LMS). E-learning encompasses several components, such as asynchronous courses, which are primarily text-based, educational games, job aids, audio and video segments, as well as synchronous media like chat rooms and teleconferencing. Chetan (2016) shares the viewpoint that online learning is not a theory of learning. According to the author, e-learning may be described as the design of a delivery system that relies on technology and typically requires learners to engage in self-directed study.

According to the Chartered Institute of Personnel and Development (CIPD), there was no commonly agreed definition of e-learning. Nevertheless, they described e-learning

as a process in which learning is facilitated, supported, or given via electronic technology, specifically to provide training within businesses. According to the survey conducted by CIPD in 2009, e-learning has been interpreted as both an inclusive and exclusive. The inclusive term encompasses distributed technology products like CD-ROMs, which do not require the researcher's computer system to be connected to a network or the internet.

The exclusive definition pertains to the deliberate exclusion of certain items, specifically focusing on those exclusively offered over the intranet or internet. Simultaneously, AFLN (2005) provides a definition in which the term has been described as the use of technology to deliver training and development. The use of online resources, virtual classrooms, wikis, mobile technologies, MP3 players, and personal digital assistants is included to develop highly adaptable learning opportunities.

Given the various interpretations of e-learning, there is a challenge in establishing an accepted explanation of e-learning. Abbad, Morris, and De Nahlik (2009) have proposed a comprehensive definition of electronic learning, which relates to acquiring abilities and aptitudes using electronic means. This method of learning has attracted the interest of many and is being adopted by numerous organisations and learners. This can be ascribed to the reason that resources for electronic technologies can be readily obtained at the most advantageous or suitable time for the learner. Furthermore, the learner has complete control over the amount of time they want to allocate to it. In the past, the process involved utilising CD-ROMs and DVDs. However, nowadays, learners mostly rely on obtaining materials through the Internet or organisational intranets (Arthur-Nyarko & Kariuki, 2019).

As defined by the American Society for Training and Development (ASTD), E-learning encompasses several approaches and tools such as computer-based learning, web-based learning, virtual classrooms, and digital platforms. Most of this type of learning is disseminated through intranets, the internet, video and audio tapes, interactive TV, satellite broadcasts, and CD-ROMs (Chetan, 2016). E-learning refers to the utilisation of electronic media in the field of education, encompassing multimedia learning, technology-enhanced learning (TEL), computer-based training (CBT), computer-based instruction (CBI), computer-aided instruction (CAI), internet-based training (IBT), web-based training (WBT), virtual education, online education, and virtual learning environments (VLE). According to Arkorful & Abaidoo (2015), e-learning involves using electronic media for various learning purposes. This might range from supplementary tools in traditional classrooms to completely replacing face-to-face meetings with online interactions. Similarly, Rodrigues et al. (2019) define e-learning as enrolling in an online course and utilising wireless or cable connectivity to access academic course materials via a computer, handheld device, or mobile phone. According to Abbasi Asani et al. (2020), e-learning is a broad method of learning that offers new possibilities for education and teaching in several fields, apart from traditional classroom settings.

2.3 Evolution of E-learning

The evolution of e-learning can be traced to the 1960s; trainers and educators in various fields, such as business, training, military, and education, have utilised computers and technology to enhance learning and teaching (Hubackova, 2015). Over the past 40 years, e-learning has undergone a multifaceted transformation. While in the field of education, it means the use of online and software-based methods for learning, in the workplace organisation, the army, and training sectors, it means the

delivery of online content with flexibility and content delivery that focuses on supporting specific learning groups (Niaz, Memon, & Khokhar, 2021). Importantly, the foundational research conducted by Suppes (1996) at Stanford University and Bitzer, Braunfeld, and Lichtenberger (1961) at the University of Illinois laid the groundwork for the contemporary implementation of online learning in higher education and the workplace. Additionally, Fletcher (2003) made significant contributions to this field. Suppes (1996) posited that in the future, all learners might potentially have access to personalized tutoring services, similar to how royalty in ancient times was individually tutored. However, instead of human tutors, computers will assume the function of tutors. In the early 1960s, Don Bitzer introduced the Programmed Logic for Automatic Teaching Operations (PLATO), a time-shared computer system that primarily emphasised literacy programmes (Bitzer et al., 1961). PLATO facilitated the use of graphic terminals and an educational programming language, enabling teachers and learners to engage in interaction and communication with other users through electronic notes. It is thus worth noting that this advancement laid the foundation for the modern conferencing systems we have today. Therefore, Bitzer et al. (1961) and Suppes (1996) primarily designed their technology as a tool. However, they also envisioned its potential for application in other areas. One example is the present e-learning system, Blackboard, which is a successor to PLATO.

However, the application of e-learning in organisations, along with its promotion, has raised questions about how quality may impact the structure and integrity of these programmes. Additional issues have been expressed regarding providing structured learning experiences and establishing a well-defined learning model. Regardless of these concerns, there has been a significant rise in online enrolment over the past few years. According to a survey, learners registered in at least one online programme in

institutes of higher education across the United States was approximately 5.8 million, much higher than in prior years (Kentnor, 2015). Currently, e-learning is undergoing a shift due to the ubiquitous use of the internet. This transformation is so considerable that it is now referred to as novel approaches in e-learning that are influenced by the advent of Web 2.0. From the standpoint of advancement, conventional systems were established for the basis of delivering learners educational materials with the use of the internet (Al-atabi & Al-noori, 2020). In this context, the learner is responsible for extracting knowledge from readings and using it in the professional environment to enhance productivity.

In contrast, the advanced form of e-learning would prioritise informal learning and the use of software applications, including blogs, podcasts, wikis, and others. According to Chetan (2016), the word e-learning is commonly used to refer to the use of computer-based tools in various digital environments. However, it specifically refers to both the act of learning and the tools used in the learning process. Therefore, E-learning utilises methods and mechanisms to effectively incorporate technology, context, and material.

Moreover, technical advancements facilitate the freedom to associate and provide easy access to online resources and educational programmes. These advances are considered significant advantages for organisations. This review focuses on the fundamental functional and social aspects of e-learning and its unique features as a technology for important techniques such as ‘customised feedback’, ‘simulation’, and ‘collaboration’. Furthermore, the incorporation of transparency in the design of this learning technology has contributed to the advent of a novel learning approach centred

around learners' perspectives encompassing the individual, collective, and their interactions within organisational settings.

2.4 Workplace E-learning in the Public Sector Organisations

Workplace e-learning has been widely implemented by numerous public sector organisations as a strategic instrument for enhancing staff learning and development (Nurhayati & Rachmawati, 2021). Additionally, e-learning activities within public sector organisations encompass a range of methods, including physical training sessions, meetings, and the utilisation of digital learning resources. These activities are designed to facilitate organisational change (Giannakos, Mikalef, & Pappas, 2022).

The use of e-learning is possibly becoming more visible in organisations in many parts of the world, hence a necessity for continuous development and upskilling employees in organisations (Alkharang, 2014). According to Msomi, Munapo and Choga (2016) some organisations have experienced the benefits of e-learning and have now resorted to applying it in training their staff. It is so far scientifically proven that adoption and utilisation of e-learning is highly recognised in workplace organisations since it enhances skills and knowledge of workers.

Undoubtedly, e-learning is crucial in public sector organisations and is extensively embraced as a fundamental element of economic progress. Research shows that the percentage of American businesses implementing e-learning in organisations rose from 8% in 1999 to 29% in 2006 (Jan, Lu, & Chou, 2012). Given the rapid advancement of technology, it is quite likely that e-learning will become more widely adopted in public sector organisations as they strive to stay up with these changes. More recent evidence was revealed in multiple studies conducted by researchers

regarding the adoption of e-learning systems (Alhabeeb & Rowley, 2017; Alharbi & Sandhu, 2019; Alharthi, 2017). However, a limited amount of empirical research addresses characteristics contributing to the success stories of e-learning in an organisational setting. The existing research primarily concentrates on the efficacy of e-learning in institutions of higher learning. Following the preceding statement, Al Mulhem (2020) demonstrates that various success indicators for e-learning institutions of higher learning were discovered. Hence, a consideration for the current study is significant in providing for empirical understanding.

As Serrat (2017) denotes, like humans, organisations also require ongoing learning to adapt to a complex and dynamic world. Hence, organisations using resilient learning systems and comprehensive training and development programmes consistently enhance their competitive edge. For effective training and development, the learning programmes can be tailored to be both pertinent and varied. For instance, research is advocating for the implementation of e-learning in organisations that rely on financial resources. Employees in such organisations are responsible for monitoring the allocation of funds. Therefore, they need to acquire knowledge in areas such as “data mining and artificial intelligence” to identify any abnormalities in the distribution of cash effectively (Mehta, 2021). The rate at which organisations and individuals gain information may serve as a lasting competitive advantage, especially in fields that require a high level of expertise. The effectiveness of e-learning in public sector organisations has been widely recognised, characterised, and supported as a powerful method for effectively training, involving, and empowering employees (Giannakos, Mikalef, & Pappas, 2022).

The analysis and comprehension of workplace e-learning in a knowledge-intensive and understanding dynamic learning environment is of utmost importance. This allows individuals to be aware of, interact with, and utilise the complex e-learning system and the system-enabled connections within an organisation. These connections can benefit employees and the organisation over a long-term period (Allen, 2016). Despite the considerable amount of literature and interest in this field, there is still much to learn about the intricacy and beneficial collaboration that can arise from organisational e-learning and its participants. Organisations that offer e-learning have a greater opportunity to enhance their organisational identity, establish and maintain learning communities, keep all members and stakeholders informed about current organisational developments and practices, establish collaborative networks with individuals and organisations both domestically and internationally, gain access to superior knowledge and ideas, and foster innovation and creativity for optimal performance (Serrat, 2017).

In the business sector, where complexity and rivalry are prevalent, many organisations have responded by making substantial investments in learning and development (Whitehead, 2022). As Sung and Choi (2014) contend, in addition to the above citation, electronic technology fosters learning. The authors emphasise that recognising and accepting success is important and requires a commitment to advanced, robust, and adaptable learning systems. Beauregard, Lemyre, and Barrette (2015) assert that organisational learning and development has transformed lately. This is primarily because of rapidly advancing technology, which has greatly boosted the importance of online learning in the complex and interconnected environment of organisational learning. According to Antunes and Pinheiro (2020), e-learning has gradually developed into a prominent element of corporate education undertaking.

While online education is widely acknowledged today, recommendations have been put out for enhancing it. Some workplace organisations favour blended learning, which combines e-learning with classroom-based methods, over pure online learning. Advocates claim that the blended or hybrid learning approach caters to the requirements and preferred learning methods for diverse learners (DeRouin, Fritzsche, & Salas, 2004; Tayebinik & Puteh, 2012).

2.5 Public Sector Employees' Perceptions Towards Using E-learning

The Literature review indicates a robust correlation between perceptions and the desire to utilise e-learning, as supported by the studies conducted by (Bhuasiri, et al., 2012; Kuo, Roldan-Bau, & Lowinger, 2015; Lai, 2017; Yoo & Han 2013; Zainab, Bhatti, & Pangil, 2017). The review suggests that although other factors like subjective norm, behavioural control, perceived ease of use, perceived compatibility Lai (2017), and perceived usefulness Bhuasiri, et al., 2012; Lai, 2017 also influence the intention to adopt e-learning, users' perceptions are significant in predicting e-learning use. The review findings indicate that the perceptions towards use is positively affected by policy factors such as incentive and pressure policies and negatively affected by barrier factors such as personal, content suitability, and situational barriers (Chung, Lee, & Kuo 2015; Zainab et al., 2017). Furthermore, Yoo & Han (2013) discovered that attitude and perception play crucial role in predicting the intention to use e-learning. Their study revealed that employees' perceptions are positively affected by performance expectancy, facilitating conditions, and social influence but negatively affected by anxiety (Zainab et al., 2017).

2.6 Public Sector Employees' Satisfaction with Workplace E-learning

The review indicate that user satisfaction plays a crucial role in determining public servants' ongoing desire to use e-learning or e-training systems (Chih-Yang et al., 2011; Garg & Sharma, 2020; Isaac et al., 2018; Lai, 2017; Pereira et al., 2015). Civil servants' continuance behaviour of e-learning was significantly influenced by satisfaction Chih-Yang et al., 2011; Garg & Sharma, 2020 and satisfaction were influenced by factors including computer self-efficacy, job relevance, expectation confirmation Chih-Yang et al., (2011), perceived ease of use Chih-Yang et al., 2011; Garg & Sharma, 2020, and perceived usefulness Chih-Yang et al., (2011) and course content (Garg & Sharma, 2020). The findings of Pereira et al., (2015) are in line with these results, indicating that factors such as quality, quality disconfirmation, value, value disconfirmation, positive influence on satisfaction, disconfirmation usability, innovativeness, and optimism are crucial in determining the intention for continuing usage. Furthermore, there is a substantial correlation between technological preparedness and performance, and both factors positively impact satisfaction (Pereira et al., 2015).

The review also indicated that e-learning positively correlates with work satisfaction and the culture of organisational learning. Specifically, the research done by Lin, Huang, and Zhang (2019) investigated the effect of some UTAUT factors (performance expectancy, effort expectancy, social influence, and facilitating conditions) on job satisfaction, as well as the influence of organisational learning culture on job satisfaction. While both performance expectancy and social influence had a beneficial impact on job satisfaction, the study showed no correlation between effort expectancy and enabling conditions. Performance expectancy, effort

expectancy, and social influence has a substantial effect on the culture of organisational learning. Hence, the culture of organisational learning has a considerable impact on job satisfaction (Lin, Huang, & Zhang, 2019).

2.7 Public Sector Employees' Behaviour Intention to Use Workplace E-learning.

The literature suggest that behavioural intention is influenced by behavioural attitude Chung, Lee, & Liu (2014); Garg & Sharma (2020); Lai (2017); Yoo & Han (2013); Zainab, Bhatti et al., (2017) and otherwise (Donmez-Turan, 2019). Behavioural intention to use e-government systems such as e-learning is reported to be positively influenced by factors including behavioural attitude, policy factors (incentive policies and pressure policies), performance expectancy Donmez-Turan (2019); Zainab et al., (2015), and negatively influenced by barrier factors (personal, content suitability and situational barriers) (Chih-Yang, Tsai-Chu, Ping-Teng, & Chih-Wei, 2011). Individual factors include lack of time to study and personal physical unsuitability and situational barriers include unfamiliarity with e-learning methods, interruptions in courses, inability to complete courses, and content suitability barriers include failure of e-courses to meet expectations and unattractive courses (Chih-Yang, Tsai-Chu, Ping-Teng, & Chih-Wei, 2011).

The behaviour intention was positively influenced by factors including compatibility, relative advantage, observability, trialability, perceived ease of use, and perceived usefulness but negatively influenced by compatibility (Chung, Lee, & Liu, 2014). Additionally, barrier factors negatively influence behavioural intention. For instance, resistance to change was found to affect effort expectancy, influencing behavioural intention (Chung, Lee, & Liu, 2014). Nonetheless, incentive and pressure policies have

been reported to positively influence behavioural intention Chung, Lee, & Kuo (2016) but incentive policies are more effective (Hsiu-Ying Chung et al., 2014; Zainab et al., 2015).

2.8 Public Sector Employees' Continuance Intention to Use Workplace E-learning

The review highlights that government workers' decision to continue the use of e-learning is greatly influenced by their level of satisfaction (Chung, Lee, & Liu, 2014; Garg & Sharma, 2020). Chung, Lee, & Liu (2014) found that of the six outcomes showing significant connections, e-learning continuance intention was highlighted as having a favourable impact on satisfaction. Furthermore, the findings indicated the desire to continuously use the e-training system is contingent upon the level of user satisfaction (Chung, Lee, & Liu, 2014). Chung, Lee, & Liu (2014) identified computer self-efficacy, job relevance, expectation confirmation, and perceived utility as influencing satisfaction. On the other hand, Garg & Sharma (2020); Chung, Lee, & Liu (2014) emphasised that user satisfaction is influenced by course content.

Nevertheless, both research studies concur that simplicity of use influences the level of user satisfaction. Upon further examination, it was determined that the frequency of use, user-friendliness, and course content were deemed to be unimportant. The study's key finding is that users will only continue to utilise the e-training system for their personal growth after they are fully satisfied with it (Chung, Lee, & Liu, 2014).

The review recommends continuous usage of e-learning in the short term, highlighting its susceptibility to unfavourable influences from professional elements such as organisational support, management support, and job assignment assistance.

Additionally, human characteristics such as relative advantage, compatibility, attitudes, and performance expectancy significantly contribute to defining and positively impacting the ongoing utilisation of the e-learning (Kapo, Mujkic, Turulja, & Kovačević, 2021). Moreover, Kapo et al. (2021) reveal that information technology, particularly user-friendliness level, leads to a beneficial effect on sustained e-learning utilisation. Mobile technology is increasingly impacting the continuous utilisation of e-learning. This is attributed to its advantages, such as enabling employee or trainee interactions, providing fast access to information, quickly restoring course content, and supporting content creation through voice and video recording (Alajmi, Md. Khambari, Luan, & Rahim, 2019). To determine the likelihood of public sector e-learners continuing to use the platform, their usage rate, course completion rate, and course pending rate can be monitored (Mohd Asarani & Ab Rahim, 2016).

2.9 Organisational Factors influencing public sector employees to Use Workplace E-learning

The review indicates that successful e-learning is influenced by online factors such as time allocation, discipline, and learning style. E-learning offers flexibility or "self-paced learning," but it can also present challenges, such as procrastination. Learners often find it difficult to allocate time and maintain the necessary discipline and motivation to consistently engage in online learning, especially when faced with external factors like family and work-related matters that may alter their priorities. The E-learning experience helps students manage their workload, and also, with its anonymity, it allows some learners to freely share their thoughts while others struggle to feel comfortable (Montgomerie, Edwards, & Thorn, 2016). E-learning has benefits; however, some learners prefer traditional training due to instructor-led

direction, printed materials, and interactive communication. Another advantage of e-learning over the conventional method, also referred to as face-to-face, is that it standardises the curriculum, while the latter varies in content and delivery (Mohd Asarani & Ab Rahim, 2016).

Optimistic peer support is associated with favourable impressions of e-learning, as it assists e-learners in maintaining motivation and discipline. However, E-learners have expressed discontent with the restricted chances for peer interaction and assistance in e-learning. They also frequently encounter difficulties in sustaining a steady pace of progress due to the self-paced or flexible structure of e-learning. This made it difficult for them to effectively collaborate, exchange experiences, and provide feedback to one another. E-learners have proposed the necessity of deadlines to ensure their alignment. Nevertheless, the provision of peer support was seen as a potential obstacle, particularly when unhappy e-learners may engage in derogatory discussions about e-learning (Montgomerie, Edwards, & Thorn, 2016).

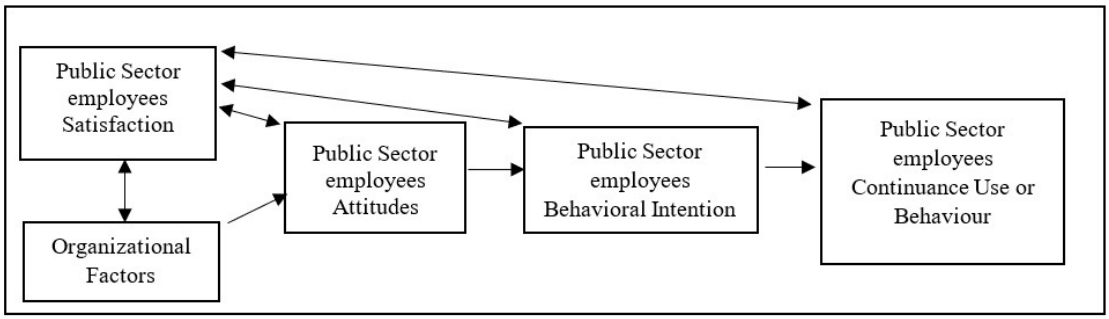
The efficacy of the course's technical delivery is directly correlated with the learning experience. When the technical delivery is seamless and utilises user-friendly software, e-learners tend to have a favourable learning experience. However, technical issues hamper learning engagement and enthusiasm, resulting in a negative learning experience. The study conducted by Mohd Asarani & Ab Rahim (2016) corroborates these assertions, emphasising the need to maintain a consistently operational system and ensure the availability of internet-connected computers to prevent unfavourable learning encounters. However, the effect of technical delivery challenges on performance is usually reduced by supportive feedback from peers, whereas unfavourable remarks worsen the problem (Montgomerie, Edwards, & Thorn, 2016).

The organisational culture is a significant determinant of the successful utilisation of e-learning. For example, specific organisations or firms enforced the adoption of e-learning within their workforces. Although this organisational strategy may have its advantages, certain employees did not perceive e-learning as significant. Furthermore, there are instances where staff members fail to comprehend the rationale behind investing time in the collective development initiative. This lack of understanding indicates a lack of alignment for the initiative's intent and the organisation's culture as perceived by the participants. According to Chung, Lee, and Kuo (2016), the misalignment is also called personal barriers. In Malaysia, e-learning is offered to public servants free of charge to incentivize their enrolment. However, it is worth noting that the courses supplied are not compulsory, allowing individuals to choose their preferred course and duration (Mohd Asarani & Ab Rahim, 2016).

2.10 Theories and Models for Adoption and Utilisation of Technology: Towards a Conceptual Framework of the Study

Figure below, (Figure 2.1) refers to an initial conceptual model derived from theories and models on adoption and utilisation of e-learning in public sector organisations. As indicated by Serema, Shihomeka and Shalyefu, (2023) research is inadequate in exploring e-learning adoption and utilisation in the public sector.

Figure 2.1: *Initial Conceptual Model*



(Source: Serema, Shihomeka and Shalyefu, 2023, p. 355).

It is necessary to do more analytical investigations to examine the constructs from these theories and models (Marikyan & Papagiannidis, 2023). An exploratory study was necessary to comprehend the dynamics of technology adoption and utilisation, given the scarcity of this area. This current study is based on the premise that there is a dearth of studies, particularly within the context of e-learning practices in public sector organisations in Namibia. The current study continues to identify the adoption and utilisation of technology as a significant deficiency in the field of Information Systems (Marikyan & Papagiannidis, 2023).

Therefore, there is a strong enthusiasm and freedom to pursue further understanding in this field actively. The conscious and logical decision was made to choose UTAUT for this research investigation. The model serves as a synthesis of previous models about the adoption behaviour of information systems (Marchewka & Kostiwa, 2007), and in the succeeding sections, these theories are outlined (section 2.6.1). Due to the research investigation made, UTAUT is still regarded as a versatile and robust model employed by researchers to forecast the adoption and utilisation of e-learning. The study considers UTAUT because previous research has primarily focused on students'

acceptance of e-learning systems, with few evaluating workplace e-learning context using the UTAUT model (Cheng & Chen, 2015 in Sarabadani, Jafarzadeh, & ShamiZanjani, 2017, p. 39). Significantly, the integrated method aimed to generate comprehensive variables that may facilitate the application of theory across many situations (Venkatesh et al., 2003). Given the wide range of public sector organisations involved in this study, which may have differences in their nature, such as organisational culture and workplace e-learning practices, the UTAUT model was deemed suitable (Marikyan & Papagiannidis, 2023). They argue that using either of the models could limit the findings to specific situations. Hence, Venkatesh (2022) supports the previous statement by asserting that specialised technologies are influenced by contextual factors and distinctive qualities, affecting their adoption and utilisation. Thus, the selected public sector organisations deemed a unified model like UTAUT to be the most suitable option, given their potential distinctiveness.

At the initial conception of UTAUT model Venkatesh and his colleagues undertook comprehensive investigations on the topic, which involved a complete examination of research on the acceptability of information technology, as well as conducting testing. The total number of constructs was 32, developed from eight distinct theoretical models. Primarily, the main aim of the investigations was to determine the constructs that exerted the most significant effect on the implementation of information technology (Venkatesh et al., 2003). The following theories and models: the Technology Acceptance Model (TAM), Theory of Reasoned Action (TRA), Motivational Model (MM) (Davis et al. 1992), Theory of Planned Behaviour (TPB), a model integrating TAM and TPB, Taylor and Todd (1995), the Model of PC Utilisation by Thompson, Higgins and Howell (1991), Social Cognitive Theory (SCT),

and Diffusion of Innovation Theory (DOI) were used to build a unified model called UTAUT. The proponents have highlighted the factors within these models as crucial to the study and are the focal point of the prominent models and theories utilised throughout the years (Venkatesh et al. 2003). Interest related to this has attracted more research, so much so that in recent years, Kim and Crowston (2011) evaluated the prominent ideas and models. In their research they found the similarities in factors and their explanations on how individual users embrace and use technology. Consequently, the study necessitated a thorough examination of these models and ideas prior to discussing UTAUT.

In the subsequent sections of the current study, the examination of the most notable areas of technology acceptance and usage to enhance the comprehension of their relevance to this research is interrogated. The various global studies were conducted on e-learning theories and models to assess the concepts influencing the adoption and use of e-learning at both organisational and individual levels. Thus, the following studies have been referenced: (Cheng & Chen 2015; Alrawashdeh et al., 2012; Punnoose, 2022). This chapter has endeavoured to examine the pertinent models to substantiate their presence pertaining to the topic. The primary frameworks that drive these study investigations into users' willingness to adopt technology are the TRA, TAM, TPB, and DOI.

2.10.1 Technology Acceptance Model (TAM)

TAM was widely recognized for its impact on the use of technology. It was evolved from the TRA, which was formulated by Fishbein and Ajzen in 1980. The intention was to elucidate the reasons behind users' acceptance and utilisation of technology, as

well as the various aspects that influence these processes (Alshehri, Drew, & AlGhamdi, 2013). As per this view, user acceptance is mostly influenced by intrinsic perception elements rather than external environmental factors (Feng, Shenglan, & Qin, 2016). The variables related with TAM include "perceived usefulness," which is abbreviated as PU. It relates to the conviction of users that utilising a technological system will enhance their job performance within the organisation. PEOU, an abbreviation for "perceived ease of use," is another characteristic that is linked to TAM. PEOU refers to the user's anticipated level of ease and effortlessness in using the technology. According to Chih-Yung et al., (2011) the two behavioural beliefs, namely PU and PEOU, contribute considerably to impact on both continuous intention and behaviour in using e-learning.

Furthermore, Tahar et al., (2020) concur as they cited Teo (2011), that the users' position for using and the intention to use technology are additional variables linked to TAM. Consequently, the user will get more enthusiastic about learning about technology and ultimately cultivate a good attitude towards its use. This favourable attitude towards usage can foster behavioural intention (BI), leading the user to cultivate motivation and exertion to carry out and ultimately sustain the use of the system. TAM also underscores the presence of additional external factors that contribute to the user's behaviour regarding beliefs and attitudes. According to Monzavi, Zarei, and Ghapanchi (2013) organisational and human issues, as well as societal and technological factors contribute to users' behaviour and attitudes. These factors encompass communication channels and acquiring knowledge about technology usage, as well as the timeframe for technology adoption. This implies that

early adopters are more inclined to find a new technology user-friendly and easy to adapt, based on their prior experience.

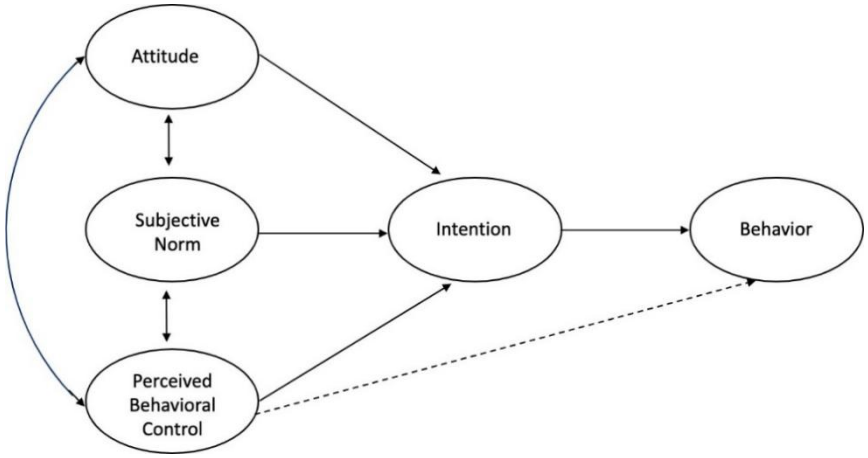
Given TAM's demonstrated robustness in forecasting user adoption of technology, the model seems applicable to comprehending the uptake and e-learning use techniques. Examining all these factors is crucial to comprehending their significance in this research investigation.

2.10.2 Theory of Planned Behaviour (TPB)

TPB was formulated by Icek Ajzen in 1985. The theory incorporates the theory of reasoned action (TRA) and introduces an additional factor, perceived behavioural control, as a determinant of intention. Both the TRA and the TPB aim to elucidate the factors that forecast an individual's particular behaviour and their purpose to engage in the behaviour under consideration. The TPB posits that an individual's actions are influenced by their intentions, which are shaped by their attitude towards the behaviour and their subjective norm on that behaviour. The term attitude can be defined as an individual's favourable or unfavourable judgment of a specific behaviour (Ajzen, 1991). Subjective norm refers to an individual's evaluation of how much others who are considered influential would want them to engage in a certain behaviour, as stated by Ajzen (1991). Perceived behavioural control refers to how a person can perceive the easiness or difficulty to engage in a specific behaviour. This perception is influenced by previous experiences and expectations of potential barriers and challenges. In other ways, subjective norm refers to the beliefs of a user of technology regarding influential others' expectations on either their performance or no performance of a certain behaviour (Ajzen, 1991).

Generally, TPB posits that a person's likelihood of performing a behaviour increases when their intention is stronger. Therefore, the perception of the behaviour is more positive, and the social expectation related to it is also more positive. It also applies when the individual believes they have more authority over the specific behaviour (see Figure 2.2).

Figure 2.2: *Theory of Planned Behaviour*



(Source: Archie, Hayward, Yoshinobu, & Laursen, 2022, p. 3)

Intention can be influenced by various elements, such as a person's judgement towards engaging in a behaviour, the subjective norm, the perceived level of control over the behaviour, and other related issues. The decision of an individual is impacted by their behavioural intentions, which are determined by their perceived level of behavioural control. The TPB framework considers behavioural intention the primary determinant of actual behaviour. As per the TPB, behavioural intention refers to the characteristics that indicate the level of willingness of individuals to exert effort in doing a specific behaviour (Ajzen, 1991).

Several investigations have shown that TPB has predictive capability. Therefore, research has been carried out to examine and confirm the theory's capacity to forecast

the intents and behaviours concerning the adoption of new systems (Hsu & Chiu, 2004; Liao, Chen, & Yen, 2007). These research studies discovered substantial correlations among attitudes, perceived behavioural control, subjective norms, and behavioural intents. Ajzen (1991) conducted a comprehensive analysis of multiple experiments that effectively utilised the TPB to forecast intention and behaviour across various contexts. The studies were provided in his paper.

Although the TPB made significant contributions to knowledge, some criticisms included restricting elements that impact the acceptance and utilisation of technology to only three main constructs. As contended, Taylor and Todd (1995) criticised the TPB and TRA models, arguing that they were less effective than TAM. Mathieson, Peacock, and Chin, (2001) postulated that for the TPB and other models to be effective, they must be tailored to suit the specific circumstances or behaviours of interest, despite its wide range of applications.

2.10.3. Diffusion of Innovation Theory (DOI)

Rogers formulated this theory that has been widely recognised as highly suitable for studying the process of technology adoption (Medlin, 2001; Sahin, 2006; Alsheri, 2013). Moreover, it has been observed in studies conducted on DOI that various organisational contexts contribute significantly to shaping the use of technology (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004). In defining DOI, Rogers equates technological innovation with diffusion research, using the terms "technology" and "innovation" interchangeably (Sahin, 2006). The Diffusion of Innovations Theory was comprehensively examined by an empirical study that analysed 2,925 and 975 non-empirical records (Medlin, 2001). In his research, Rogers conducted a review of the studies and identified four essential aspects as diffusion steps: 1) innovation, 2)

communication through channels, 3) over some time, and 4) among society (Medlin, 2001; Sahin, 2006; Alsheri, 2013; De Vries, Tummers, & Bekkers, 2018).

Furthermore, diffusion is described as the transmission of innovation through various communication ways over time within a society (Rogers, 1983). In his study, he provided a thorough analysis of diffusion, where he defined each component related to innovation as something novel to an individual, encompassing new ideas, practices, or objects that can be adopted. He additionally disclosed that when encountering anything unfamiliar, the emergence of uncertainties becomes a hindrance. Other studies have also revealed that when something is viewed as novel, it elicits a reaction. As Sahin (2006) illustrated, introducing innovations generates uncertainty. Rogers (2003) supports this idea by explaining the significant changes that happen when an innovation is accepted or rejected. According to him, it is necessary to provide users with prior information regarding the innovation, including its benefits and drawbacks, to acquire knowledge about it and understand its potential outcomes (Rogers, 2003).

Given that technological innovation is widely seen as the ability to address challenges effectively, the primary focus should be on acquiring knowledge. In his DOI theory, the progenitor of this theory elucidates the concept of knowledge transfer. This can be attained through communication, which is the second aspect of this theory. Rogers explains communication as interaction among individuals to achieve mutual comprehension. This explanation elucidates communication channels as existing to facilitate the transmission of messages between the sender and the recipient. Rogers defines diffusion as a social phenomenon characterised by interpersonal interactions. This is known as social media communication, where messages can be sent through

various platforms, including audio-visual resources and print media. In this context, Rogers refers to the media platforms capable of reaching a substantial audience simultaneously. Alternatively, communication can also occur through an interpersonal channel, which entails direct face-to-face or personal interaction between two or more individuals. Rogers reiterated that individuals frequently gravitate towards interacting with those who possess similar traits to their own. They tend to assume that they can comprehend one another more effectively.

In his theory, Rogers coined the term "homophilous" to describe a phenomenon, and its opposite, "heterophilous". The noun "homophily" can be defined as how people can relate and form bonds with those who share common traits with them regarding characteristics such as beliefs, values, and interests. As illustrated by (Ahlf, Sven, Klein, & Yoon, 2019) a high level of social homophily will affect communication patterns among individuals. Thus, social homophily refers to the inclination to establish close social bonds with others who possess similar defining features, such as age, gender, ethnicity, socioeconomic status, and personal opinions. This concept can also be elucidated using a proverb: "Like-minded individuals tend to associate with one another." The significance of this is that, as demonstrated (Sakman, 2019), humans are inherently social beings who engage in communication, interaction, and adherence to social norms and regulations.

Consequently, individuals often comprehend those with whom they have a connection in communication. Conversely, heterophily is characterised by the extent to which pairs of persons that interact differ in specific traits (Rogers, 1983). In his study, Sahin (2006) cited Rogers (2003) and highlighted that interacting as homophilous individuals is not always feasible. Furthermore, the dissemination of innovations has

revealed that participants are typically heterophilous. Sahin (2006) reaffirms Rogers' argument by noting that mass media channels have greater significance in knowledge, whereas interpersonal channels are more crucial in persuasion.

Rogers' definition of diffusion highlights the temporal aspect as a crucial factor. He states that there is a correlation between the temporal dimension of the adopter and the rate of adoption. Therefore, the rate at which humans embrace innovation is contingent upon the existence of innovation variables. When all the variables are present, the process of invention dissemination is improved and accelerated (Sahin, 2006).

The final stage of the diffusion process demonstrates that innovation occurs inside the social system (Sahin, 2006) and that the social system influences individuals' capacity for innovation, leading to the formation of distinct groups of adopters (Rogers, 2003).

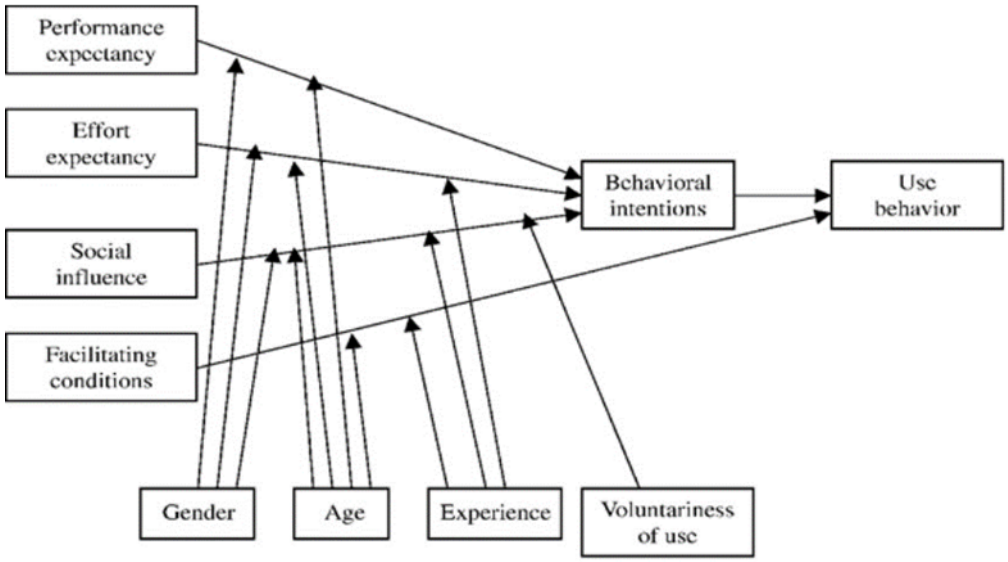
2.10.4 Unified Theory of Technology Acceptance and Use of Technology (UTAUT).

The model of choice for guiding this work postulates the reasons highlighted and justified in the preceding section on the theoretical framework. However, it is essential to emphasise that UTAUT has been intensively used in various studies since its inception and was found as the optimal methodology for analysing technology acceptance (Chao, 2019). In the cited study Chao pointed out that UTAUT model experienced extensive application and investigations for predicting technology usage as well as providing decisions on technology usage and adoption in vast fields with inclusions of whiteboards that are interactive (Šumak and Šorgo, 2016; Šumak, Pušnik, Heričko, & Šorgo, 2017), as well as communication (Khalilzadeh, Ozturk, &

Bilgihan, 2017), heath related issues, (Hoque & Sorwar 2017; Cimperman, et al., 2016), and acceptance of Enterprise Resource Planning (ERP) software (Chauhan & Jaiswal, 2016). Thus, the capability of UTAUT cannot be overstated, and hence, there is a need for its inclusion in this particular study.

The discussion in this section covers the structure of UTAUT model as developed by Venkatesh and others. The model depicts constituents or elements that illustrate a web of relationships of variables, determining factors for use and intention (Alomary & Woollard, 2015). See UTAUT model below (fig 2.3):

Figure 2.3: *UTAUT Model*



(Extracted from; Theory Hub Book: Marikyan & Papagiannidis, *(2023, p. 185).*

The model in figure 2.3 reveals that the technology use behaviour is determined by behavioural intention (Alomary & Woollard, 2015; Marikyan & Papagiannidis, 2023). The model suggests four main constructs determining behaviour intention and technology use. These are as illustrated in the exact figure above. In other words, they

are the key constructs perceived as possible dependents in the acceptance and usage behaviour of technology. The impact of these predictors is influenced by moderating factors, namely gender, age, experience, and voluntariness of use (Venkatesh et al., 2003).

2.10.4.1 Performance Expectancy

Performance Expectancy refers to the extent to which a person thinks that using the system can increase their performance in the job, as defined by Venkatesh et al. (2003). Chao (2019) referenced Venkatesh et al. (2003) when discussing how PE is the most influential factor in a user's intention to adopt technology. Alomary and Woolard (2015) claim that the construct is based on various theories and models such as the Technology Acceptance Model (TAM), TAM2, Combined TAM and the Theory of Planned Behaviour (CTAMTPB), Motivational Model (MM), the model of PC utilisation (MPCU), Innovation Diffusion Theory (IDT), and Social Cognitive Theory (SCT) which include perceived usefulness, extrinsic motivation, job-fit, relative advantage, and outcome expectations. The construct is crucial in both obligatory and optional environments and is regarded as the most valid indicator of the use intentions (Zhou, Lu, & Wang, 2010; Venkatesh, Thong, & Xu, 2016).

2.10.4.2 Effort Expectancy

Effort expectancy relates to the extent of simplicity of the system use (Venkatesh et al., 2003). The term refers to an individual's idea that the system can improve work performance. PEOU influences EE and is partially influenced by TAM, MPCU, and IDT due to their shared commonalities (Marikyan & Papagiannidis, 2023). Chao (2019) recognized research conducted by Venkatesh et al. (2003), Šumak & Šorgo

(2016), Hoque & Sorwar (2017), Khalilzadeh et al. (2017), and Šumak et al. (2017) that highlighted the direct influence of PE and EE on BI. Chao conducted a study testing the UTAUT model to predict factors influencing students' behavioural intention towards using mobile learning. It was proven that PE and EE have favourable effects on BI. The study agreed with prior research on the relatedness of the two components (PE and EE) and their influence on BI.

2.10.4.3 Social Influence

Social influence relates to how an individual perceives that significant others want them to adopt the new system (Venkatesh et al., 2003). Social influence is related to the subjective norm, social variables, and image constructs in various models such as TRA, TAM2, TPB, CTAMTPB, MPCU, and IDT. Venkatesh et al. (2003) proposed that social environments significantly stimulate people's behaviours. The subjective norm posits that an individual's behaviour is affected by significant individuals in their social circle (Ajzen, 1991; Davis et al., 1989; Fishbein & Azjen, 1975; Mathieson, 1991; Taylor & Todd, 1995a, 1995b). The social element might be described as the reference group or subjective culture. Interpersonal ties, such as co-workers and peers, can influence an individual's behaviour. Social influence significantly affects the use of technology (Venkatesh et al., 2003). Individuals might employ technology in a mandatory environment to adhere to regulations rather than out of personal preference (Venkatesh & Davis, 2000). Technology can enhance a person's social status by improving their image and boosting their reputation and exposure. Venkatesh et al. (2003) identified gender, age, voluntariness, and experience as moderating factors that affect behavioural intention. Research has shown that women are more prone to social influence from other women and are more attentive to their opinions when considering adopting new technology.

2.10.4.4 Facilitating Conditions

Facilitating Conditions refer to an individual's view of the presence of an organisation and technical infrastructure that aids system utilisation (Venkatesh et al., 2003). It is from compatibility, perceived behavioural control, and constructs derived from TPB, CTAMTPB, MPCU, and IDT. Facilitating conditions directly influence an individual's intention to use the system. Venkatesh et al. (2003) suggest that conducive settings directly and significantly impact use behaviour since the effect diminishes after the initial use. Gender, age, voluntariness, and experience are moderating characteristics that help explain the accuracy of forecasting behavioural intention. Age is a moderator for all predictors. Gender influences EE, PE, and SI relationships. Experience significantly influences the relationship between effort expectancy, social influence, and enabling situations. The voluntariness of usage influences social influence's impact on behavioural intention. (Venkatesh et al., 2003).

Therefore, Venkatesh's model can be regarded as the most powerful theory among all other theories and models in predictive power in assessing acceptance of technology. It shows that 70% of the variance in use intention is explained by the factors that have been suggested (Venkatesh et al., 2003), providing a more accurate forecast than the other models that address technology adoption. For this reason, it can be anticipated that the consideration of UTAUT for this study is not in vain since more insight yielded can broaden the scope of the issue, particularly within the context of the current study.

2.11 Perceptions, Opportunities, Challenges of Adoption and Utilisation of Workplace E-learning

Based on the comprehensive examination of review, model analysis, and theory analysis, it is evident that a substantial amount of research conducted on the influential factors for the acceptance of technology is prevalent. Significant contributions to perception, opportunities, and difficulties have been made by (Bhuasiri et al. 2012; Chung, Lee, & Liu, 2014:2016; Lai 2017; Yoo and Han 2013; and Zainab, Awais Bhatti et al. 2017).

2.11.1 Perceptions

Research has demonstrated the need for more empirical studies on the uptake and application of e-learning in public sector organisations. Many studies conducted on this topic centre around higher institutions of learning, particularly on the concept of achievement. As acknowledged by Dalgaly (2020), it is widely debated that the clear advantages of e-learning guarantee its importance in education.

Many academics have investigated the adoption of the e-learning system (Alhabeeb & Rowley, 2017; Alharbi & Sandhu, 2019; Alharthi, 2017). In his study, Al Mulhem (2020) identified several key factors contributing to the effectiveness of educational organisations that use technology. Following a focus group, 66 success variables were identified and categorised into technological, delivery, structural, cultural, design, and leadership problems. Graham et al. (2013) found that conducting semi-structured interviews with administrators from six universities revealed the necessity of structure, strategy, and support for the effective acceptance and use of e-learning.

Research has further shown that examples of concepts leading to technology adoption include technological apprehension, opposition to change, self-efficacy, social issues like language, availability of support, finance, network infrastructure, and opportunities for professional growth. Ahmed, et al. (2023) demonstrate that self-efficacy and performance decrease engagement in digital education. Both personal experience and contextual support influence self-efficacy. However, the challenges impede the integration of technology and the use of e-learning in academic institutions.

Despite the inadequacy of research on related work mainly focusing on public sector organisations, examples of perceptions from studies are illustrated in this section. According to Alsabawy, Cater-Steel and Soar (2016), researchers have discovered that employees' inclination to embrace e-learning in the organisation is significantly impacted by their view of its efficacy in facilitating learning. Furthermore, it affects individuals' perception of the learning process and their level of satisfaction with online education. Uddin and Sikandar (2023) discovered a favourable disposition towards e-learning. They revealed positivity in the relationship between user adoption and the system's usability. Improved efficiency, professional progression, organisational goals, and competency were also acknowledged. One of the studies that revealed efficacy was conducted by Ifinedo (2018). The study examined how perceived social and individual learning support influences the acceptance of competency-based e-learning systems in instructional design, training, and technology adoption. The findings indicated participants' opinions of e-learning design's efficacy in self-directed learning and social cooperation.

In a study by Šumak and Šorgo (2016) on the use of Interactive White Board (IWBs), the display of content among learners was reported as a motivating factor, while the

negative aspect included technical difficulties and the pedagogical aspect among teachers. Engaging in corporate e-learning necessitates resolving numerous factors. Galdino et al. (2019) and Shamir-Bladerman (2021) study how interaction, social learning, and collaboration affect private-sector organisational learning. Therefore, it is vital to examine the impact of a complex and dynamic organisational environment on employees and their performance in e-learning, specifically to the adoption and utilisation of e-learning in public sector organisations. Chang, Wu, and Liu (2020) state that organisations use e-learning systems to develop employees for performance improvement through independent and self-directed learning.

Motivation is also essential for the acceptance of e-learning in organisations. Research is limited on how e-learning effectively addresses the specific needs of individuals and organisations. According to Kiselev et al. (2017), in the study of the information systems accomplishment model to elucidate the motivation for employer learning, it was discovered that e-learning can stimulate and involve employees, leading to enhanced knowledge acquisition in the workplace. Huang et al. (2018) postulate managers' preference for on-demand learning and immediate access to informed knowledge due to the high culture of competition in the business environment.

2.11.2 Opportunities

Rapid gratification has become vital as the internet and social media have proliferated (Wertz, 2018). This development impacts the time and educational encounters of employees. Rather than arranging face-to-face study sessions, the idea is that learning should occur in any location and at any time. It thus compels the demand for a professional environment whereby efficient access to information is deemed essential,

enabling employees to obtain answers to their inquiries within minutes. Many employees choose to regulate their learning. In their study, Rikku and Chakrabarty (2013) discovered that 80% of employees acquire new knowledge independently as and when required. There is an increasing desire for training that can be accessed immediately. Soltani et al. (2019) state that corporations prioritise e-learning in their learning and development departments to support highly efficient, multitasking, and technologically adept learners. In support of the above, Choudhury and Pattnaik (2020) found that e-learning enhances job performance precision and self-assurance. In summary, e-learning necessitates digital transformation to adjust to the evolving corporate landscape. It promotes enhanced productivity, aligning with organisational objectives, fostering employee growth, and promoting career progression.

According to Tubaishat, Aljezawi, and Al Qadire (2013), e-learning has created various chances for organisations. It enhances drive, self-assurance, and technical and communicative aptitude. Furthermore, it enables e-learners to engage in flexible and cost-effective studying as well as making Information and Communication Technology research and development possible. Another e-learning opportunity worth mentioning has been cited by Naresh and Reddy (2015); the Australian government provided an opportunity to enhance the living standards of grantees and assist them in global competition. The study demonstrates that industrialised nations can improve economic growth by applying efficient workplace e-learning practices.

Numerous advantages of e-learning have propelled its widespread adoption. E-learning offers innumerable advantages; however, it is essential to acknowledge that innovation and technology can never fully supplant the role of humans and other

traditional educational methodologies. Nevertheless, it is crucial to comprehend the advantages in workplace e-learning practices. E-learning offers significant advantages in terms of time and cost savings. Another benefit is that it offers considerable advantages to saving time and costs. Another opportunity relates to quantifying the decrease in instructors' remuneration, rental expenses for meeting rooms, accommodation, transportation, and meals is possible. The primary advantage is in mitigating employee absenteeism (Thanji & Vasantha, 2018). Reports indicate that Cisco Systems achieves cost savings of 40-60% by utilising e-learning instead of traditional classroom-based instruction. Over 80% of their technicians undergo online training, while their whole sales crew only receives online training. This strategy optimizes consumer interactions, resulting in time savings. Eliminating travel saves time (Cheng & Chen, 2015).

Additionally, Kokoç (2019) asserts that e-learning offers greater flexibility and simplicity. Learners can engage in e-learning whenever they choose to, providing them with the flexibility to study according to their schedule. Attendance is not required for learners if they have access to the necessary equipment. They learn from the comfort of their own homes or even while travelling. The instructional approach is customised to accommodate varying learning rates, thereby minimising anxiety and enhancing pleasure. This autonomous learning method allows learners to select information and materials that align with their interests, requirements, and proficiency levels.

Consequently, learners can concentrate on their main objectives and utilize the resources that align with their preferred method of learning. Additionally, Pradipkumar & Pradipkumar (2017) argue that substantial advantages are associated

with excellent instruction and high rates of learner retention. Proficient instructors facilitate the dissemination of knowledge across geographical, political, and social boundaries, enabling learners to participate in courses from different locations. Esteemed experts can efficiently disseminate information on a global scale at a low cost. Nevertheless, e-learning enables individuals to enrol in courses of their choice and provide evidence of their successful completion and certification. Studies indicate that integrating these elements and employing a diverse range of instructional methods tailored to various learning styles enhances the information retention rate compared to traditional classrooms.

More importantly, e-learning has the advantage of heightened collaboration and involvement. The use of technology facilitates seamless cooperation between individuals. Moreover, online collaboration is advantageous because it offers convenience and comfort, minimising the necessity for face-to-face contact (Rodríguez-Ardura & Meseguer-Artola, 2016). Users actively participate in e-learning, encouraging active engagement in learning. This strategy promotes active learner engagement rather than passive reception.

2.11.3 Challenges

Like any innovation, as acknowledged by research, e-learning encounters obstacles akin to those faced by any innovation (Gajaraj, 2001; Heeks, 2002; Rajesh, 2003). Some challenges may encompass electrical systems, computers, or human expertise. Human obstacles may include lack of self-motivation, limited engagement, and reluctance to embrace novel learning methods have been identified by researchers (Eastmond, 2000; Evans, 2005; Sehrt, 2003). Nations must comprehend their

challenges before e-learning implementation to economise, customise, and expedite the process.

While technology offers numerous advantages, organisations that adopt and utilize it must consider two crucial factors: the potential drawbacks and the necessity for meticulous planning and exertion to achieve success. The exorbitant upfront cost of technology, including IT and people investments, is a recurrent concern. This includes the cost associated with developing and executing courses and the necessary equipment and software required for their accessibility (Javed & Anam, 2021).

Another challenge with e-learning adoption and utilisation could be that also it diminishes social and cultural participation because learners don't have to attend classes. This might lead to the isolation and deprivation of learners from instructor interaction and supervision. Disengagement can induce boredom. Therefore, technology-facilitated e-learning encounters difficulties in captivating and inspiring learners. Technological concerns may impede the e-learning process due to the necessity of internet access, computers, and software.

Furthermore, learners must possess computer literacy and proficiency in internet browsers, word processing, and email (Thanji & Vasantha, 2018). Deshmukh (2016) forecasted some indicators of flaws in adopting e-learning. The study predicted that the worldwide e-learning market would reach a value of $49.9 billion by 2015. Despite the benefits for organisations, building a highly operational and effective e-learning system and strategy was posing a threat and creating difficulties in its adoption and utilisation.

The subject of e-learning is widely discussed globally (Maddux, Norton, & Stoltenberg, 1986). Initially popularised in affluent nations, this phenomenon has extended its reach to less economically developed countries. Although there may be variations in how it is implemented in different settings, technology, the internet, and other resources contribute significantly to facilitating its development. Adopting and utilising e-learning in poor countries is currently limited due to its novelty. According to Oroma, Wanga, and Ngumbuke (2012), e-learning possesses distinct characteristics, although they attribute its difficulties to insufficient understanding, limited accessibility, and unreliable infrastructure. Derouin, Fritzsche, and Salas (2005) also further contend that there is inadequate extensive research on the effectiveness of e-learning in organisations.

Similar studies relating to the challenges include Al-Azawei, Parslow and Lundqvist (2016). They identified and provided solutions for the challenges they studied in Iraq. Their study encompassed a total of 108 participants, consisting of academic professionals, e-learning professors, and undergraduate students. They conducted focus group interviews, semi-structured interviews, and surveys for data collection. Following that, an analysis of both qualitative and quantitative data was performed. This study offers a thorough examination of the situation in Iraq's universities and identifies the major obstacles to their success.

In another research work, Doculan (2016) conducted a study that indicated that internet technology has significantly transformed global learning. In this case, the Philippines was not an exception; technology has become more popular in higher institutions of learning due to its practicality and reach. Thus, before adopting and implementing e-learning, organisations must assess its merits and cons. This would help identify the

needs and wants that affect e-learning preparation. Creutz (2014) states that e-learning poses learning difficulties. Their research focused on how the field characterised learning. The researcher comprehensively analysed e-learning articles published between 2000 and 2013. The findings were categorised into four stages of time, each with its own set of prevailing beliefs and principles: questioning, reflection, celebration, and disintegration. The studies also demonstrated that learning was often related to digital technologies. The provided data stimulates debates regarding a meticulous and demanding approach to e-learning, as well as a robust comprehension of the responsibilities and opportunities for individuals and organisations to acquire understanding in the era of digitalisation. Alkubaisi, Al-Saifi, and Al-Shidi (2021) argue that communication is crucial in all educational encounters.

With the increased use of computers for corporate and home use, teaching has moved from lectures to multimedia presentations. In their study, Alkubaisi et al. (2021) indicated that online learning is becoming increasingly essential in education worldwide. The study further acknowledged that technology-based learning in developing nations like Oman is still in its infancy despite the availability of multimedia support.

Even though a good number of studies cited above have focused on education, the relevant points raised are generic and can be referred to provide insight into this particular study. The literature review offered direction by providing pertinent information for the development of the hypotheses, theoretical framework and data collection instruments.

2.12 Chapter Summary

This chapter presents research findings on adopting and utilising e-learning in public sector organisations. While studies on this subject have been conducted worldwide, there has been a lack of research specifically focused on Namibian public sector organisations. Therefore, this study is the first of its type in this context. This chapter included material that has been produced on the adoption and utilisation of e-learning in the public sector. The literature review gave an understanding of research on adopting and utilising e-learning techniques in public sector organisations. The chapter also discusses theories and models on adoption and utilisation to choose a relevant model for this study. Ultimately, this chapter examined the perceptions, opportunities, and challenges of adopting and utilising e-learning. Subsequent chapters detail the work of the researcher on adoption and utilisation of workplace e-learning practices in Namibia and draw from the literature offered in this chapter to make inferences.

The following chapter outlines the methodology adopted for this research, including the research design, data collection methods, hypotheses and analytical techniques used.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter encompasses the research design and methods employed in the study. It provides details about the participants and location of the study, research approach, sample size, as well as the research strategies used for gathering and analysing data. The chapter also outlines the formulation of hypotheses based on the theoretical framework of this study, specifically the UTAUT model. This chapter utilises Structural Equation Modelling (SEM) to assess and corroborate the findings. SEM is applied to assist the quantitative examination of the acquired data. Given that this study employs an explanatory sequential mixed method design, the qualitative data collection and analysis are conducted to address the gaps discovered in the quantitative phase. This chapter presents a comprehensive overview that serves as a guide to offer assistance for this study. The chapter explains how information is obtained by critically demonstrating research procedures and methodologies. According to Rahim (2021); Adarkwah (2020); and Zalah (2018), various research methodologies exist, and each form of research requires a specific methodology. Therefore, each study should be tailored to the appropriate research type. This chapter therefore presents the philosophical assumptions and methodologies that underlie the study, including the justifications for choosing them.

3.2 Philosophical Assumptions

Due to the lack of a specific theoretical framework, researchers in the field of information systems have the flexibility to select an appropriate research methodology

from a range of options. Studies examine specific research methodologies and provide distinct perspectives on the nature of knowledge. Each subject is founded upon a specific perspective of the universe, known as a paradigm. According to Junjie and Yingxin (2022), the positivist and naturalistic (interpretive) views are considered the most significant paradigms for studying the scientific research and analysis. The choice of model to be employed is heavily contingent upon the specific intricacies of each research challenge and the particular context in which the study is being conducted. Thus, this study's philosophy proposes both positivism and interpretivism as epistemological approaches. The former was discussed at the initial section, providing pertinent instances specific to this study, while the latter was addressed subsequently in a similar fashion.

3.2.1 Positivist Perspective

The positivist perspective is a viewpoint that follows the principles of positivism, which emphasises the use of scientific methods and empirical evidence to understand and explain phenomena. Positivist studies try to build an analytical understanding of events by using quantifiable measures of variables to assess if hypotheses are supported by data acquired from a sample of the population under investigation. Positivist researchers hold the belief that evidence should provide support for ideas on specific phenomena. Research is conducted through a process of deductive reasoning, which involves formulating a hypothesis or general rule and then testing it with facts. Only if the hypothesis is proven to be correct does it lead to a specific conclusion (Mitchell, 2018). The positivist perspective focuses on factual and scientific knowledge, as well as claims that are internally consistent, capable of being refuted, possess explanatory power, and have withstood the test of time. Hence, the primary

aim of the positivist technique is to ascertain predictive principles, and the degree of certainty in these principles increases in direct proportion to the magnitude of the sample (Bell, 2010). The fundamental concept behind the positivist paradigm is that scientific knowledge is derived from empirical observations and can be verified by observation and experimentation. In other words, your knowledge is limited to what you can personally observe and perceive. The concept entails the researcher maintaining a stance of non-interference and impartially observing the phenomenon without any influence on the outcomes.

Creswell (2014) suggests that researchers should critically evaluate their knowledge claims and theoretical perspectives when conducting research. They should also carefully consider the strategies they plan to employ, as this will guide their methods. Additionally, researchers should thoroughly contemplate the collection and analysis of information prior to commencing their study. Therefore, it is necessary to clarify the comprehension of the philosophical foundations from the beginning.

3.2.2 Interpretivist Perspective

The interpretivist perspective refers to a specific viewpoint in which individuals seek to understand and interpret social phenomena based on subjective meanings and interpretations. Conversely, the interpretive approach to study aims to comprehend individuals' perceptions of their experiences and depict the first hand experiences of individuals from their own perspectives. The researcher adopts an intersubjective and empathetic stance towards the reality under investigation. Chowdhury (2014) posits that interpretivism is based on the notion that individuals are constantly involved in the act of perceiving and gaining understanding of the dynamic world they inhabit. The social world is conceptualised as a phenomenon that is created by human beings.

It aims to understand a phenomenon in its complex context without generalizing it to other contexts (Cohen et al., 2011).

Qualitative research is centred around understanding the perspectives and interpretations of individuals or groups regarding a social or human issue (Creswell, 2014, p. 4). Denzin and Lincoln (2005) define this approach as a means of gaining a more comprehensive comprehension of a topic by examining it within its specific context and via the perspectives of several individuals. Rovai et al. (2014, p. 4) argue that this research approach places importance on personality, culture, and social justice. This provides a diverse array of information that is abundant in substance and context, and while it may be subjective, it is up-to-date (Tracy, 2013). (Thomas, 2009; Silverman, 2009; Bell, 2010) argue that employing a qualitative methodology does not impede researchers from conducting a thorough, rigorous, and unbiased investigation of any educational issue. Qualitative methods are commonly referred to as "inductive" due to their reliance on the belief that reality is socially constructed, variables are challenging to measure, intricate, and interconnected, the subject matter is of utmost importance, and the data collected will be from an insider's perspective (Rovai et al., 2014). Semi-structured interviews were determined to be optimal for uncovering the truth through employees' social interactions. The following section, therefore, examines the research design utilised in this study.

3.3 Research Design

Based on the topic, aim and objectives of this study the explanatory sequential mixed-methods design has been employed. Broadly speaking, there are three distinct approaches to connecting research - quantitative, qualitative and mixed methods. Research designs are considered to be different types of inquiry within these different

approaches or strategies (Denzin & Lincoln, 2011, cited in Creswell, 2014). Research has shown that the development of modern technology is providing a multitude of opportunities for innovative research design and advanced procedures in social sciences (Almalki 2016; Adeyoyin 2023; Angula & Mutelo, 2021). It is for this reason that this study chose to adopt sequential mixed method approach. The initial phase of the study involved a literature review to thoroughly assess gaps in the body of knowledge on this specific topic. According to Boren and Moxley (2015), conducting a literature review is important for justifying the need of the study. The purpose of the review was to identify any gaps in the existing body of knowledge, select an appropriate model, formulate hypotheses, and develop questionnaires. According to Cresswell (2012), research can be approached in two distinct ways: through a quantitative study or a qualitative investigation. The choice between these approaches depends on the topic of study being investigated. As shown in this study it consists of quantitative and qualitative research, comprising of a questionnaire survey, followed by semi structured interviews to fill the gaps identified from the former. The explanatory sequential mixed-methods means that the quantitative data was collected and analysed before the qualitative data in a sequential fashion, later the two types of data were integrated into a whole unit. Thus, the elements of qualitative and quantitative research approaches were later merged, interpreted and were found to be complimentary to one another. According to Rahim (2021); Adarkwah (2020); and Zalah (2018), various research methodologies exist, and each form of research requires a specific methodology; thus, each study should be tailored to the appropriate research type. The nature of the question being asked and the worldview of the researcher both have a role in determining how these pieces of information are brought together. The

approach was found as the best fit due to its ability to draw from both the strengths while minimizing the weaknesses of a single approach (Mitchell, 2018).

The researcher focused on studying workplace e-learning practices of employees and managers in the five selected Namibian public sector organisations. This investigation encompassed various elements, including factors, perceptions, attitudes, opportunities and challenges. Cresswell (2007) suggests that an object's reality is seen based on an individual's experience and interpretation. Therefore, the study asserts that for the investigation of the adoption and utilisation of workplace e-learning in selected Namibian public sector organisations, it was necessary to include the employees and managers who were directly involved in these areas. It was also necessary to apply a mixed-methods design in order to yield detailed and comprehensive data to understand the nature of workplace e-learning practices in the public sector organisations.

3.4 Sample and Sampling Procedures

The data collected from these individuals was utilised to investigate the research inquiries of the study (Creswell & Creswell, 2018). As alluded to by Cresswell and Clark (2011), this method encompasses identifying and selecting persons or organisations with extraordinary knowledge or experience in a certain area of interest. The study primarily examined employees and managers from selected Namibian public sector organisations, chosen based on their availability and expertise in implementing and using e-learning in their organisations. Moreover, the research participants were selected through the assistance of human resources personnel. They needed to ensure that all government procedures were adhered to in order to take part in this study. Considering the inherent characteristics of the target audience, there were controls with public servants due to government regulatory requirements, so engaging

them was a bit challenging. To overcome this challenge purposive sampling was utilised. As described by Palinkas et al. (2015), apart from knowledge and experience, it is crucial to have the willingness and availability of participants as well as the capability to share knowledge and ideas in a very clear and thoughtful way.

In this study, the population consists of public sector employees and managers from all five organisations (see Table 3.1 below). According to the data collected from each organisation, the combined population of employees and managers was 1953, derived from five selected organisations. The entities involved are the Office of the Prime Minister (OPM) 300, Namibian Institute of Public Administration Management (NIPAM) 190, Communications Regulatory Authority of Namibia (CRAN) 63, Telecom Namibia Ltd (TN) 350 and NamPower Energy Industry Company 1050. Population refers to the subject of study, encompassing persons, groups, and organisations having the same characteristics (Cresswell, 2012). Table 3.1 below presents the study population, sample size, distribution per organisation, and response rate. The study's target population consists of 1953 individuals; hence, a sample size of 195 represents 10% of this population. Out of the 195 questionnaires distributed, 166 respondents were recorded, resulting in a response rate of 85%. Nevertheless, at least four questionnaires were incomplete and discarded, while 162 (83%) were deemed suitable for study.

Table 3.1: *Sample Size for Namibian Public Sector Organisations*

Instrument	Organisation	Role	Sample (10% of population) (195)	
			Population 1953	Sample 195

Questionnaire and interview guide	OPM	Management & Non-management (employees)	300	Employees	Managers	Total
				24	6	30
	NIPAM	Management & Non-management (employees)	190	14	5	19
	CRAN	Management & Non-management (employees)	63	4	2	6
	Telecom Namibia Ltd.	Management & Non-management (employees)	350	23	12	35
	NamPower	Management & Non-management (employees)	1050	47	29	76
	Response rate		**1953**	**94**	**29**	**166 (85%)**
	Discarded		**4**			
	Final		**162 (83%)**			

Due to resource constraints, the whole population was not covered instead a sample was adopted. The sampling decisions are made to get the richest possible source of information to respond to the study questions proposed to adopt a purposive sampling procedure. More importantly, Palinkas et al. (2015) posit that purposive sampling involves choosing respondents who possess knowledge or experience about an issue of interest. The procedure was relevant since the sample was drawn from managers and employees with prior knowledge about the purpose, that it is used when a diversified sample is required or when the focus is on the opinions of subject-matter experts (Martinez-Mesa, González-Chica, Duquia, Bonamigo & Bastos. 2016, p. 328). For quantitative study, simple random sampling was used. The criteria used to select participants was on the basis that every member of a population had an equal chance of being selected. Thus, the researcher randomly selected a subset of participants from

the population. The selection comprised of only those who were eighteen (18) up to sixty (60) years old with more than 1 year experience in the organisation. Using a 10% sample size for a minimum sample and 20% for a large population, as suggested by Yamane (1967) and Gay (1996), the sample size for this study was 10%, constituting a total of 195 employees. The 10% requirement is important because it enables the study to reach a confidence level of 95%. The 10% sample was achieved in the quantitative part.

Subsequently, qualitative study adopted non-probability sampling. The selection was made on only those who participated in the quantitative study, recontacted telephonically through the telephone numbers they had provided. The sample constituted only those who were thirty-one (31) up to sixty (60) years old with more than three (3) years of experience in the organisation. A sample size of fifteen (15) participants (3 from each organisation) was used comprising of nine (9) males and six (6) females altogether. The total number of participants for the qualitative part was determined when repetitive information was being obtained on the study's objectives, i.e., point of saturation (Luborsky & Rubinstein, 1995; Nelson, 2017).

The sample covered the selected government organisations and agencies involved in this study. An attempt was made to choose from managers, coordinators, and other staff members in charge of the e-learning system as well as non-management employees.

3.5 Research Hypotheses and Correlation

A series of hypotheses, derived from an analysis of the original UTAUT model, were developed to establish the connections between the constructs. The essential constructs

in the model are hypothesised to have direct links, as shown below. The hypotheses examine the correlation amongst PE, EE, P, FC, and OF as independent variables, and BI and e-learning use (adoption and utilisation) as dependent variables. The moderating variables, which are factors that affect the correlation variables, were hypothesised. The revised model considers the impact of the following moderators: gender, age, and education level. The present work examines the influence of the moderators on BI and e-learning use (adoption and utilisation).

The study presented the following hypotheses:

PE relates to BI.

If users think e-learning practices can increase their productivity, they will have behavioural intentions to engage in e-learning practices, which will influence the adoption and utilisation of e-learning practices.

H_1. PE will have influence on BI

EE relates to BI.

If users find e-learning tools easy to use, they will develop behavioural intention. towards the adoption and utilisation of e-learning practices

H_2. EE will have influence on BI

P relates to BI.

If the organisation prepares the employees to use e-learning, they will develop satisfaction with the help, and they will develop positive perceptions towards the adoption and utilisation e-learning practices

H_3. Perceptions (P) will have influence on BI

Organisational Factors (OF) relate to BI.

If users are exposed to learning culture whereby OF is conducive,

they will develop the adoption and utilisation of e-learning practices.

H_4. Organisational Factors (OF) will have influence on BI

FC relates to E-learning Continuance use.

If users have e-learning infrastructure and policies and understand them, they will develop.

satisfaction and attitudes towards the adoption and utilisation of e-learning practices

H_5. Facilitating Conditions (FC) will have influence on E-learning use (adoption and utilisation).

BI relates to E-learning Adoption and Utilisation.

If users have behavioural intentions to use e-learning practices, they will ultimately adopt and continue to use learning.

H_6. BI will have influence on E-learning use.

PE relates to Attitude (A).

If users think using e-learning tools can improve work performance, they can develop positive perception towards regular use of e-learning tools

H_7. PE will have influence on P

3.6 Data Collection Procedure

Data collection procedure constituted literature search, quantitative and qualitative phases. The process of data collection comprised of both secondary (literature review)

and primary (questionnaires and interviews). Literature review focused on a wide global view of adoption and utilisation of e-learning in the public sector while questionnaires and interviews specifically assessed the Namibian context focusing on managers and employees.

3.6.1. Literature Search

At the outset of the current study, a literature review was geared towards addressing the first objective of the study, which intended to assess the adoption and utilisation of workplace e-learning practices in public sector organisations. The objective included finding out on perceptions, opportunities, and challenges that previous studies may have uncovered. The researcher also sought research information regarding the subject matter from Namibia and other locations in the world. This method was hoped to aid in spotting discrepancies and the methodologies employed to analyse the issue. In this study the literature reviews are described as investigations of knowledge in a specific area with a more comprehensive and explicit approach (Alsalami, 2022).

As indicated by Serema, Shihomeka and Shalyefu (2023), several databases, such as Web of Science, Dimensions, Scopus, and EBSCOhost (Academic Search Complete, Applied Science & Technology Index (H.W. Wilson), Art & Architecture Source, and Business Source Complete), were utilised to search the relevant literature. Chinese Insight, CINAHL with Full Text, Communication Source, Computers & Applied Sciences Complete, EconLit with Full Text, Education Source, E-Journals, Environment Complete, ERIC, Essay and General Literature Index (H.W. Wilson), GeoRef, GeoRef In Process, GreenFILE, Historical Abstracts with Full Text, Hospitality & Tourism Complete, Humanities Source, Legal Source, Library, Information Science & Technology Abstracts, MEDLINE, MEDLINE with Full Text,

MLA Directory of Periodicals, MLA International Bibliography, Open Dissertations, Regional Business News, SPORTDiscus with Full Text, SocINDEX with Full Text, and the Teacher Reference Centre were all useful resources.

3.6.2 Quantitative Phase

A questionnaire developed after the literature review aligned with the adopted UTAUT model was administered to the sample participants at this stage. More so, the review was used to guide the design of the quantitative instruments, including the selection of participants and the development of questions (Creswell, 2014; Maphalala & Adigun, 2021).

The hypotheses were concurrently developed and analysed through the application of Structural Equation Modelling (SEM). Inclusive to that was measurement of model fitness and correlations of variables for adoption and utilisation of workplace e-learning practices in the Namibian public sector organisations. This stage was mainly used to address the second objective (b), which aimed to analyse the factors that promote the effective adoption and utilisation of workplace e-learning practices in selected Namibian public sector organisations. The researcher enlisted the help of three Namibian research assistants, mainly in preparation for administering an online questionnaire using REDCap software. It is an acronym for Research Electronic Data Capture, regarded as a safe online tool for creating and maintaining databases and online surveys (project-redcap.org). The reason for choosing this application was that it was convenient since the researcher relocated to another country during data collection, so online data collection became more ideal. The researcher also had to deal with some uncertainties since researchers sometimes must engage in negotiations to conduct research in public sector institutions. It is possible to encounter such in research, as indicated that despite

the clear brief directing the research, Diko and Bantwini (2013) found that the study was never separated from the political environment in which it was conducted.

With the research assistants engaged, it was helpful as they knew Namibia, the language and culture, and the structure of organisations, especially the public sector, where it can be challenging to get information. Research assistants started by getting permission from supervisors, mainly chief executive officers and executive directors. Once approved, a letter was primarily directed to their executive assistants or Human Resources Directors, who then sent questionnaires and the application link participants to their emails directly. The procedure was conducted following the organisations' administration protocols. After filling out questionnaires, REDCap software assisted in that when they emailed back, data was captured and stored in the database.

3.6.2.1 Structural Equation Modelling

SEM in SPSS AMOS software version 27 was used to analyse quantitative data. The presentation of the diagram precisely depicted graphical representation of the model with the path coefficients of linear correlations between variables. SEM analysis includes correlations between Model Constructs; PE, EE, Attitude, FC, OF, and BI and E-learning use. The testing of the hypotheses was to confirm the significant relationships. The process was then followed by the development of the interview guides that were mainly constructed to close the gaps identified from the questionnaires.

3.6.3 Qualitative Phase

After analysing the questionnaires, the researcher conducted interviews using the interview guides. The interview guides for employees and managers were produced using the findings from the quantitative research (section 3.4.2). The interviews aim

to fill the voids in quantitative research by assessing individuals' perceptions, attitudes, opportunities and challenges regarding adopting and utilising workplace e-learning practices in selected Namibian public sector organisations. This mostly focused on the third objective, which sought to determine perceptions, attitudes, opportunities, and challenges. The researcher utilised the assistance of research assistants to conduct interviews, employing both face-to-face and telephone communication.

Additionally, notes were taken, and a recording device was used. The researcher utilised interview notes to discern multiple reoccurring themes. Subsequently, the voice recordings were transcribed. Thematic content analysis, a method for assessing interviews and transcripts, and qualitative survey responses were employed for analysis. As a result, the researcher generated knowledge that accurately reflects specific circumstances, offering a valuable understanding of participants' viewpoints regarding the research (Kumar, 2005).

3.7 Pilot Study

At the commencement of the investigation, a small study was carried out to assess the research instruments. The objective was to confirm the instruments' accuracy and dependability, as Walliman (2000) contended. Nevertheless, the utilisation of research assistants was omitted as the researcher initially underwent the procedure by participating in a practical exercise (Cresswell 2007). The researcher administered 12 questionnaires to 12 participants, and this was also used for the interview guides. These were used to get the researcher acquainted with the techniques. The insights gained from this exercise prompted modifications to the interview guide, including clarifying ambiguous questions. It involved incorporating probing questions for responses that

necessitated additional clarification. Pilot studies can identify potential issues with research protocols, methodologies, or instruments before the main study is conducted (Tan, 2017).

3.8 Data Analysis

The study utilised an explanatory sequential mixed method technique for data collecting and analysis separately for each data category. Thereafter both quantitative and qualitative datasets were merged as a thematic approach to form an integrated component.

3.8.1 Quantitative Data Analysis Using Structural Equation Modelling

Structural Equation Modelling (SEM) was conducted for quantitative data analysis using AMOS software. The questionnaire was analysed using SPSS version 29 (v29) with both Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). SPSS Statistics v29 offers new statistics, stronger integration with third-party applications, and enhanced productivity. EFA was chosen for its capability to group significant observable variables into smaller latent variables. It was also used to assess the relatedness of groups of items to factors and justify the instrument used for their measurement. CFA was utilised to measure the accuracy and consistency of the criteria. Structural Equation Modelling (SEM) analysis with AMOS software version 27 (v27) was employed to estimate coefficients of the relationships in the manifest and latent variables. The relationships between UTAUT factors, including other factors that were identified from the systematic review, were measured (Refer to Chapter 5).

The following sub-section briefly explains the concepts and criteria used in this study.

3.8.2 Concepts and Criteria used to Assess the Model

Goodness-of-fit (GOF): Was used to measure the accuracy of the model

Chi-square(X2): This was used for testing the differences between variables to check the model fitness.

Degree of Freedom (DF): This was used to check the number of data points that can vary without affecting the model's fit.

Significance level: This was used to determine the hypothesis that can be supported by data.

Comparative Fit Index (CFI): This index measures the improvement in fit achieved by the proposed model compared to a baseline model, determining a better fit for the data.

Root Mean Square Error of Approximation (RMSEA): This was used to evaluate how well a proposed SEM model fits the observed data.

PCLOSE (Probability-Close Fit): Was used to assess the probability that a model fits the data well. It is associated with RMSEA.

Tucker Lewis Index (TLI): This index was used to evaluate the goodness of fit of a proposed SEM model by comparing it to a baseline model.

The analysis of quantitative data took a detailed and comprehensive process, which is explained below.

Step 1**: Data Preparation**: The dataset was prepared to confirm that it contained relevant variables related to the UTAUT factors and respondents' adoption and utilisation of e-learning. Each respondent had to be represented by a set of values for the UTAUT factors and their corresponding adoption and utilisation behaviour.

Step 2: **Variable Measurement**: The variables in the dataset were assigned appropriate measurements. The UTAUT factors were measured using Likert scales, where respondents rated responses numerically.

Step 3: **Data Analysis**: There were various statistical techniques to analyse the relationships in UTAUT factors and adoption and utilisation behaviour. This study used methods that were common to studies that measured UTAUT constructs. The methods included:

a) Correlation Analysis: Calculate the correlation coefficients amongst UTAUT constructs and factors. This was meant to help identify the strength and direction of the relationships.
b) Regression Analysis: Conduct regression analysis to understand how the UTAUT factors collectively or individually predict the adoption and utilisation behaviour. This was to assess factors in terms of significant impact.
c) Structural Equation Modelling (SEM): Assess the overall fitness of the UTAUT model to the dataset. SEM allows one to estimate the effectiveness of UTAUT factors and assesses the overall model fit.

Step 4: **Interpretation**: Interpreted the findings to deduce conclusions about the relationships between the UTAUT factors and adoption and utilisation behaviour. It also included looking for significant correlations, regression coefficients, or path coefficients in the SEM analysis to comprehend the direction and intensity of these connections.

Since UTAUT is a theoretical framework, the analysis sought to help determine whether the model holds for the dataset. Additionally, it considered any limitations of the dataset or potential confounding factors that could affect the findings. At the initial

stage, it was also found necessary to design a data analysis codebook to provide guidance for the analysis of datasets.

Table 3.2: *Data Analysis Codebook*

Factors	**Description**	**Examples**	**Potential Subcodes**	**Examples**
Demographic Data & Experience	Where data comes from Discussion of where respondents are, job titles & responsibilities	*"Employees demographics (NamPower, Telecom Namibia, OPM)"*		
Performance Expectancy	The extent at which performance improves. Discussion on how employees believe e-learning improves their performance	*"Strongly Agree" "Agree"*		
Effort Expectancy	How respondents perceived easiness of the system at organisations	*"Agree"*		
			Find use of e-learning tools easy	*"Undecided"*
			Complete job timely	"Agree"
			Share ideas through e-learning tools	*"Strongly Agree"*
Social Influence	Discussion on the influence of social factors (management support, colleagues' behaviour, org preparation) in the employees' adoption of e-learning practices.	*"Strongly Agree, Agree, Undecided, Disagree"*		
Facilitating Conditions	Discussion on how respondents perceive the	*"Strongly Agree"*		

	resources and available support.			
			Need of IT skills to use e-learning	*"Agree"*
			Inadequate resources challenge	*"Strongly agree".*
			Relevant e-learning system of good quality	*"Undecided"*
			Understanding e-learning policy in the org.	*"Agree"*
			Financial allocation in planning for e-learning adoption	*"Disagree"*
			Training manuals for e-learning support in the org.	*"Agree"*
Behaviour Intention	The desire to use e-learning	*"Strongly Agree"*		
			Access to e-learning system	*"Agree"*
			Fear of failure to use e-	*"Strongly Agree"*

			learning systems	
			Employees Lack of confidence	*"Undecided"*
			Work culture encourages e-learning practices	*"Disagree"*
			Belief on the need to invest on e-learning resources	*"Strongly Agree"*

Note: *This codebook was used to provide description of factors and inform the analysis of datasets.*

3.8.3 Qualitative Data Analysis from Interviews

The qualitative analysis technique employed an inductive approach known as thematic content analysis. The data obtained from interviews was transcribed and subjected to thematic analysis, as described by (Henning, Van Rensburg, & Smit, 2004; Cresswell, 2016). The transcription process was conducted for each recorded interview to extract the underlying significance.

During the data analysis process, the researcher thoroughly examined each transcript wholly to obtain a comprehensive understanding of the complete content. Subsequently, the researcher carefully perused the interview transcript for the second time, adopting a slower pace, to categorise the data into coherent and significant portions or units. The coherent portions or units that shared a common topic or subject

were consolidated to enhance their comprehension. The process involved consolidating the altered responses into a comprehensive account of their knowledge. It includes providing descriptions of the fundamental perceptions supported by the raw data. In this study, the topics were not pre-established but instead identified through the process of the systematic review and analysis of literature. For the interview phase, the researcher derived thematic clusters from the significant statements, which were subsequently utilised to comprehensively depict the participants' contextual framework. Ultimately, the researcher crafted a comprehensive portrayal that effectively conveys the significance of the distinct experiences of the individuals.

3.9 Reliability and Validity

Two primary factors determine the effectiveness of a study: reliability and validity. Reliability pertains to the extent to which the collected data can be accurate. In the case of replication of the study identical outcomes will be achieved Walliman (2000). According to Venkatesh et al. (2003), the reliability of the UTAUT instrument was measured at the developmental stage. Each time, they obtained Cronbach Alpha reliability coefficients of approximately 0.70. This study evaluated the dependability of various constructs, and most of them exhibited a reliability coefficient of 0.70, demonstrating their appropriateness for modelling purposes (refer to Chapter 4). Construct validity pertains to how well an operational value aligns with the theoretical concept being studied. The dependability and validity of the material were ensured by utilising the pre-measurement activity to check the validity of the content (Venkatesh et al., 2003). Both exploratory (EFA) and confirmatory (CFA) factor analysis were utilised to measure the accuracy and consistency of the criteria. The researcher performed EFA using the statistical software SPSS AMOS v27. The numerous

dimensions of the study model were individually examined, and the confirmation of the results are comprehensively outlined in Chapter 4.

3.10 Ethical Considerations

Due to the possible infringement on individuals' rights, it was crucial to prioritise gaining consent and resolving participants' concerns in this study. Before the study, the researcher took measures to convey and establish the anonymity of the participants effectively. In ensuring participation in the study, individuals were required to offer informed consent by signing the consent letter. Participants possessed the prerogative to discontinue their involvement in the study at any given point. The research ensured rigorous protection of participants' confidentiality and privacy. The confidentiality of the participants' information was strictly maintained to ensure their anonymity. The use of codes was implemented to guarantee stringent secrecy and avoid revealing identification to any external entity or within the study's content (Mustajoki, 2017).

Ethical clearance from the UNAM Research Ethics Committee was gained to perform the research investigation. A formal letter was dispatched to the Office of the Prime Minister (OPM) to request authorisation for the inclusion of government employees in the study. After obtaining approval from OPM, letters were sent to the leaders and human resources staff of specific Namibian public sector organisations where the study occurred. Before the participants gave consent to be involved, they were informed about the study. They were notified through both oral and written means that their involvement in the study was optional, and they had the freedom to pull out of the study without facing consequences if they felt unwilling to proceed at any stage. They were reminded that the study results would be disclosed while maintaining their

anonymity. They were also made aware that semi-structured interviews would include a recording device. Before the recordings commenced, participants were given a chance to give their agreement by signing a letter expressing their interest in taking part in the research.

3.11 Chapter Summary

This chapter elucidated the philosophical assumptions, research design and methods of the study, data collection and analysis techniques employed. The philosophy of the study was hinged against positivism and interpretivism perspectives. The research design employing an explanatory sequential mixed method approach was utilised. Data was gathered through a questionnaire, and the interview guide. Quantitative data was collected by the use of a questionnaire instrument by the aid of RedCap software and SEM was used for analysis. Qualitative data collection used semi-structured interviews guides, followed by the processes of recording, transcription, and analysis to understand how employees and managers in selected Namibian public sector organisations adopt and utilise e-learning.

The forthcoming chapter elucidates the discoveries of the investigation and their explication. It will present and discuss the results obtained from questionnaires and follow-up interviews, presenting verbatim responses. These results will be correlated with the objectives of the study to form conclusions.

CHAPTER 4

QUANTITATIVE RESEARCH FINDINGS

4.1 Introduction

The results discussed in this chapter encompass the description and analysis of data including the confirmation of the data for the model (validity and reliability). This sets the initial presentation of the theoretical arguments leading to the development of a model in chapter 6. The findings of this study are derived from questionnaires, and interviews with the main aim to explore the acceptance and use of workplace e-learning practices in a selection of organisations within the Namibia public sector.

The survey comprised of UTAUT factors that promote adopting and utilising workplace e-learning practices, hence addressing the first and second objectives of the study which were; firstly, to assess the use of e-learning practices, and secondly, to analyse the factors that promote the adoption and utilisation of workplace e-learning practices in such organisations. The third objective demanded the participants' understanding of their organisational contexts through interactions, descriptions and interpretations to reveal in-depth phenomena through semi-structured interviews. It therefore aimed to determine employees' perspectives with e-learning practices, while the fourth objective was to identify possibilities and obstacles that employees face when adopting and using e-learning methods in the selected public sector organisations in Namibia. The final objective sought to create a framework for the effective adoption and utilisation of workplace e-learning practices in public sector organisations.

Since this study undertook sequential mixed-method approach for data collection, the same design still applied for data analysis. The sequence of the interpretation of results

commenced with quantitative in this particular chapter then qualitative phase in the subsequent chapter. Thereafter, the results from both quantitative and qualitative phases were analysed and merged as an integrated component in a thematic approach, as illustrated in chapter 5. The survey instrument consisted of five sections that represented the UTAUT model. The Likert scale used in this instrument consisted between strongly disagree and strongly agree on a 5-point scale. The sections were categorised into PE, EE, SI, FC and BI constructs; their hypothesised relationships were also developed and measured in the Structural Equation Model (SEM).

Following the analysis of the quantitative data, interview guides were created based on the acquired outcome to identify gaps highlighted and provide clear explanation for SEM. The two somewhat distinct semi-structured interview guides were used, one for employees and another for managers. The interview guides aimed to address identified shortcomings, including organisational variables affecting the adoption and utilisation of e-learning. Furthermore, the interviews intended to ascertain the users' perceptions, opportunities and challenges regarding the adoption and utilisation of workplace e-learning practices in specific public sector organisations in Namibia. The results have been divided into two: Quantitative Survey (Questionnaire), and Qualitative Research (Interviews). The results, therefore, consist of findings from demographics, numerical and descriptive statistics from questionnaires, and thematic content from interviews.

4.2 Results from Quantitative Survey

This section examines the findings obtained from data collected using the questionnaires. Furthermore, the chapter covers the following: demographic information, descriptive statistics section, scale development and validation data

screening, confirmatory factor analysis, and data refinement. SPSS-AMOS software version 29 was used for factor analysis. Following that, Structural Equation Modelling examines the link between the constructs and hypotheses testing.

4.2.1 Demographic Data

Respondents' characteristics for both quantitative and qualitative data consisted of employees and managers from the five selected public sector organisations inclusive of the parastatals. The table below presents the demographical data of the respondents who participated in both the quantitative and qualitative phases of the study.

Table 4.1: *Demographic Data for Respondents*

Respondents' Gender		**Percentage**
	Male	56
	Female	44
Respondents' Age Groups		
	18-30	20.4
	31-45	45.7
	46-60	33.3
	60+	.6
Respondents' Highest Qualifications		
	Bachelor's degree	46.3%
	Certificate	10.5%
	Diploma	19.8%
	Doctorate or higher	0.6%
	Master's degree	19.8%
	Other...	2.5%
	Other...	0.6%

Respondents' titles		
	Administrative Officer	18
	Director	2
	Finance Officer	11
	Head of Division	29
	IT Manager	6
	IT Officer	3
	IT Technician	4
	Other	72
	Secretary	3
	Training Coordinator	10
Involvement in Policy Formulation		
	Yes	68
	No	94

4.2.2 Preliminary Data Analysis

The steps taken in analysing the datasets are as follows:

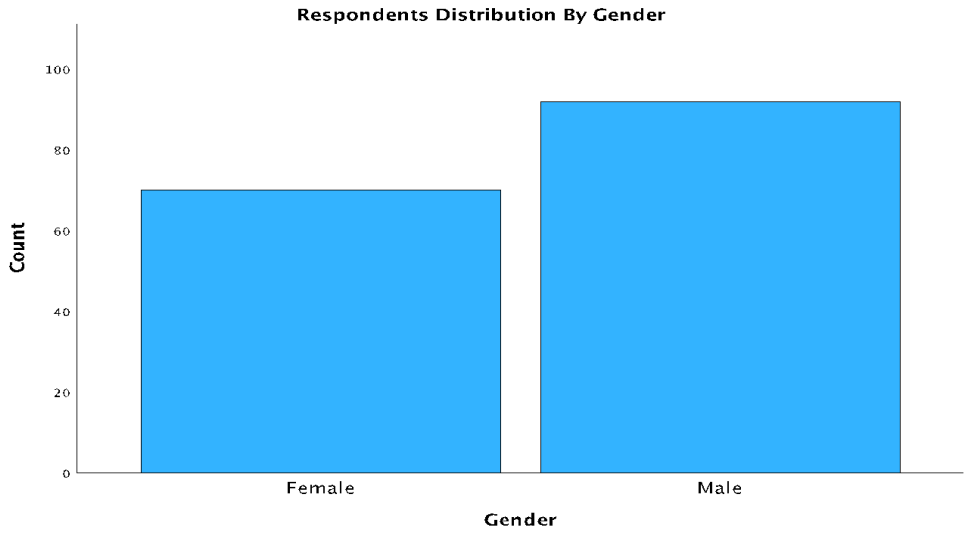
1. The employees' survey data was merged with managers' data into one master dataset to allow for analysis on a single comprehensive and reliable dataset.
2. The Survey Identifier column was removed from the dataset since it had no information.
3. Used Automatic Recode function to recode gender into Male as **1** and Female as **2**
4. Coding of Performance Expectancy (PE)
    - E-learning practice work Performance as PE1
    - E-learning practice increases productivity as PE2.
    - The use of e-learning saves time for learning as PE3.
5. The recording of the new variables was as follows:
    - Strongly Agree = 5
    - Undecided = 0
    - Strongly Disagree = 1

The codes were kept the same except that the undecided value was converted to **0 "zero"**.

4.2.2.1 Survey Responses by Gender Distribution

The total number of respondents was 162. Figure 4.1 below shows distribution of participants by gender as 90 males and 72 females (56% males, 44% females). It was found that out of 162 participants, the respondents were predominantly males. Gender disparity in this study was justifiable since it is one of the moderating variables in UTAUT model. According to Venkatesh al. (2003) gender has influence in EE, PE and SI. However, in this study gender did not show any significant influence on e-learning use when moderated with all the UTAUT constructs. Hence gender is not revealed as one of the moderating variables in this study.

Figure 4.1: *Respondents by Gender*



4.2.2.2 Examining Age Groups of the Respondents.

Age groups of the respondents reveal that most of them were among the ages 31-45, making up a total of 45.7 %, followed by the working group of the ages 46-60, constituting 33% and only 1 participant over the age of 60.

Table 4.2: *Distribution of Respondents' Age Groups*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-30	33	20.4	20.4	20.4
	31-45	74	45.7	45.7	66.0
	46-60	54	33.3	33.3	99.4
	60+	1	.6	.6	100.0
	Total	162	100.0	100.0	

4.2.2.3 Respondents Highest Qualifications

The highest qualifications for the respondents varied and ranged from grade 12 to post graduate degree. About 19% of the respondents had a diploma, 46% had a bachelor's degree, and 19% had a postgraduate (master's) degree. Only 1 a doctorate or higher and the rest had either certificates or other qualifications such as Grade 12 and welding certificates. Table 4.2 below illustrates the number and percentage of respondents' qualifications.

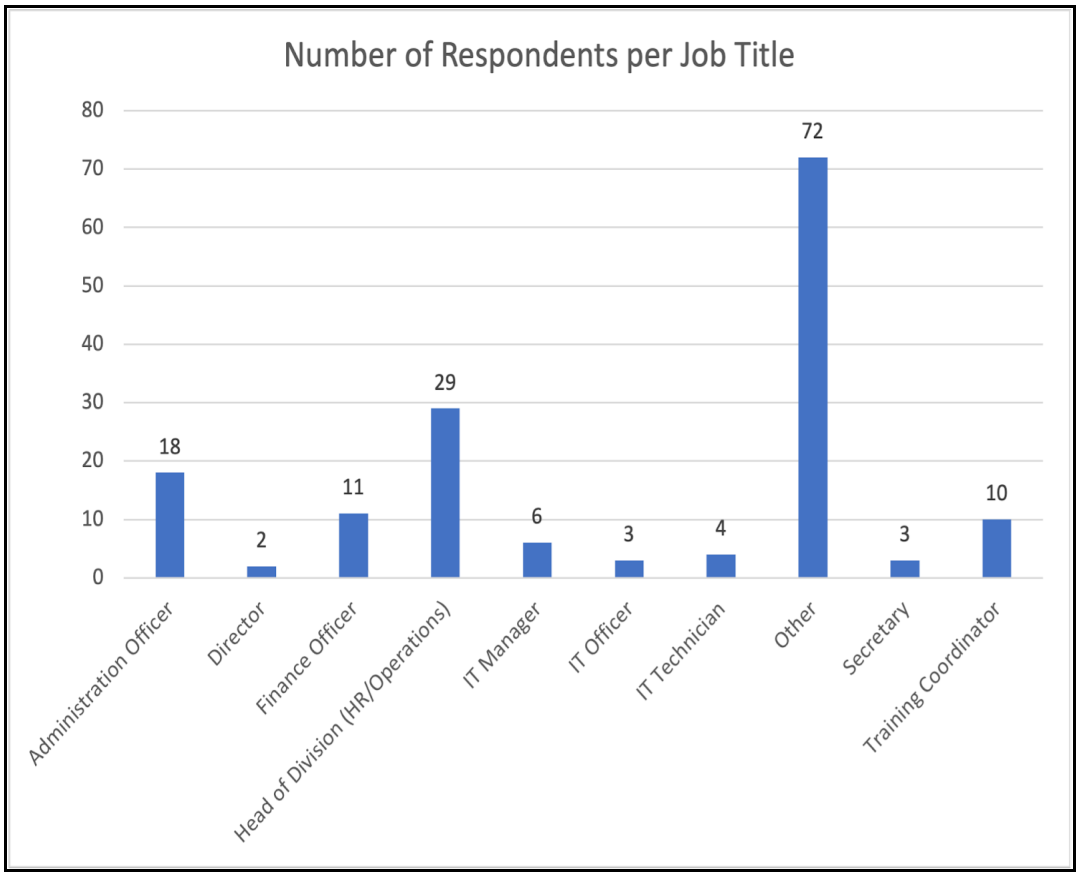
Table 4.3: *Respondents' Highest Qualifications*

Highest Qualifications	N	%
Bachelor's degree	75	46.3%
Certificate	17	10.5%
Diploma	32	19.8%
Doctorate or higher	1	0.6%
Master's degree	32	19.8%
Other... (Specify).....	4	2.5%
Other... (Specify).....	1	0.6%

4.2.2.4 Examining Respondents' Job Responsibilities

Most respondents served in roles such as Administration officers, heads of divisions, IT Technicians, training coordinators, etc. The largest number of respondents selected the title 'other', which includes roles such as Research and Capacity development officer, PR officer, economist, engineer and general worker. These made up a total of 62 out of the entire study sample, followed by heads of division with about 29 participants and then administration officers with about 15 respondents and other titles like director, IT officer, etc. Interns were excluded. The Figure 4.2 below shows management positions and employee positions as indicated in the instrument.

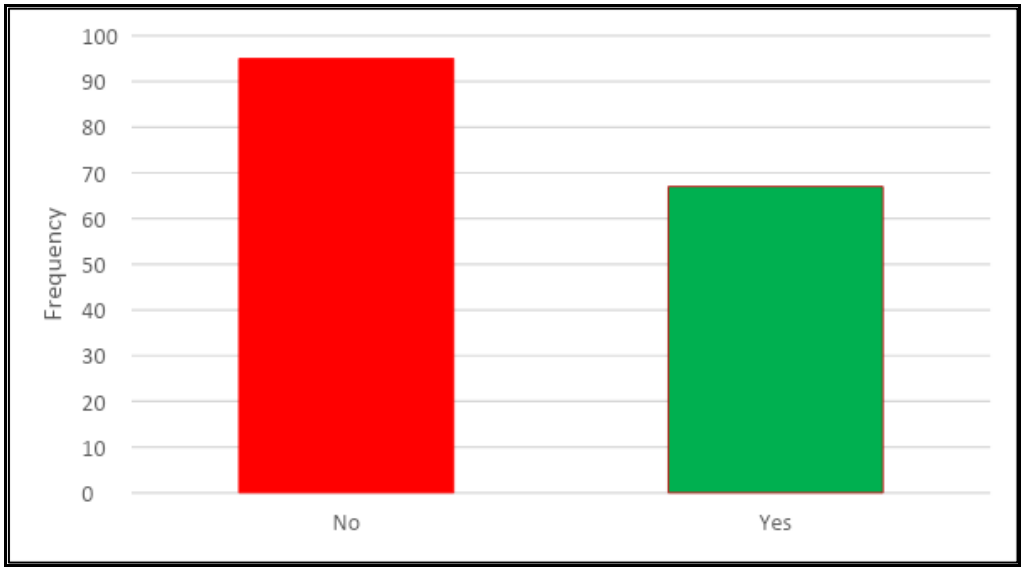
Figure 4.2: *Titles of respondents*



4.2.2.5 Respondents Whose Roles Involve Policy Formulation

The participants were required to indicate with either a 'No' or 'Yes' response to show their involvement in making decisions on policy formulation. Figure 4.4 below illustrates the number of participants' responses, with 94 respondents indicating that their roles do not involve making decisions on policy formulation, while 68 were in the affirmative. Therefore, a larger percentage of the participants in the organisations seem to be lacking control in the decision for e-learning policy formulation in the organisations. Literature has shown that the issue of e-learning policy in the organisation is significant as it contributes to a positive attitude towards e-learning use. Incentives and pressure policies are some of the contributing factors towards e-learning (Chung, Lee, & Kuo 2015; Zainab et al., 2017).

Figure 4.3: *Number of respondents whose job includes policy formulation*



4.2.2.6 Results on how E-learning improves Work Performance

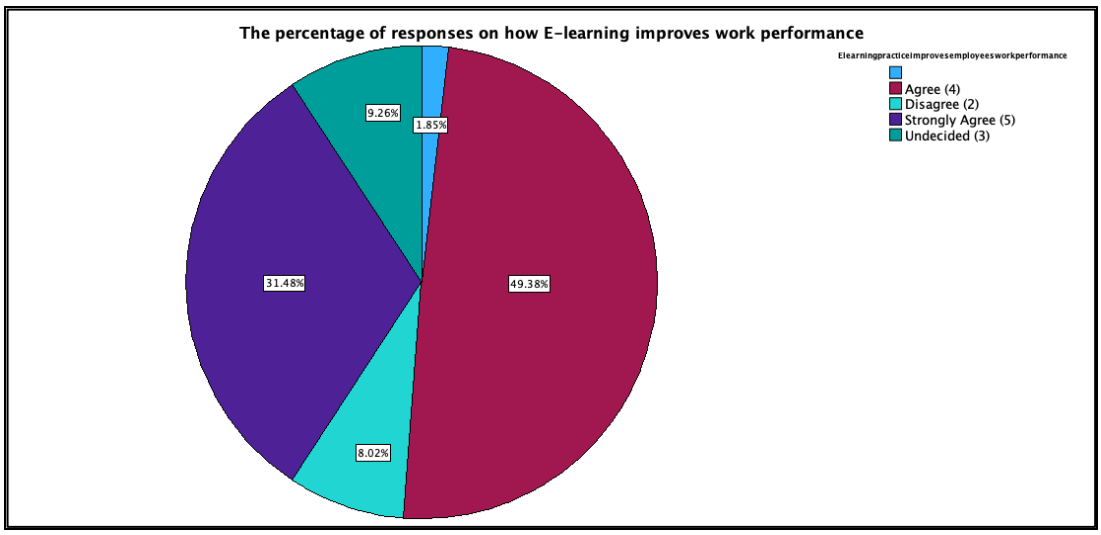
As can be seen in the visualisation below (figure 4.4), most respondents, about **49%,** Agree that e-learning improves work performance, followed by **31%** who are strongly

in agreement. A very few respondents strongly disagree, with about 1.85% across all responses.

This result agrees with the literature in recent studies, as acknowledged by Chao 2019; Šumak and Šorgo (2016), Hoque and Sorwar (2017), Khalilzadeh et al. (2017), and Šumak et al. (2017). They have proved that PE and EE directly influence BI towards e-learning use.

Additionally, it was also found that the use of a technology system enhances work performance in organisations (Chih-Yung et al., 2011).

Figure 4.4: *Pie Chart showing agreeance to the statement; E-learning Improves Work Performance*



4.2.2.7 Analysis of the Performance Expectancy (PE) Correlations

The correlation coefficient matrix for the six items evaluating performance expectancy was generated using SPSS version 29 and is displayed in Figure 4.6. It was shown that the correlation coefficients between items are mostly over 0.3, indicating their appropriateness for factor analysis (Coakes, 2005). This implies that the relationship

between all items on the PE construct are positive, moderate and significant since all values are above 0.05 (5%). The scale used for strength is 0.7 to 1 means strong, 0.3 to 0.7 means moderate and less than 0.3 means a weak association. For significance level, p-value greater than 0.05 implies insignificant while p-value less than 0.05 implies significant and is an acceptable level for a study (Tenny & Abdelgawad, 2023).

Figure 4.5: *Correlation of PE Factors*

Correlations

		PE1	PE2	PE3	PE4	PE5	PE6
PE1	Pearson Correlation	1	.564**	.433**	.287**	.213**	.349**
	Sig. (2-tailed)		<.001	<.001	<.001	.007	<.001
	N	159	159	159	159	159	159
PE2	Pearson Correlation	.564**	1	.414**	.297**	.281**	.335**
	Sig. (2-tailed)	<.001		<.001	<.001	<.001	<.001
	N	159	159	159	159	159	159
PE3	Pearson Correlation	.433**	.414**	1	.441**	.316**	.370**
	Sig. (2-tailed)	<.001	<.001		<.001	<.001	<.001
	N	159	159	159	159	159	159
PE4	Pearson Correlation	.287**	.297**	.441**	1	.310**	.439**
	Sig. (2-tailed)	<.001	<.001	<.001		<.001	<.001
	N	159	159	159	159	159	159
PE5	Pearson Correlation	.213**	.281**	.316**	.310**	1	.327**
	Sig. (2-tailed)	.007	<.001	<.001	<.001		<.001
	N	159	159	159	159	159	159
PE6	Pearson Correlation	.349**	.335**	.370**	.439**	.327**	1
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	<.001	
	N	159	159	159	159	159	159

**. Correlation is significant at the 0.01 level (2-tailed).

4.2.2.8 Analysis of the Effort Expectancy (EE) Correlations

The correlation coefficient matrix for the six EE items indicated was computed using the SPSS software version 29, as indicated in Table 4.3 below. According to the findings, most item correlation values are less than 0.3, meaning that the data are weak for factor analysis (Coakes, 2005). This suggests that there's a chance the effort expectancy is measuring something distinct from the construct overall.

Table 4.4: *Correlation of Effort Expectancy*

Correlations							
		EE1	EE2	EE3	EE4	EE5	EE6
EE1	Pearson Correlation	1	.361**	.191*	.354**	.196*	.173*
EE2	Pearson Correlation	.361**	1	.402**	.234**	.214**	.352**
EE3	Pearson Correlation	.191*	.402**	1	.186*	.150	.513**
EE4	Pearson Correlation	.354**	.234**	.186*	1	.303**	.107
EE5	Pearson Correlation	.196*	.214**	.150	.303**	1	.035
EE6	Pearson Correlation	.173*	.352**	.513**	.107	.035	1

**. At the 2-tailed 0.01 significance level, there is a correlation.

4.2.2.9 Examining Social Influences (SI)

The correlation coefficient matrix was computed for the six measures assessing Social Influence, displayed in Table 4.3 above. The results show that the correlation coefficients between items are mostly over 0.3, suggesting they are appropriate for factor analysis. (Coakes, 2005).

4.2.2.10 Correlation Matrix for FC

Calculating the correlation coefficients between each factor in the FC questionnaire responses. The correlation coefficient matrix for the six items evaluating facilitating conditions was generated using the SPSS software and is displayed in Table 4.4. The results show that the correlation coefficients between items are mostly over 0.3, suggesting they are appropriate for factor analysis (Coakes, 2005).

Table 4.5: *Correlations*

Correlations							
		FC1	FC2	FC3	FC4	FC5	FC6
FC1	Pearson Correlation	1	.339**	.240**	.281**	.244**	.234**
FC2	Pearson Correlation	.339**	1	.273**	.241**	.242**	.103
FC3	Pearson Correlation	.240**	.273**	1	.248**	.378**	.346**
FC4	Pearson Correlation	.281**	.241**	.248**	1	.347**	.348**
FC5	Pearson Correlation	.244**	.242**	.378**	.347**	1	.571**
FC6	Pearson Correlation	.234**	.103	.346**	.348**	.571**	1
**. The correlation is statistically significant at the 0.01 level with a two-tailed test.							

4.2.2.11 Behaviour Intention (BI)

The correlation coefficient matrix was computed on the six items assessing BI, displayed in Table 4.6. The results show that the correlation coefficients between items are mostly over 0.3, suggesting they are appropriate for factor analysis (Coakes, 2005).

Table 4.6: *Correlation Matrix for Behaviour Intention (BI)*

Correlations								
		BI1	BI2	BI3	BI4	BI5	BI6	BI7
BI1	Pearson Correlation	1	.165*	.282**	.252**	.110	.342**	.226**
BI2	Pearson Correlation	.165*	1	.294**	.226**	.155	.076	.232**
BI3	Pearson Correlation	.282**	.294**	1	.306**	.126	.206**	.341**
BI4	Pearson Correlation	.252**	.226**	.306**	1	.013	.307**	.240**
BI5	Pearson Correlation	.110	.155	.126	.013	1	.317**	.465**
BI6	Pearson Correlation	.342**	.076	.206**	.307**	.317**	1	.361**

BI7	Pearson Correlation	.226**	.232**	.341**	.240**	.465**	.361**	1
*. The correlation is statistically significant at the 0.05 level with a two-tailed test.								
**. The correlation is statistically significant at the 0.01 level with a two-tailed test.								

4.3 Measurements used for this study

Research has shown that validity and reliability are critical to assessing a study. The fundamental principles of research depend on its credibility in producing quality data; therefore, without reliability and validity, no decisions can be made (Mohajan, 2017). According to Mohajan (ibid), the two concepts are necessary components used for accuracy of assessment and evaluation research. In his contention validity and reliability are pre-requisites since they ensure the integrity and quality of the instruments. Cronbach's alpha (α), values were used to measure internal consistency reliability, commonly used to assess the reliability of scales or constructs in research. In the context of the UTAUT, Cronbach's alpha values have been calculated for the scales representing the model's constructs in various studies, while SEM was used to check validity.

4.3.1 Reliability

Reliability refers to the precision of acquired data, where repeating the study produces the same results. It ensures that the instrument is accurate and error-free to deliver consistent results. Venkatesh et al. (2003) evaluated the dependability of the UTAUT instrument at several stages of its development, consistently obtaining reliability coefficients close to 0.70. Reliability was measured on individual constructs, and all of them were within the range of 0.70, which implies that all the constructs were reliable for modelling. The established measures proposed by Hilton et al. (2004) on

the reliability scale indicate that excellent is from 0.90 and above, high ranges from 0.70 to 0.90, moderate high from 0.50 to 0.70 and low at 0.50 and below.

4.3.2 Validity

This study considered different types of validity: construct, content, and convergent. How successfully a measurement tool assesses the theoretical constructs it promises t o measure is known as construct validity (Venkatesh et al., 2003). In UTAUT, construct validity is concerned with whether the model accurately captures the factors that influence users' acceptance and the use of technology.

Numerous investigations have looked into the construct validity of UTAUT. These studies typically involve statistical analyses to test the relationships between the model's constructs and their ability to predict technology acceptance and usage behaviour. This study used validity to test whether the adopted model accurately captures the factors influencing adopting and utilising workplace e-learning practices among the selected Namibian public sector organisations. This study used SEM to assess the model's fit to the data and how the model's constructs relate to one another.

Validity was also confirmed by applying a mixed-method approach for data collection and analysis. Therefore, the triangulation method was used for this study, encompassing measuring relationships among factors. Content validity was ensured by including various items in a questionnaire to assess each construct. The instrument was also given to a group of experts to check the consistency and ambiguity of the items for correction of the instrument. According to Mahajan (2017), using experts to check the instrument's accuracy can be ideal for content validity since they are in the field.

Internal consistency was measured to assess how much a group of questions relates. Hence, convergent validity was tested since the instrument measured the same UTAUT concepts to establish construct correlations. Statistical software SPSS AMOS version (v 29) was used for this scenario in this study, starting with coding the items to inform the analysis of datasets.

Table 4.7: *Reliability Values for Performance Expectancy (PE)*

Reliability of PE in E-learning Adoption	
Cronbach's Alpha	No. of Items
.763	6

Cronbach's alpha values for the Performance Expectancy (PE) construct range from 0.70 to 0.90, indicating good internal consistency reliability. This construct assesses the extent to which employees believe that adopting and utilising workplace e-learning practices will help them perform tasks more effectively. The model constructs for PE are highly internally consistent since a = .763, as indicated in Table 4.6 above.

Thus, the model constructs for performance expectancy are highly internally consistent since ***a >=0.70*** predicts adopting and utilising e-learning practices.

Table 4.8: *Reliability Values for Effort Expectancy (EE)*

Reliability of EE		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
.674	.669	6

Cronbach's alpha values for Effort Expectancy in UTAUT studies have also ranged from 0.70 to 0.90, demonstrating good to excellent reliability. Effort Expectancy measures users' perceptions of the ease of use associated with adopting and using a new technology. Table 4.7 above shows that Cronbach's alpha values indicate that items in the EE construct have moderately high internal reliability since $a<0.70$.

Table 4.9: *Reliability Values for Social Influence*

Reliability SI		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
.746	.751	6

Cronbach's alpha values for Social Influence (SI) in UTAUT studies have varied but generally fall within the range of 0.70 to 0.85, indicating acceptable to good internal consistency. SI assesses the influence of social factors, such as the opinions of peers or colleagues, on an individual's intention to use a technology. Table 4.8 shows that Cronbach's alpha values indicate that items in the SI construct have good internal consistency as a = .746 (***a*** >=070)

Table 4.10: *Reliability Values for Facilitating Conditions*

Reliability FC		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
.719	.719	6

Cronbach's alpha values for Facilitating Conditions in UTAUT studies have typically ranged from 0.70 to 0.85, indicating acceptable to good reliability. Facilitating Conditions measure the extent to which users perceive that organisational and technical infrastructure support the use of a new technology. Table 4.9 shows that Cronbach's alpha values indicate that questions in the FC construct have high internal reliability since a = 7.19 (a >=0.70)

Table 4.11: *Reliability Values for Behaviour Intention*

Reliability BI		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
.686	.692	7

Cronbach's alpha values for Intention to Use in UTAUT studies have often been high, and moderately high ranging from 0.50 to 0.70. Intention to Use represents users' behavioural intentions to adopt and use a technology. Table 4.10 is showing that Cronbach's Alpha values for BI construct have moderately high internal reliability since a = .686 (a<0.70).

In summary, the model measures adequate validity and reliability for all the constructs as indicated in the Cronbach's alpha values in table 4.12 below. The ratings show that three of the constructs reflect high reliability of predicting adoption and utilisation of e-learning practices while two present moderately high rates. Thus, the reliability of the model is fitting for this particular study.

Table 4.12: *Summary of Cronbach's Alpha Values*

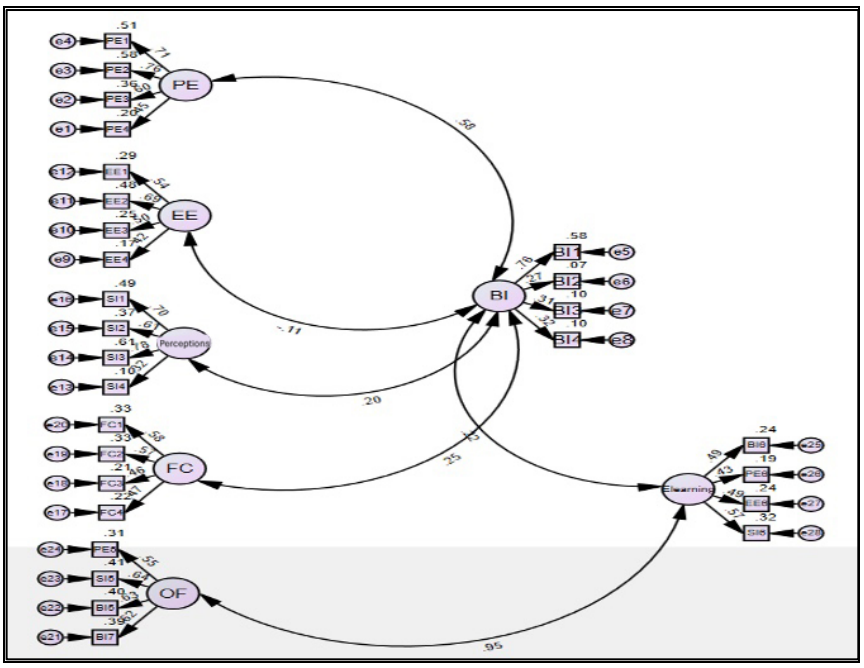
Construct	Cronbach Alpha	Rating
PE	.763	High
EE	.674	Moderately high
SI	.746	High
FC	.719	High
BI	.686	Moderately high

4.3.3 Structural Equation Model (SEM) Analysis

SEM analysis includes correlations between Model Constructs; PE, EE, P, FC, OF, BI and E-learning use. The testing of the hypotheses was to confirm the significant relationships as illustrated in figure 4.6 below. The link between PE and BI to use e-learning is r = .58, while the association between OF and BI is r = .95. The connection between P and FC and the intention to use e-learning is r = .20 and r = .25, respectively.

They all had significant relationships except for EE and BI that indicates r = -.11, meaning insignificantly related.

Figure 4.6: *Measurement Model with the Model Constructs PE, EE, P, FC and OF*



4.3.4 Logistic Regression for Social Influences and Facilitating Conditions

Logistic regression was used in this work to investigate the relationship between social influences and facilitating conditions for adopting and utilisation of workplace e-learning practices at public sector organisations. The degrees of freedom (df) in SEM refers to the number of independent pieces of information available for estimating parameters in the model. In the context of the chi-square test, calculating the degree of freedom involves dividing the total number of observed moments (variances and covariances) by the number of estimated parameters in the model.

The model showed significant reliability ($\chi 2 = 23.2$) with $p < .001$, as shown in Table 4.13 below.

Table 4.13: *Chi-Square, df and sig values for SI*

Model Fitting Information				
Model	Model Fitting Criteria -2 Log Likelihood	Likelihood Ratio Tests Chi-Square	df	Sig.
Intercept Only	323.748			
Final	91.533	232.215	54	<.001

A standard statistical measure used to assess the fit of models, including UTAUT, is the chi-square test. A significant chi-square value indicates a match between the observed data and the proposed model. However, it's essential to note that chi-square is sensitive to sample size, often leading to significant results even when minor discrepancies exist between the model and the data. Therefore, Chi-square statistics and other fit indices like CFI, RMSEA, and NFI were assessed to provide a comprehensive evaluation of model fit. It was essential to evaluate the overall pattern of fit indicators to ascertain if the model adequately represents the relationships between constructs and the data. The significance (sig) value indicates whether the discrepancy between the model and the observed data is statistically significant.

Table 4.14: *R Square Values for PE*

Pseudo R-Square	
Cox and Snell	.768
Nagelkerke	.856
McFadden	.642

The statistical measure known as the R-squared (R^2) value, referred to as the coefficient of determination, indicates the extent to which the independent variables in a regression model explain the fluctuations observed in the dependent variable. A logistic regression analysis was conducted with e-learning usage behaviour as the dependent variable and social influence and facilitating conditions as the predictor variables. The full model was significantly reliable ($p < .001$) and accounted for between 76.8% and 85.6% (Cox & Snell, Nagelkerke values) of the variance in social influences in adopting e-learning adoption and utilisation at the selected Namibian public sector organisations (Table 4.14).

Table 4.15: *Ratio Tests for PE*

Likelihood Ratio Tests				
Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	91.533[a]	.000	0	.
PE2	245.501[b]	153.968	12	<.001
PE3	109.385[c]	17.852	9	.037
PE4	100.987[c]	9.455	12	.664
PE5	96.868[c]	5.335	9	.804
PE6	95.054[c]	3.521	12	.991

The variables for PE are statistically significant since their values are around 0.05, hence useful for the model.

The likelihood ratio test determined whether adding additional predictors to a model significantly improves its fit compared to a simpler model. The justification of this is as suggested by Dwivedi, Rana, Jeyaraj, Clement and Williams (2019); some researchers use a likelihood ratio test to compare a baseline model that includes only

exogenous variables to a more complex model that includes both exogenous and endogenous variables (such as the UTAUT constructs like PE). The variables for PE are statistically significant, implying no additional variables are needed to the PE construct to improve the model fit.

4.3.5 Respondents Perceptions on Performance Expectancy

The first part of the questionnaire is concerned with gauging employees' perceptions of whether e-learning will benefit their work performance.

- **Research Question**: The performance expectancy construct had a total of five questions, including "E-learning practice improves employees work performance", "E-learning practice increases employees' productivity", "The use of e-learning saves time for workplace learning", etc. Respondents were expected to select how well they agreed with the statements from a Likert scale with values ranging from 0 - 5, with 1 being strongly disagree, 5 being strongly agree, and 0 being neutral.
- **Data Collection**: A survey was conducted among employees at selected Namibian public sector organisations to assess their perceptions of the performance expectancy on adopting and utilising e-learning practices.
- **Analysis**: Responses to PE-related survey questions were analysed using descriptive statistics and thematic analysis on IBM SPSS software to identify common themes and patterns in employees' perceptions of PE.

- **Interpretation**:

  Overall Perception: Most respondents strongly agreed with most of the PE statements (Table 4.14 shows Strongly Agree and Agree selected in higher % (49.4% and 31.5%) than SD & D). This indicates a positive overall perception of performance expectancy among employees.

Specific Perceptions: Thematic analysis revealed several specific aspects of performance expectancy mentioned by respondents:

- **Efficiency:** Many employees emphasised that e-learning practices make them more efficient.
- **Effectiveness:** Respondents highlighted that e-learning practices save their time.
- **Impact on Work:** Several respondents discussed that e-learning improves work performance.

Variability in Perceptions: While the overall perception of performance expectancy was positive, there were variations in individual perceptions. Some employees disagreed with some of the PE statements, e.g., PE4, expressing that PE does not necessarily improve collaboration with others.

Table 4.16: *Values of Perceptions on e-learning Improving Work Performance*

E-learning improves work performance					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	.00	15	9.3	9.4	9.4
	2.00	13	8.0	8.2	17.6
	4.00	80	49.4	50.3	67.9
	5.00	51	31.5	32.1	100.0
	Total	159	98.1	100.0	
Missing	System	3	1.9		
Total	162	100.0			

Table 4.17 below summarises responses to a survey question regarding whether "e-learning increases employees' productivity". Here's an analysis of the table:

- **Valid Responses**:

- **0 (Neutral)**: 21 respondents (13.0% of total respondents, 13.2% of valid responses) selected this option, indicating neutrality.
- **1 (Strongly Disagree)**: Only 1 respondent (0.6% of total, 0.6% of valid responses) selected this option, showing strong disagreement is very rare.
- **2 (Disagree)**: 11 respondents (6.8% of total, 6.9% of valid responses) disagreed with the statement.
- **4 (Agree)**: Most; 84 respondents (51.9% of the total, 52.8% of valid responses) agreed that e-learning increases productivity.
- **5 (Strongly Agree)**: 42 respondents (25.9% of total, 26.4% of valid responses) strongly agreed with the statement.

- **Missing Responses**: 3 respondents (1.9% of the total) responses were missing or not recorded in the system.
- **Total Responses**: The total number of respondents for this question was 162.

The **Cumulative Percent** column shows the percentage of respondents that selected each option or a lower one. It indicates that:

- About 20.8% of respondents rated the statement 2 or lower, expressing disagreement or neutrality.
- A cumulative 73.6% rated it 4 or lower, which means 26.4% rated the highest agreement.
- 100% of the valid responses have been accounted for in the cumulative percentage.

Interpretation:

- Most respondents perceive e-learning as a positive contributor to productivity, with over 78% agreeing or strongly agreeing.
- There is a significant proportion of neutrality (13.2%), which may indicate uncertainty or indifference towards the impact of e-learning on productivity.
- A very small percentage (7.5%) actively disagree or strongly disagree with the statement, suggesting minimal resistance to e-learning increasing productivity.

Contextual Insights:

- The strong agreeance with the statement reflects an overall positive perception of e-learning's impact on productivity among the surveyed employees.
- However, the data also reflects a range of perceptions, indicating that while a majority see e-learning as beneficial for productivity, a non-negligible minority may require more convincing or have had different experiences.

- Although small, missing data should be accounted for in the analysis as it can influence the interpretations.

Table 4.17: *Values of Perceptions on e-learning Increasing Productivity*

E-learning increase employees' productivity					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	.00	21	13.0	13.2	13.2
	1.00	1	.6	.6	13.8
	2.00	11	6.8	6.9	20.8
	4.00	84	51.9	52.8	73.6
	5.00	42	25.9	26.4	100.0
	Total	159	98.1	100.0	
Missing	System	3	1.9		
Total	162	100.0			

Items 3 under Performance Expectancy gauges employees' perceptions on how e-learning saves time for learning at the organisation. As seen in the pie chart below, 2 larger slices are for agreeing and strongly agreed that e-learning saves time for learning. The purple colour is for rating '5' which means strongly agree and the largest slice is for '4' which means respondents agree with the statement.

Figure 4.7: *Responses to e-learning Saves Time*

4.3.6 The Analysis of the Performance Expectancy Construct

The SPSS package was used to analyse multiple response questions from the dataset to understand the performance expectancy construct. The table below shows the values from the dataset where respondents selected the values 4 and 5 together with the percentages. $PerfExpectancy is a variable for responses where the value 4 was given and $PerfExpecStronglyAgree is for responses where 5 was given. The comparisons were made, with the frequency of 4s and 5s against 1s and 2s, to assess how performance expectancy influences the adoption of e-learning at organisations. Most respondents rated PE questions 4 and 5, agreeing that e-learning adoption improves work performance at their organisations. Using frequency tables in SPSS (as shown

below), PE is a critical factor in gauging adoption and utilisation of e-learning. The path to creating this table was in SPSS analysis, then descriptive statistics followed by frequencies and selected all PE variable i.e., PE1, PE2, PE3, PE4, PE5 and PE6.

Table 4.18 below summarises performance expectancy values from agree to strongly agree.

Table 4.18: *Case Summaries of PE Values*

Case Summary						
	Cases					
	Valid	Missing	Total			
	N	Percent	N	Percent	N	Percent
$PerfExpectancyAgree[a]	127	78.4%	35	21.6%	162	100.0%
$PerfExpecStronglyAgree[b]	96	59.3%	66	40.7%	162	100.0%
$PerfExpDisagree[c]	39	24.1%	123	75.9%	162	100.0%
$PerfExpStronglyDisagree[d]	4	2.5%	158	97.5%	162	100.0%

4.3.7 Analysis of Responses in Effort Expectancy Construct

The SPSS package analysed and compared the frequencies of respondents strongly agreeing and disagreeing with the effort expectancy statements. The majority of the responses in the effort expectancy questions were responded to with a value of 5 and 4, meaning that participants strongly agreed and agreed with the EE statements. This could mean that participants found that the utilisation of e-learning is easy, requiring less effort to perform tasks using e-learning platforms.

- **Research Items**: The effort expectancy construct had a total of five items including “Employees find the use of e-learning tools easy”, “Management can

complete any job timeously using e-learning tools", "It requires a lot of effort to perform tasks using e-learning", "Learning to use e-learning platforms is difficult", "We can engage in discussions through e-learning platforms". Respondents were expected to choose statements from a Likert scale with values ranging from 0 - 5, with 1 being strongly disagree, 5 being strongly agree and 0 being neutral.

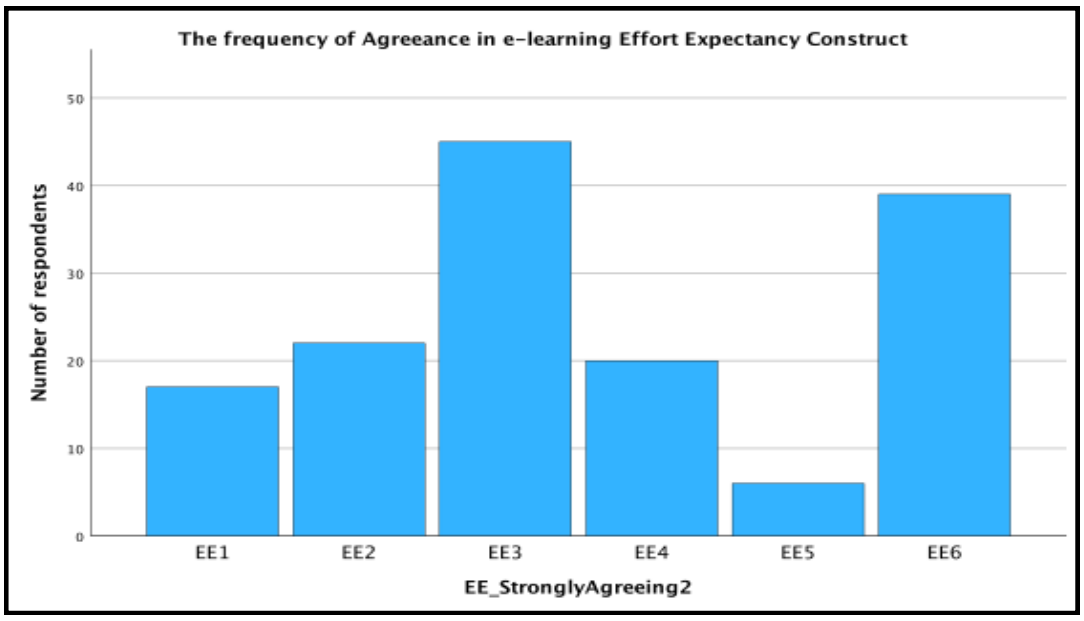
- **Data Collection**: A survey was conducted among employees at selected Namibian public sector organisations to assess their perceptions of the effort expectancy on the adoption and utilisation of e-learning practices.
- **Analysis**: Responses to survey items related to EE were analysed using descriptive statistics and thematic analysis on SPSS software to identify common themes and patterns in employees' perceptions related to EE.
- **Interpretation**:

  Overall Perception: Majority of the responses in the EE items were responded to with a value of 5 and 4, meaning that participants strongly agreed with the EE statements. This could mean that participants found that the utilisation of e-learning is easy, requiring less effort to perform tasks using e-learning platforms. Figure 4.8 and 4.9 illustrate the responses to the items for this construct.

  - **Overall Perceptions**: Thematic analysis revealed a general perspective of effort expectancy mentioned by respondents.
  - The analysis shows a substantial and positive association between users' intents to adopt and use e-learning and their expectation of the effort level needed. The results indicate a direct correlation between users' willingness to embrace and employ e-learning and the increase in EE within the e-learning system.
  - **Variability in Perceptions:** The interpretation when comparing these graphs is that a reasonable number of participants agreed with effort expectancy items

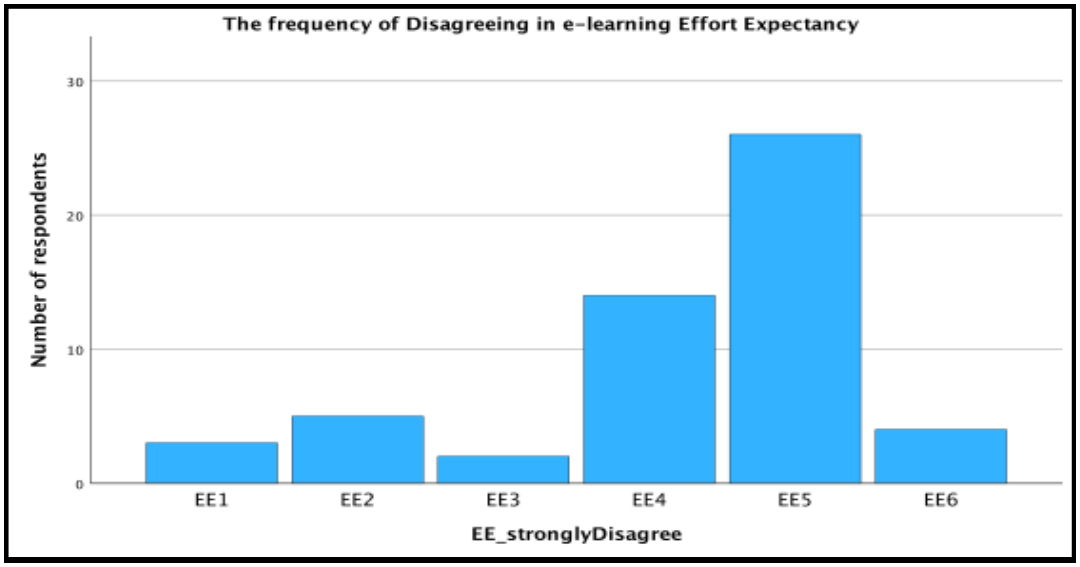
except for item EE5, which says, “learning to use an e-learning platform is difficult”. Only 5% of respondents agreed with the statements that the platform is difficult to use. That means the variability is very low.

Figure 4.8: *Number of Respondents and Strongly Agreeing Values in EE*



The above bar chart shows the number of respondents who agreed to the effort expectancy statements EE1 through EE6. The graph was plotted using respondents who selected values 4 and 5 in the questions EE1 up to EE6 in the EE questions.

Figure 4.9: *Numbers of Strongly Disagreeing Values in EE*



When comparing the two graphs above (figure 4.8 and 4.9), the interpretation could be that; for each of the questions in the effort expectancy construct, respondents largely agreed with the statements. The study shows effort expectancy, which means the ease of adoption and use of e-learning practices. The interpretation when comparing these graphs is that a reasonable number of participants agreed with effort expectancy items except for item EE5 which says, "learning to use an e-learning platform is difficult". Only about **5%** of respondents agreed with the statements that the platform is difficult to use.

4.3.8 Analysis of the Social Influence (SI)

Respondents provided their perceptions and thoughts on the influence of their colleagues towards adopting and utilising e-learning platforms. They also provided information on the support they receive from management towards e-learning practices.

Table 4.19 below shows influence provided by significant others to use e-leaning platforms.

Table 4.1: *SI Frequency table for E-learning*

Social Influence Frequency table for E-learning							
		SI1	SI2	SI3	SI4	SI5	SI6
N	Valid	157	159	159	159	158	159
	Missing	5	3	3	3	4	3
Mean		3.5860	3.3396	3.8616	2.3711	2.2975	1.9119
Std. Deviation		1.60546	1.80656	1.48613	1.86083	1.83910	1.94019

Likert scale used:

5 = SA (Strongly Agree)

4 = A(Agree)
0 = UND (Undecided)
2 = D(Disagree)
1 = Strongly Disagree (SD)

The table above provides data on the Social Influence frequency for e-learning across six items labelled **SI**1 through **SI**6. This information is derived from a Likert scale survey given to several respondents, assessing the social influence on their use of e-learning. Here's a breakdown of the statistics provided:

- **Valid Responses**: The number of valid responses varies slightly across the items, with the lowest being 157 for SI1 and the highest being 159 for SI2, SI3, SI4, and SI6.
- **Missing Responses**: There were a few missing responses for each item, ranging from 3 to 5.
- **Mean (Average Score)**:
    - **SI1**: The average score is 3.5860, indicating a moderate to high level of agreement or frequency.
    - **SI2**: Has a lower average of 3.3396, suggesting a moderate agreement or frequency.
    - **SI3**: This shows a relatively high mean of 3.8616, indicating that respondents tend to agree more strongly with this item.
    - **SI4**: Has a significantly lower mean of 2.3711, showing a tendency towards disagreement or less frequency.
    - **SI5**: Also has a low mean of 2.2975, similar to SI4, suggesting a lower level of agreement or occurrence.

    - **SI6**: Has the lowest mean of 1.9119, indicating a general disagreement or infrequency relative to the other items.
- **Standard Deviation**:
    - **SI1**: 1.60546, a moderate spread around the mean.
    - **SI2**: 1.80656, indicating a slightly wider spread of responses around the mean.
    - **SI3**: 1.48613, suggesting responses were more tightly clustered around the mean than SI1 and SI2.
    - **SI4**: 1.86083, implying the widest spread of responses, indicating more variability in how respondents rated this item.
    - **SI5**: 1.83910, similarly wide variability as SI4.
    - **SI6**: 1.94019, also indicating a wide range of responses, but since the mean is low, it suggests variability is around a lower level of agreement.

Interpretation:

- **SI1 and SI3** appear to have the strongest social influence on e-learning usage among the respondents.
- **SI4, SI5, and SI6** reflect lower perceived social influence, with SI6, in particular, being the least influential, according to respondents.
- The **standard deviation** values suggest that respondents have a considerable range of opinions about all items, but especially about SI4, SI5, and SI6, where the social influence on e-learning is less clear-cut.

The means indicate how strongly, on average, the respondents felt each item's social influence, with higher scores showing stronger influence. The standard deviations indicate how much the respondents' opinions varied from the average.

Understanding the context of what each SI item represents would provide a more comprehensive analysis. For instance, SI3's higher mean could reflect a specific social factor that is particularly influential in the respondents' e-learning behaviour.

The table below represents the analysis of Likert scale for social influence items with mean and standard deviation.

Table 4.20: *Results on measuring SI Likert scale and Analysis*

Item	**SA (%)**	**A (%)**	**UND (%)**	**D (%)**	**SD (%)**	**Mean (%)**	**σ stdev**
Management support on e-learning practices can improve employees' performance	44 (27.2)	80 (49.4)	19 (11.7)	9 (5.6)	5 (3.1)	3.58	1.60
Shared knowledge through e-learning platform is effective in the organisation	43 (26.5)	73 (45.1)	30 (18.5)	11 (6.8)	2 (1.2)	3.33	1.80
Continuous training and development on the use of e-learning system motivates employees to use e-learning	58 (35.8)	78 (48.1)	16 (9.9)	5 (3.1)	2 (1.2)	3.86	1.48
My colleagues influence my behaviour to use e-learning at work	15 (9.3)	59 (36.4)	47 (29.0)	28 (17.3)	10 (6.2)	2.37	1.86
The organisation prepares employees on the use of e-learning system	16 (9.9)	51 (31.5)	47 (29.0)	35 (21.6)	9 (5.6)	2.29	1.83
Employees receive e-learning support from the vendor timeously when they encounter difficulties	15 (9.3)	44 (27.2)	69 (42.6)	22 (13.6)	9 (5.6)	1.91	1.94

Note: *N = 159 the total number of responses and percentage in brackets, sigma is the stdev.*

The weighted average was calculated by adding/summing up the values of the mean and then divided by items number.

Weighted Average *= 3.58 + 3.33 + 3.86 + 2.37 + 2.29 + 1.91 / 6*

= ***2.89***

To get a better sense of the social influence construct, the consideration was how far off the mean of each question is from the weighted average. As shown in the weighted average equation, then iterate through all the means of the six questions and calculated the difference from the weighted average. If the mean was greater than the weighted average (2.89), then it means that the respondents had a high perception for that statement. Otherwise, if the weighted average was less than the mean for the question, then it means that the respondents had a low perception about that question in the social influence construct.

The analysis shows that about **50%** of the respondents appeared to feel that management's support on e-learning can improve their performance. Also, they felt that knowledge shared through e-learning platforms is effective at their organisations. They perceived that continuous training on using technology motivates them to use e-learning systems at their organisations. Conversely, **50%** of employees had a low perception of social influence on adopting and utilising e-learning platforms. For instance, respondents had a low perception that colleagues influence their usage of e-learning practices at work. Also, they perceived that organisations do not prepare them on using of e-learning platforms and they had low perception on receiving timeous e-learning support from the vendor when they encounter challenges.

4.3.9 Analysis of the Facilitating Conditions (FC)

Facilitating conditions pertain to an employee's perception of the organisational and technical support system in place (Venkatesh et al., 2003). The study measured facilitating conditions by assessing IT skills required for using e-learning systems, inadequacy of resources for e-learning practices, availability of good quality e-learning

systems, e-learning policies and whether there is financial allocation in planning for e-learning adoption.

Table 4.21 shows the number missing, mean and standard deviation of respondents for the facilitating conditions (resources and skills) variables FC1 through FC6.

Table 4.21: *Mean and Standard Deviation of Responses from the Facilitating Conditions*

Facilitating Conditions for E-learning frequency table							
		FC1	FC2	FC3	FC4	FC5	FC6
N	Valid	160	160	160	160	159	159
	Missing	2	2	2	2	3	3
Mean		3.1688	3.1125	2.4875	1.8125	1.9623	2.2704
Std. Deviation		1.71645	1.86995	1.90988	1.72363	1.86536	1.84763

The table displays the mean and standard deviation of answers for the facilitating conditions variables FC1 through FC6.

Likert scale used in measuring facilitating conditions for adopting and using e-learning practices is similar to the Likert scale used in the social influence and the other UTAUT constructs.

The table presents a summary of responses to a survey assessing the Facilitating Conditions for E-learning, across six items (FC1 to FC6). Here's the analysis:

- **Response Counts**:
    - All items have a high number of valid responses (159 or 160), indicating a robust data set.
    - There are minimal missing responses for each item (2 or 3), which is unlikely to significantly affect the overall analysis.

- **Mean Values**:
    - **FC1**: Average score of 3.1688 suggests a moderate to high agreement that the condition facilitates e-learning.
    - **FC2**: Also indicates a moderate to high level of agreement with an average of 3.1125.
    - **FC3**: The mean drops to 2.4875, showing a lower level of agreement that this condition is facilitating.
    - **FC4**: Indicates the lowest agreement with a mean of 1.8125, suggesting respondents do not find this condition particularly facilitating.
    - **FC5**: Slightly higher than FC4, with a mean of 1.9623, still below the neutral midpoint of 3.0.
    - **FC6**: Average of 2.2704 is closer to neutral, but still below, indicating a slight disagreement that this condition facilitates e-learning.
- **Standard Deviations**:
    - **FC1**: 1.71645, a relatively wide range of responses around the mean.
    - **FC2**: 1.86995, the widest range, indicating varied perceptions of this condition's role in facilitating e-learning.
    - **FC3**: 1.90988, another wide range, suggesting divergent views.
    - **FC4**: 1.72363, similar to FC1, indicating some variability in perceptions.
    - **FC5**: 1.86536, a wide range, similar to FC2.
    - **FC6**: 1.84763, also a wide spread of opinions.

Interpretation:

- **FC1 and FC2** are perceived as more positively influencing or facilitating e-learning, although there is some variability in how respondents feel.
- **FC3, FC4, FC5, and FC6** have mean scores below the midpoint of 3.0, indicating that on average, respondents do not strongly believe these conditions facilitate e-learning.
- The **standard deviation** for all items suggests that there is not a strong consensus among respondents, with some feeling that these conditions are facilitating and others not.

Table 4.22 shows percentages of all facilitating conditions (resources and skills) items with mean and standard deviation.

Table 4.22: *Results of measuring FC Likert scale and analysis*

Items	**SA (%)**	**A (%)**	**UND (%)**	**D (%)**	**SD (%)**	**Mean (%)**	**σ stdev**
We need IT skills to use e-learning system in our organisation	37 (22.8)	64 (39.5)	23 (14.2)	30 (18.5)	6 (3.7)	3.16	1.71
Inadequate resources for e-learning practices are a challenge in planning for e-learning practices	38 (23.5)	68 (42.0)	34 (21.0)	16 (9.9)	4 (2.5)	3.11	1.86
Relevant e-learning system of good quality is available	20 (12.3)	60 (37.0)	48 (29.6)	26 (16.0)	6 (3.7)	2.48	1.90
Employees understand e-learning policy in the organisation	12 (7.4)	31 (19.1)	59 (36.4)	48 (29.6)	10 (6.2)	1.81	1.72
There is financial allocation in planning for e-learning adoption	13 (8.0)	44 (27.2)	62 (38.3)	31 (19.1)	9 (5.6)	1.96	1.86
Training manuals for e-learning support are available in the organisation	17 (10.5)	49 (30.2)	48 (29.6)	35 (21.6)	10 (6.2)	1.91	1.94

Table 4.20 above shows results of measuring FC Likert scale and its analysis.

Weighted Average *= 3.16 + 3.11 + 2.48 + 1.81 + 1.96 + 1.91 / 6*

= ***2.40***

The data analysis for facilitating conditions shows that **3 out of 6 or 50%** of the respondents feel that they need IT skills to utilise e-learning platforms at their organisations. Also, they felt that inadequate resources are a challenge in planning to adopt and use e-learning practices. They perceived that a relevant e-learning system of good quality is available at their selected public sector organisations. However, **50%** of respondents had a low perception on the availability of organisational and technical architecture for supporting e-learning. For example, most respondents feel they need help understanding e-learning policy at their organisations and have a low perception that there is financial allocation in planning for e-learning adoption. Also, they perceived that training manuals for e-learning support are available in the organisation, but their usage is limited.

4.3.10 Analysis of the Behaviour Intention (BI)

The results of the questionnaire survey revealed that behaviour intention is one of the important constructs and strong predictors of adopting and utilising e-learning in the organisation. In this study, behaviour intention was measured using the intent to utilise e-learning at work (given access), fear of failure, levels of competence, lack of confidence, presence of an encouraging culture to utilise e-learning practises and the need to invest on e-learning resources. Behaviour intention was measured in relation to the items as shown in table **4.23** below.

The table shows the number missing, mean and standard deviation of respondents for behaviour intention (intention to use e-learning) variables.

Table 4.23: *Frequency of BI for using e-learning Practices.*

Frequency Table of E-learning Behaviour Intention								
		BI1	BI2	BI3	BI4	BI5	BI6	BI7
N	Valid	160	159	160	160	160	160	158
	Missing	2	3	2	2	2	2	4
Mean		3.8313	1.8742	1.8375	2.6063	2.4625	3.8938	2.7975
Std. Deviation		1.45896	1.77444	1.40030	1.87367	1.82191	1.49042	1.91461

The table shows the frequency of the behaviour intentions for using e-learning practices at the organisation, with the mean and standard deviations for the variables BI1, BI2, BI3, …, BI6.

The Likert scale used in measuring BI is the same as the one used for measuring SI and the other UTAUT constructs in this study.

In the following table (4.24) the illustration is about, mean and std deviation on "the intent to utilise e-learning at work (given access)", "fear of failure", "levels of competence", "lack of confidence, "presence of an encouraging culture" to utilise e-learning practises and "the need to invest on e-learning resources".

Table 4.24: *BI Likert Scale and its Analysis*

Question	**SA (%)**	**A (%)**	**UND (%)**	**D (%)**	**SD (%)**	**Mean (%)**	**σ stdev**
Given access to e-learning system, I intend to use it at work	56 (34.6)	78 (48.1)	14 (8.6)	9 (5.6)	3 (1.9)	3.83	1.45
Employees have fear of failure to use e-learning system	8 (4.9)	44 (27.2)	60 (30.0)	35 (21.6)	12 (7.4)	1.87	1.77
I am embarrassed at my level of competence for e-learning practices	8 (4.9)	24 (14.8)	25 (15.4)	55 (34.0)	48 (29.6)	1.83	1.40

Some employees lack confidence in using e-learning tools	14 (8.6)	76 (46.9)	45 (27.8)	18 (11.1)	7 (4.3)	2.6	1.87
Our work culture encourages e-learning practices	20 (12.3)	52 (32.1)	42 (25.9)	40 (24.7)	6 (3.7)	2.46	1.82
I believe there is the need to invest on e-learning resources	63 (38.9)	74 (45.7)	15 (9.3)	4 (2.5)	4 (2.5)	3.89	1.49
Our social orientation encourages e-learning adoption	26 (16.0)	68 (42.0)	41 (25.3)	17 (10.5)	6 (3.7)	2.79	1.91

Table 4.24 above is showing results of measuring BI Likert scale and its analysis.

Weighted Average *= 3.83 + 1.87 + 1.83 + 2.6 + 2.46 + 3.89 + 2.79 / 7*

= ***2.75***

The data analysis for behaviour intention shows that **42.85% (3 out of 7)** of the respondents appeared to feel that given the opportunity to use the system, they intend to use it. Also, they felt that there is a need to invest in e-learning resources. Respondents also believe that their social orientation encourages e-learning adoption at their organisations. However, **57.14% (4 out of 7)** of respondents had a low perception on the behaviour intention to adopt and utilise e-learning practices at their organisations. For example, the majority of respondents feel that they are afraid of failure. Conversely, they perceived that they are not embarrassed at their levels of competence for e-learning practices. About 8.6% have shown that they lack confidence in using e-learning tools. 44% of respondents perceived that their work culture encourages e-learning practices.

The section that follows illustrates Organisational Factors (considerations and processes in organisations that can enhance e-learning adoption and utilisation) values; missing, mean and std deviation as shown in Table 4.23 of the following sub-section.

4.3.11 Analysis of Organisational Factors

Organisational factors were assessed to investigate aspects of the work environment and organisational context that can impact employees' attitudes and behaviour towards e-learning adoption and utilisation.

Table 4.25: *Frequency of measuring Organisational Factors (OF)*

Statistics

		PE5	SI5	BI5	BI7
N	Valid	159	158	160	158
	Missing	3	4	2	4
Mean		2.8365	2.2975	2.4625	2.7975
Std. Deviation		2.00592	1.83910	1.82191	1.91461

The Likert scale used in measuring organisational factors for adopting and using e-learning practices is like the Likert scale used in the other UTAUT constructs, where 5 means strongly agree, 4 means agree, 2 means disagree, 1 means strongly disagree and 0 means undecided.

The following table 4.26 shows analysis of organisational factors items' Likert scale responses, percentages, mean and std deviation.

Table 4.26: *Results of measuring Of Likert scale and Analysis*

Item	**SA (%)**	**A (%)**	**UND (%)**	**D (%)**	**SD (%)**	**Mean (%)**	**σ stdev**
My organisation benefits from e-learning practices	35 (21.6)	61 (37.7)	47 (29.0)	16 (9.9)	0 (0)	2.83	2.00
The organisation prepares employees on the use of e-learning system	16 (9.9)	51 (31.5)	47 (29.0)	35 (21.6)	9 (5.6)	2.29	1.83

Our work culture encourages e-learning practices	20 (12.3)	52 (32.1)	42 (25.9)	40 (24.7)	6 (3.7)	2.46	1.82
Our social orientation encourages e-learning adoption	26 (16.0)	68 (42.0)	41 (25.3)	17 (10.5)	6 (3.7)	2.79	1.91

The table above shows results of measuring OF Likert scale and its analysis.

Weighted Average *= 2.83 + 2.29 + 2.46 + 2.79 / 4*

= ***2.59***

To gauge the analysis for organisational factors, iteration of the values was done in the mean column, and the value was checked to see if it was greater than or equal to the weighted average. If the mean was greater than the weighted average, it could be interpreted that many respondents have agreed to the question. The data analysis for organisational factors shows that **50% (2 out of 4)** of the respondents felt that their organisation benefits from e-learning practices. Also, they felt that their social orientation encourages them to use e-learning practices at their organisations. However, **50%** of respondents had a low perception of the organisation preparing them for the use of technology. The majority feel that they do not feel prepared by their organisation to use online technology. They also perceived that their work culture encouraged e-learning practices. The responses could imply a barrier to use of e-learning platforms.

4.4 Chapter Summary

This chapter examines, analyses, and interprets the collected data from the quantitative phase. The findings of this study are derived from questionnaires with the main aim to investigate the acceptance and use of workplace e-learning practices in a selection of

organisations within the Namibia public sector. The questionnaire consisted of five sections representing the UTAUT model constructs. The categories of PE, EE, SI, FC and BI constructs' items were on a 5-point Likert scale consisting between strongly disagree and strongly agree. Their hypothesised relationships were measured in the SEM procedure. SEM analysis revealed that correlations between model constructs generally have significant relationships, thus suggesting the data appropriate for factor analysis. Additionally, Cronbach's alpha values also showed adequate reliability for all the constructs, suggesting model fitness for the study.

It was revealed in this study that there are positive perceptions of performance expectancy by employees agreeing that e-learning adoption improves work performance at their organisations. On effort expectancy construct employees found that the utilisation of e-learning is easy, hence requiring less effort to perform tasks using e-learning platforms.

The next chapter presents qualitative research findings data. These are the results obtained from semi structured interviews primarily on perceptions, attitudes, opportunities and challenges regarding adopting and utilising workplace e-learning practices in the Namibian public sector.

CHAPTER 5

QUALITATIVE RESEARCH FINDINGS

5.1 Introduction

The qualitative inquiry findings were used to fill the gaps in quantitative research. Prior to the commencement of the qualitative study, semi structured interview guides were developed for both managers and employees. A pilot study was conducted on the experts to revise the questions and provide feedback to refine the instruments. The assessment of participants' perceptions, attitudes, opportunities and challenges regarding adopting and utilising workplace e-learning practices in the Namibian public sector provided outcomes to validate prior investigations' conclusions. The themes analysed in this section transpired as a result of the review of literature and the quantitative and qualitative studies. These included the following constructs and concepts as illustrated in table 5.1 below. The table also shows the relatedness of both qualitative and quantitative items for this study.

This phase primarily addressed the third objective of this study which sought to determine perceptions, attitudes, opportunities and challenges. At the end of this chapter the findings of both quantitative and qualitative phases were merged to provide the overall clear understanding of adoption and utilisation of e-learning, thus providing guidance to Namibian public sectors' effective use of workplace e-learning practices. Additionally, explanations for unanticipated findings were provided, which were answers to the hypotheses of this study.

Table 5.1: *Themes and Relatedness of Questionnaire and Interview Items*

Construct/Concept	Questionnaire Items	Interview Items
Attitude	SI1-Management support…can improve employees' performance SI2-Shared knowledge… is effective in the organisation SI3-Continuous training and development…motivate employees… SI4-My colleagues influence my behaviour to use e-learning…	2. What do you think employees are saying about e-learning practices in the organisation? 4. What are your views regarding e-learning support to employees when they need it?
Performance Expectancy	PE1-E-learning practices improve employees' work performance PE2-E-learning practices increase employees' productivity PE3- The use of e-learning saves time for workplace learning PE4- The use of e-learning improves collaborations with others	1.Do you find e-learning practices effective in your organisation?
Effort Expectancy	EE1-Employees find the use of e-learning tools easy EE2- Management can complete any job timely using e-learning EE3- I can share ideas with others through e-learning tools EE4- It require a lot of effort to perform tasks…	5.How do you determine employees' usage of e-learning practices in the organisation?
Facilitating Conditions	FC1-We need IT skills to use e-learning system… FC3-Relevant e-learning system of good quality is available FC4- Employees understand e-learning policy in the org. FC6-Training manuals for e-learning support are available	9. What suggestions do you have to further improve the adoption and utilisation of e-learning in your organisation?
Organisational Factors	FC5-There is financial allocation in planning for e-learning adoption BI5-Our work culture encourages e-learning practices BI7-Our social orientation encourages e-learning adoption PE5-My organisation benefits from e-learning practices	3.Do you think employees' needs are considered when planning e-learning programmes in your organisation?
Behaviour Intention	BI1-Given access to e-learning system, I intend to use it at work BI2-Employees have fear of failure to use e-learning system BI6-I believe there is the need to invest on e-learning resources	8. How do you for see the future of e-learning practices in your organisation in the near future?
Challenges	BI4-Employees lack confidence in using e-learning tools FC2- Inadequate resources for e-learning practices are a challenge EE5- Learning to use-learning platform is difficult	7.What challenges do you encounter with e-learning practices in your organisation?
Opportunities	PE5-My organisation benefits from e-learning practices	6.What opportunities do you encounter with e-learning practices in your organisation?

The table 5.1 above shows the main themes as well as related items from the quantitative and qualitative phases of the study. Questionnaire items in the above table can be found in the survey instruments attached as appendices A and B, while the interview items can be found as appendices Cand D respectively.

5.1.1 Perceptions regarding workplace e-learning practices support

Respondents expressed varying views towards e-learning support. The majority alluded to the management and technical support in their organisations expressing words of commendations to their organisations for the support they receive. Respondents specifically indicated the online training, equipment like laptops and materials that help them to continuously learn such as provisions that include guidelines on how to conduct virtual meetings through Zoom and Microsoft teams. This showed indications of acknowledgement of new attempts towards e-learning improvements and that could imply positive perception towards e-learning practices support. Other perceptions were associated with the use of incentives and pressure policies (Chung, Lee, & Kuo 2015; Zainab et al., 2017). Respondents indicated that they do not have e-learning policies in their organisations.

To validate this contention, some respondents made the following statements:

Respondent 9:

There is no a policy on e-learning platform in our organisation. After Covid at some point we had to close the institutions. Employees were forced to use the platform. Because most of the communication were done online, meeting was done online. That was something we continued doing even after Covid went down.

Policies relating to the use of e-learning in organisations have been researched by different scholars. Incentives and pressure policies were reported to be positively

influencing behavioural intention with incentive policies more effective (Hsiu-Ying Chung et al., 2014; Zainab et al., 2015). Incentives can be rewarded for various reasons including performance, teamwork, communication, information sharing and overall excellence on the job. Such initiatives can motivate and encourage employees' commitment to learn and achieve more. Therefore, e-learning policies in the public sector organisations are important and should be developed and implemented to enhance behavioural intention and continuous usage of e-learning. It can be assumed that lack of commitment is likely to bring about mistrust, demotivation and negative attitude towards e-learning leading to its total rejection.

Attitude towards use is positively affected by policy factors such as incentive and pressure policies and negatively affected by barrier factors such as personal, content suitability, and situational barriers (Chung, Lee, & Kuo 2015; Zainab et al., 2017). Furthermore, Yoo & Han (2013) discovered that attitude plays a crucial role in predicting the intention to use e-learning.

Research has indicated that the use or rejection of technology is linked to social support. As illustrated in Albert Bandura's Social Learning Theory he argues that learning occurs within a social context, when individuals interact, they eventually influence one another towards certain behaviours. As a result, this study has also found that the influence of the significant others such as peers and management as they provide support is pivotal and important to encourage behaviour intention of employees to adopt e-learning practices. As acknowledged by Al Mulhen (2020), key factors contributing to effectiveness of organisations' technology adoption, among others availability of support was identified. Additionally, the support was found to be influencing self-efficacy. Therefore, Namibian public sector organisations should nurture and advance efforts to enhance a supportive environment to employees for

effective adoption and utilisation of e-learning practices. It can be assumed that the lack of support can discourage employees to effectively use e-leaning practices in the organisations.

Respondent 6:

It was hectic as we didn't know anything about those platforms. But after that awareness guidelines we were so equipped.

It is therefore important for public sector organisations to provide necessary skills and knowledge for e-learning systems and the use of available platforms. Studies have shown that knowledge of the system can encourage behavioural intention to use e-learning. It was found that users' behavioural intention towards e-learning systems are mainly influenced by behavioural attitude (Chung et al.2016). Therefore, training and development on e-learning systems can go a long way in harnessing e-learning practices in the public sector organisations.

Respondent 7:

The support we get is to learn from where we are, materials are usually sent in advance to prepare and even after the training follow up consultations are made online.

While most respondents show a positive perception towards the support they get on e-learning practices, they also have resentments that strain their efforts. Some of their concerns were their colleagues' reluctance to change. Studies have shown that resistance to change was found to affect effort expectancy, influencing behavioural intention (Chung, Lee, & Liu, 2014). Employees must be made to understand that e-learning is a necessary tool for their individual and organisational development. Therefore, e-learning practices in public sector organisations is inevitable, change and must be embraced by employees.

On another note, one of the respondents compared online training to traditional training, particularly on the issue of travelling to the training location. She further negated the support for online training by giving assertions that some employees might lose out on overtime claims, which may be regarded as essential to some employees. However, there was an observation from other respondents, referred to as clinging to the traditional way of doing things. Some cited incidents of low motivation by employees who dislike reading and always grumble about using the computer.

Respondent 4:

I remember that IT manager developed a course and asked employees to go through it and find glitches from it and give feedback to better improve it. However, most of our workforce don't really like to read, about 10% only attended to the survey.

Studies have shown that motivation is important and necessary for acceptance and usage of e-learning technology. The respondent's view concurs with some studies that researched on motivation. A related study revealed that the conduct of the individual is influenced by both internal and external incentives (Davis, Bagozzi, & Warshaw, 1992; In Kirstein, 2010). For an individual to perform a task is associated to enjoyment and fulfilment (Davis et al., 1992; Vallerand, 1997). This could mean that public sector organisations should make their e-learning systems enjoyable to the users for them to be effectively adopted. The willingness to utilize the system also has been associated with effort expectancy; thus, easiness to use e-learning systems can enhance users' engagement into investing time and effort in e-learning practices.

Respondent 15:

Even during restructuring some employees who were placed in other departments and required to use computers were complaining that it was too hard and challenging.

Lack of knowledge can hamper employees' motivation for behavioural intention and continuous use of technology. The fact that some employees complain about the difficulties with using computers is a testament that relevant needs have to be addressed timeously. Considering that employees in public sector organisations have varying educational levels it requires provision of relevant education to cater for their different contexts to allow ease of use. In response to the challenges respondents encounter in the organisation one of them pointed to grouping the employees without considering their knowledge and skills during the trainings. That was perceived as causing demotivation to both parties.

More so that research has revealed that people can make good relationships and form bonds with those who share common traits with them in characteristics, it thus makes sense to place employees accordingly during training sessions. To justify the advantages of education (Alajmi, Md. Khambari, Luan, & Rahim, 2019) allude to trainee interactions, quick access to information and restoring course content as well as supporting content creation as voice and video recordings. A learning environment that takes care of the different learning needs and styles can possibly foster effective adoption and utilisation of e-learning practices in the public sector organisations.

5.1.2 Organisational Factors for workplace e-learning practices

To understand organisational factors the respondents were required to indicate how they find e-learning practices effective in their organisation. This item was responded to differently, with the majority responding in the affirmative, thus suggesting that they find e-learning practices effective. When probed to provide reasons for their responses, they accounted for collaborations, research, and group discussions to help one another. **Respondent 3** had this to emphasize this point; *Our instructor is the one who gave us*

the idea of forming groups, so that we can help one another in situations where we experience some difficulties. Where content is difficult, we research together, collaborate and understand in groups. This indicates that while employees benefit from e-learning activities through group activities that also enhances other skills like communication, problem solving and skill-sharing.

For other organisations planning for e-learning, it is available through financial budgets for employees to purchase gadgets. **Respondent 4** indicated that; *arrangement has been made for the trainees to get allowance to buy laptops. They would not give any excuses like; we have a platform, but we do not have access to it.* There were variations pertaining to procurement of the equipment with some employees indicating no plans in the organisations. Some even narrated situations of lack of skills associated with insufficient use of computers due to shortages. For those organisations that make arrangements to purchase electronic devices such as **Respondent 5,** he expressed how the plan has effectively contributed to e-learning practices in the organisation as he said, *today we don't have to wait for other people to attend a meeting, our meetings are held online with everybody attending. Wherever you are you can connect and there are no more excuses for not attending meetings.*

Some justifications attached e-learning effectiveness to their improvement of skills and work performance easiness. They indicated that they also find it efficient and necessary in the current day-to-day business of sharing information and learning processes. They seemed to be excited when one of the respondents expressed the excitement to say the old times are gone when things were done manually. For others, there is flexibility with time allocation and employees' discipline in e-learning. For instance, one of the managers indicated that they have a policy that allows employees to watch YouTube videos and are allowed access to personal growth. He had this to

say; *As long as it doesn't take a lot of your work time, people have leeway to balance work and leisure, that is why it is effective.*

One of the respondents quoted verbatim is as follows:

Respondent 8:

…it's very effective because we can't survive without learning especially that in organisations things are changing every time. In the IT industry where we are working things change rapidly. Learning is necessary but e-learning is very important.

5.1.3 Behaviour Intention for adoption and utilisation of workplace e-learning practices

Behaviour Intention was revealed when some of the employees indicated that they find the platform they use easy. Some suggested that they use videos, especially for understanding content in their training, and they find it interesting. In addition to that another respondent cautioned by indicating the importance of developing content that is engaging by including online questions to make training lively and interactive. Another respondent mentioned that they opened WhatsApp groups to facilitate discussions among employees when necessary. The other important aspect that can influence the intent to use e-learning is accessibility to the system. Some of the respondents who indicate that they have a system in their organisation can access it both in the office and when they are outside. One of them said; *We can access our website from anywhere outside the work environment*. *However, you are monitored to ensure that you use it only for work-related issues and not anything else.* While employees can celebrate accessibility of their website, on the other hand denying them that liberty may lead to inadequate practice that could otherwise enhance their motivation to use e-learning in the organisation.

The following is one of the excerpts as quoted verbatim:

Respondent 3:

Sometimes we watch a video when the instructor is out for a meeting or something, then we can watch a clip, learn, and discuss.

The use of different methods on learning can enhance employees' behaviour intention to use e-learning practices. As revealed employees' continuance behaviour of e-learning adoption includes satisfaction (Hsiu-Ying Chung et al., 2014; Garg & Sharma, 2020) and personal factors such as attitudes and performance expectancy (Kapo et al., 2020). The participant's response reveals factors such as satisfaction and positive attitude being promoted through methods like videos for interactive activities. While these can make content easy to understand, they can also enhance effective adoption towards e-learning.

5.1.4 Challenges with workplace e-learning practices

In response to this question, it appeared that organisations have more challenges than gains. The majority of the respondents were disgruntled about infrastructural issues like shortage of resources, lack of access to e-learning systems due to poor network coverage, slow and freezing of internet due to low bandwidth. **Respondent 4** emphasized this by saying; *Our internet can only be accessible when using the organisation laptop, when I use my own personal laptop, I have to buy data but some employees are forever in the field so when they are in a place where they cannot access it is a problem.* Another challenge revealed was lack of knowledge as most employees are older and lacking motivation to use e-learning practice, lack of monitoring resulting in divided attention by the users, as well as communication barrier since some employees have a challenge understanding English since e-learning content is in

English. It was indicated that about 75% of the employees are from old school and need more knowledge and motivation. As illustrated by **Respondent 1**: *Sometimes in organisations you will find employees who cannot read especially that e-learning content is in English. There are people who don't understand English.*

One of the respondents mentioned discipline as one of the challenges. The respondent indicated that e-learning is self-directed. Learners should be accountable for their time, management, motivation, communication, and readiness. If they cannot read and understand e-learning content, it becomes a challenge. In another point employees pointed out a challenge of putting together the skilled and un-skilled in the same training session. They mentioned that it can cause demotivation to both the over-performer and under-performer. This can be associated with poor structured content delivery resulting from unskilled manpower, or poor preparation for the learning environments. These need thorough interrogations and clear understanding for effective adoption and utilisation of e-learning practices in the workplace.

In agreeance with other participants in this study, **Respondent 10** has this to say: *More should be done when you work with public sector employees, they lack basic knowledge of Moodle, so more should be done at organisations level to give employees more practice.* According to this employee, without sufficient practice on e-learning platforms effective results are unlikely to be achieved.

5.1.5 Opportunities with workplace e-learning practices

On the opportunities, most of the respondents emphasised that e-learning enhances learning. It helps users advance in their work performance. The other employee mentioned their knowledge of cybersecurity courses as an outstanding achievement in e-learning practices. It enabled them to upload and secure their customised content,

which can only be accessed by colleagues within their organisation. Another opportunity mentioned is that there is so much to learn to enhance your skills to perform. On another note, some employees are elated with e-learning practices, citing issues that include marketing their organisation at a large scale. They indicated that many people can access their information through their website, others can register and enrol for the courses they advertised and attend from the comfort of their own spaces and time. It allows for a larger size since more participants can be fitted in a session than in the traditional face-to-face class. Another one concurred to say that one can learn a lot in a shorter period. E-learning can save money when traveling to attend training.

To validate the assertions, below are the respondents' quotes;

Respondent 9:

We have an advantage of running the class from here while our participants are connecting from anywhere even outside the country. However, we need to improve NIPAM, provide more courses that can equip employees with relevant computer skills, expand resources and attract quality trainers to meet the needs of the public service.

While some participants acknowledge the available resources for e-learning adoption and utilisation in the public sector, they still suggest other ways to augment their limited skills. They perceive considerations that include expansion of curriculum content, equipment and staff with requisite skills. On the other hand, employees appreciate their organisations for the new skills they have attained as indicated by **Respondent 12***; We did not know anything like Zoom and Microsoft Teams. Covid 19 brought new things to learn from. If we can have enough scheduled time to learn and collaborate in organisations, we can effectively use e-learning in the public sector.*

5.2 Discussion on the Findings of the Quantitative and Qualitative Phases

In the preceding sections of this chapter the results for quantitative and qualitative studies were presented. This section therefore consolidates the findings of two phases as well as analysing and relating them to literature and research objectives on adoption and utilisation of workplace e-learning practices in the Namibian public sector. This will provide guidance on enhancing the effective implementation of e-learning in the public sector organisations.

Additionally, the relationships among variables were interrogated. The results reveal the outcomes from analysing factors: PE, EE, BI, P, FC, and OF.

At the outset of this discussion clarity has to be made in this study that Perceptions (P) was included among UTAUT model constructs. The significance of P became apparent in the literature review and the interviews revealed as significant in influencing the intention to use e-learning. Different factors, such as the environment and other related factors, can significantly influence an individual's perceptions towards e-learning adoption and utilisation in the public sector. The findings of this study indicate that several independent variables influence e-learning practices in the public sector of Namibia.

5.2.1 Relationships Among Variables

These variables include PE, EE, FC, OF, and P towards BI. The behaviour intention has influence on the continuance use and ultimately adoption and utilisation of e-learning. Characteristics, including age, satisfaction and level of education additionally influence these factors. It is worth noting that this study revealed a significant correlation between various organisational factors and their direct influence on the subject's continued use. Another notable discovery is that satisfaction was

identified as a component that influences the use of e-learning; as shown by the study, user satisfaction plays a vital role in determining ongoing desire to adopt and utilise workplace e-learning practices. The respondents outlined several benefits within public sector organisations due to the e-learning technology, implying their satisfaction. However, the challenges the respondents decried could indicate some dissatisfaction with adoption and utilisation of workplace e-learning practices in their organisation, thus requiring the concept of satisfaction to be further investigated in future within the Namibian public sector.

5.2.2 Performance Expectancy and Behaviour Intention

The performance issue has been consistently recognised as a critical predictor in numerous previous research regarding users' intent to adopt and use novel technology. Research offers many features and advantages that facilitate individuals in enhancing their performance throughout various domains of their lives (Čevra et al., 2022). A hypothesis was formulated to investigate the relationship between the performance expectation component and users' willingness to accept and use e-learning in the Namibian context. The research results indicate a statistically significant and positive correlation between users' behavioural intentions to embrace and exploit e-learning and the performance expectancy component in the Namibia context. The present study discovered that users' expectations regarding their own performance exhibited the most substantial positive correlation among the several elements that influence users' behavioural intentions towards the adoption and utilisation of e-learning in Namibia. The findings indicate a positive correlation between the anticipated effectiveness of e-learning and the level of easiness with which users adapt and use the platform. The results of this study evidently show that e-learning service providers and other relevant parties have the potential to enhance prospective users' intent to use e-learning. This

achievement can place emphasis on factors that contributing to the improvement of e-learning devices, such as computers and the internet. It can be observed that individuals utilising e-learning in Namibia highly value the performance of the system. They hold the belief that improving the system's performance will result in increase of e-learning. The individuals experienced a similar sentiment regarding an influence of an effective e-learning environment on their level of productivity.

The results agree with the research conducted by Chao (2019) and DeRouin et al. (2004) on the same subject matter. Based on the study results, it is possible to conclude the relevance, positivity, and importance of user intention to embrace and utilise e-learning in Namibia. These findings align with previous research conducted in this field. Furthermore, the potential enhancement of performance and productivity within Namibian public sector organisations can be ascribed to the increased efficiency of e-learning. Based on the data collected, it can be inferred that the respondents' performance was positively correlated with their perception that utilising e-learning enhances their work performance and productivity.

5.2.3 Performance Expectancy and Perceptions

Studies have shown that a person’s feeling about their performance influence their perceptions either positively or negatively. A good feeling about using a technology brings about positive effect. Conversely, a negative feeling is likely to attract negative results. This argument is in accordance with recent studies (Andrews et al.,2021; Jiang et al.,2021; Singh et al. (2021) in (Rizkallaa, Tannadya, & Bernandoa, 2024), that Attitude Toward Behavior has a positive influence on the intention to adopt. The response below raised another perspective on the issue. According to Respondent 15; *a lot still has to be done. Currently we have a system where employees are required to*

do simple things for themselves like retrieving their own pay slips but they still prefer it printed for them. I think people lack skills, maybe there is need for a central school for government departments like in other countries to which are specific department on e-learning training. Perceptions can lead to the formation of habits, particularly when behaviours related to the attitude are repeated and reinforced. This leads to performance expectancy being affected by perceptions in the public sector. Since employees were used to printed payslips, they developed habits which led to negative perception towards the use of online services. The findings showed positive correlation between performance and perceptions. This indicates that organisations should promote the right attitude for employees to be able to adopt and utilize e-learning practices.

The justification as alluded by the respondent may be one of the reasons the employees have not effectively adopted workplace e-learning practices. However, one cannot dismiss other factors related to perceptions employees have developed due to their experience. The researcher's view could be that a person who is assured of being provided for always, is likely to develop a relaxed attitude. In their description of attitude, Garc´ıa-Santillan et al., (2012) it is a trend that is formed over time due to feelings and emotions experienced. Hence, the performance may be a result of the experience. The suggestion in this scenario could be for organisations to provide relevant resources as well as experience that foster positive optimism. One other reason worth mentioning is as alluded by **Respondent 4***; Our internet can only be accessible when using the organisation laptop, when I use my own personal laptop, I have to buy data but some employees are forever in the field so when they are in a place where they cannot access it is a problem.*

The respondent presented this point as one of the challenges in the organisation. The researcher can view it as a contributing factor to a negative perception as it could deprive the user sufficient time for learning encounters. Mohd Asarani and Ab Rahim (2016) concur as they emphasize the need to maintain a consistently operational system to prevent unfavourable learning experiences required for effective adoption of e-learning. As hypothesized; Performance Expectancy is positively and significantly associated with Perceptions ($P < .05$); therefore, H7 is supported, PE has influence on P.

5.2.4 Effort Expectancy and Behavioural Intention

Based on the research conducted by Venkatesh (2003), EE was defined as the level of ease connected with the adoption and utilisation of workplace e-learning practises inside organisations. Previous research has consistently demonstrated a significant and positive association between the EE factor and users' intention to adopt and utilise e-learning (Venkatesh et al., 2003; Šumak and Šorgo, 2016; Hoque and Sorwar, 2017). Based on this evidence, the study examined the relationship between the EE component and the probability of users embracing and employing e-learning.

The outcomes of this study reveal the ease of e-learning tools, and this may be the reason that the study employed purposive sampling to target participants involved in workplace e-learning practices. This also could be related to some of the interview responses as cited verbatim;

Respondent 5:

"Today we don't have to wait for other people to attend a meeting, our meetings are held online with everybody attending..."

To a certain degree, the above respondent's view can be interpreted as an encouraging and welcome development that employees derived satisfaction from. It could also indicate that e-learning platforms have solved the problems like delays and poor attendance they used to suffer during staff meetings. It seems the change brought about excitement and a sigh of relief resulting in productive job performance.

Respondent 9:

"After Covid 19 at some point we had to close the institutions. Employees were forced to use the platform. Because most of the communication were done online, meeting was done online. That was something we continued doing even after Covid 19 went down."

The analysis shows a substantial and positive association between users' intent to adopt and use e-learning and their expected effort level. The results indicate a direct correlation between users' willingness to embrace and employ e-learning and the increase in EE within the e-learning system. The Namibian public sector can boost users' willingness to accept and utilize e-learning by focusing on characteristics that enhance effort expectations, like improving simplicity and user-friendliness. The outcome reported in this study is corroborated by the results of prior research conducted by Venkatesh in 2022 (Venkatesh, 2022). Based on Venkatesh's study and other studies in the relevant scholarly literature, it can be deduced that the Namibian public sector's inclination to adopt and employ e-learning technologies can be significantly impacted by efforts focused on improving their usability. However, in this study this hypothesis was not significantly supported.

5.2.5 Perceptions and Behaviour Intention

This study incorporates the perception factor, which encompasses social influence, as it is posited that various social factors influence an individual's positive or negative perception. As previously mentioned, certain underdeveloped countries' social impact component may vary. A study conducted by Venkatesh (2003) identified a significant relationship between individuals' acceptance and utilisation of online platforms and the social impact component. This study revealed that social impact can be encompassed within the users' perceptions, hence incorporating it as an overarching factor in this study. Yoo and Han (2013) state that attitude is a key factor in forecasting the inclination to utilise e-learning. The study aims to investigate users' perceptions and their likelihood of adopting and using e-learning. This study revealed a substantial correlation between users' perceptions and their intention to use e-learning practices. Relative to other studies, attitude is considered the most predictive of e-learning use (Bhuasiri et al., 2012; Lai, 2017). Several prior research has identified various factors associated with the social impact on individuals' acceptance and utilisation of smartphones and similar technologies (Ajzen, 1991; Davis et al., 1989; Fishbein & Azjen, 1975; Mathieson, 1991; Taylor & Todd, 1995a, 1995b).

Namibia's cultural landscape is unique because of strong personal relationships and essential networks inside Namibian society, which are based on African cultural traditions. Research indicates that people's perceptions can positively influence their e-learning behaviours. The results of this study are consistent with prior research that has established a strong and statistically significant connection between the adoption of e-learning and its societal influence. Yoo & Han (2013) found that employees' attitude is positively affected by PE, while Zainab, Awais Bhatti, et al. (2017) propose facilitating conditions and social impact as predictors of attitude.

5.2.6 Organisational Factors and Behaviour Intention

This study's results show that behaviour intent significantly influences organisations' decision-making on adopting and using e-learning (Venkatesh, Morris, Davis, & Davis, 2003). The results from the questionnaire show that behavioural intention is a dependable and decisive indication of how e-learning is adopted and used in professional environments. This study used various indicators of behavioural intention, such as employees' lack of confidence in using e-learning tools, the absence of a culture that encourages adopting workplace e-learning practices, the necessity for investment in e-learning resources, and the expressed intention to use e-learning in organisations. The current study proposes a hypothesis to investigate how behavioural intention may affect consumption patterns. This study's results suggest that organizational factors significantly influence the decision-making process regarding adopting and utilising e-learning (Venkatesh, 2003). Organisational characteristics directly impact the adoption and utilisation of e-learning. The questionnaire results show that organisational variables strongly influence the adoption and use of e-learning. E-learning technology adoption is affected by employees' time management, self-discipline, e-learning planning, and financial and human resource issues. This hypothesis aimed to investigate how organisational characteristics impact consumption patterns.

5.2.7 Organisational Factors and E-learning Use

The analysis results indicate a favourable relationship between organisational characteristics and the use of e-learning components. E-learning in organisations might be positively influenced by aspects related to management. This finding aligns with other studies that have similarly shown organisational characteristics as a significant determinant of actual usage-management associate incentive and pressure policies to

impact BI positively (Chung, Lee, & Kuo, 2016). The assumption could be that if there are e-learning policies, management of e-learning practices could be effective, thus encouraging e-learning usage in the organisations. Factors that include time allocation, discipline, and different learning styles of employees on workplace e-learning practices could be addressed by enacting relevant mechanisms of such management policies. Similarly, in the study by Mohd Asarani and Ab Rahim (2016), it was suggested that some of the challenges identified, such as procrastination, struggling to create time, discipline and motivation, could be alleviated by introducing incentives. One example of the incentives in the above-cited study is e-learning in Malaysia being provided for free to public servants to encourage them to enrol; the course was not mandatory, that was to enable personal choice of course and duration. Relative to the cited example, in this Namibian study the findings reveal that some respondents preferred to cling to the traditional way of learning over e-learning, so introducing incentives may somewhat bring about change in e-learning viewpoint and could act as a motivating factor towards its adoption and utilisation.

Organisational factors also could include issues of planning and support from various contexts. The assumption is that a lack of these may jeopardize using workplace e-learning practices in organisations. Empirical research has shown proof of the importance of peer support, technical, planning and delivery of e-learning content and their significance to adoption and utilisation. However, similar trends in organisations of study reveal that planning for e-learning could be presumably uneasy owing to ineffective usage of e-learning due to challenges encountered by these organisations. There is generally a shortage of resources, insufficient access to online systems due to poor network coverage, and slow and freezing of the internet due to low bandwidth. In addition to the above common challenges, this study uncovered lack of knowledge

as most employees are older hence no motivation to use e-learning, lack of monitoring resulting in divided attention by the users, as well as communication barrier since some employees have a challenge understanding English language used for e-learning content. Considering the myriad issues, it can be inferred that organisational factors have a significant and beneficial role in influencing the actual utilisation of e-learning in Namibia. This observation aligns with past related studies conducted.

5.3 Chapter Summary

This chapter examines, analyses, and interprets the collected data from the qualitative phase. The chapter offered pertinent emergent topics, with raw data as extracts. The findings indicate that many respondents were involved in roles related to e-learning use or overseeing its adoption, informing others about e-learning practices. Most participants hold the opinion that e-learning enhances job performance. The results indicate that the correlation coefficients among items are suitable for factor analysis, suggesting that the model is reliable. This chapter included the literature review, quantitative and qualitative analytical findings. It also featured an initial proposed conceptual model that was tested using quantitative methods. The quantitative stage identified the factors influencing adoption and utilisation in selected Namibian public sector entities.

Finally, the chapter provides and examines the findings from the qualitative stage. During the interviews, some noteworthy concerns were revealed. The perceptions encompassed the backing of management for e-learning, developing a national policy, and establishing a vital e-learning institution. It was also found that e-learning instructors' and tutors' viewpoints on the available materials have a substantial effect

on shaping their perspective on the effectiveness of e-learning. Similarly, the judgments of usability were influenced by experience and self-efficacy.

More importantly, the respondents suggested the importance of improving e-learning in Namibia. They mentioned the need to improve NIPAM by expanding resources and attracting more skilled manpower. They mentioned offering courses that include basic computer skills and other courses that can help employees gain e-learning experience. They also suggested public service schools like in other countries; whereby specific departments can concentrate on the learning and development of employees.

The next chapter presents the developed conceptual model: E-learning adoption and Utilisation of E-learning in Public Sector Organisations (AUEPSO).

CHAPTER 6

MODEL DEVELOPMENT

6.1 Introduction

The preceding chapter analysed and confirmed the factors identified in this study for model development. This chapter therefore presents a model based on the empirical evidence obtained. As a result of this scientifically proven evidence, concepts, variables and factors for adoption and utilisation of workplace e-learning practices in the Namibian public sector organisations emerged. Based on these the researcher developed a conceptual model called Adoption and Utilisation of Workplace E-learning in the Public Sector Organisations (AUWEPSO). Therefore, the model development has been illustrated and outlined in the presentation of the following sub-sections; SEM functionality and model fit assessment, correlations of model constructs, moderation analysis of constructs as well as a summary of hypotheses testing. Additionally, the chapter illustrates synthesis of theme factors and their descriptions for facilitating adoption and utilisation of e-learning practices in the public sector. Lastly, this chapter shows the significance of the research hypotheses to confirm the AUWEPSO model and ends with a summary.

6.2 Structural Equation Modelling (SEM)

Regression analysis was employed to assess the relationships between the UTAUT components and the use of e-learning practices. SPSS's REGRESSION function was used for regression analysis since it helped determine the factors influencing e-learning acceptance and usage. The path coefficients of linear correlations between observable and unobserved variables were identified using SEM in SPSS AMOS software version

27. SEM provides a more precise depiction of the connections among variables through a graphical representation (see figure 6.1 below).

6.2.1 Criteria Used for Assessing the Model

Model fit indices were utilised to assess the overall adequacy of the model to the data. Goodness-of-fit (GOF) tests were utilised to evaluate the measurement model. The main methods used to analyse this test are the degree of freedom (df), significant level (p-value), and Chi-square ($\chi 2$) statistics. The measurement model was evaluated using the Tucker Lewis index (TLI), relative Chi-square ($\chi 2$/df) test, goodness-of-fit index (GFI), comparative fit index (CFI), and Root Mean Square Error of Approximation (RMSEA). Table 6.1 below illustrates criteria used and model fit results.

6.2.2 Measurement Model with the Model Constructs PE, EE, P, FC and OF.

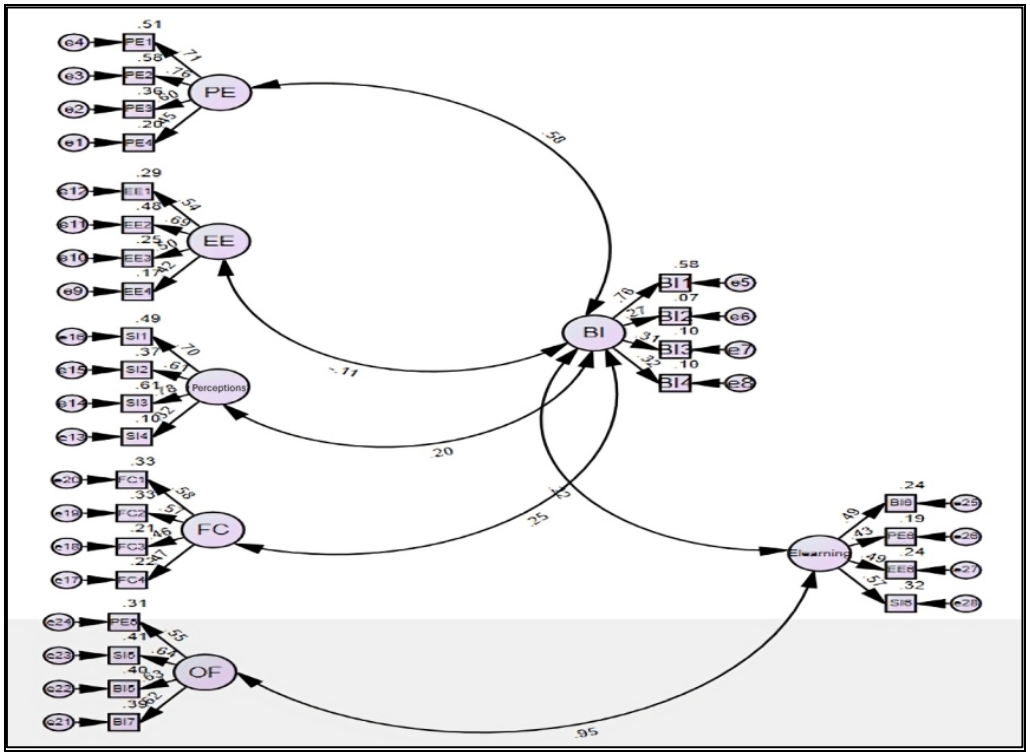
Table 6.1: *Model Fit Results*

GOF Indexes	Recommended Value	Final Model	References
CMIN/DF	≤ 3.00	1.590	Hair et al. (2006)
p-Value	≤ 0.05	0.01	Kline (2016)
GFI	≥ 0.90*	0.925	Byrne (2001)
IFI	≥ 0.90	0.811	Hu and Bentler (1998)
AGFI	≥ 0.80	0.710	Byrne (2016)
CFI	≥ 0.90	0.803	Marsh et al. (1988)
RMSEA	≤ 0.08	0.112	Hu and Bentler (1999)

The model's goodness of fit was tested through different measures shown in table 6.1 above, as indicated they include; CMIN, p-Value, GFI, IFI, AGFI, CFI and RMSEA. The GFI and AGFI range from 0 to 1. Values .90 or greater are indicative of an

acceptable model fit (Pituch & Stevens, 2016). As indicated in the same table CMIN is above .90 qualifying the model acceptable. The GFI indicates acceptable fit, while the AGFI which is thrift adjusted fit index (Schumacker & Lomax, 2016) suggests weaker fit.

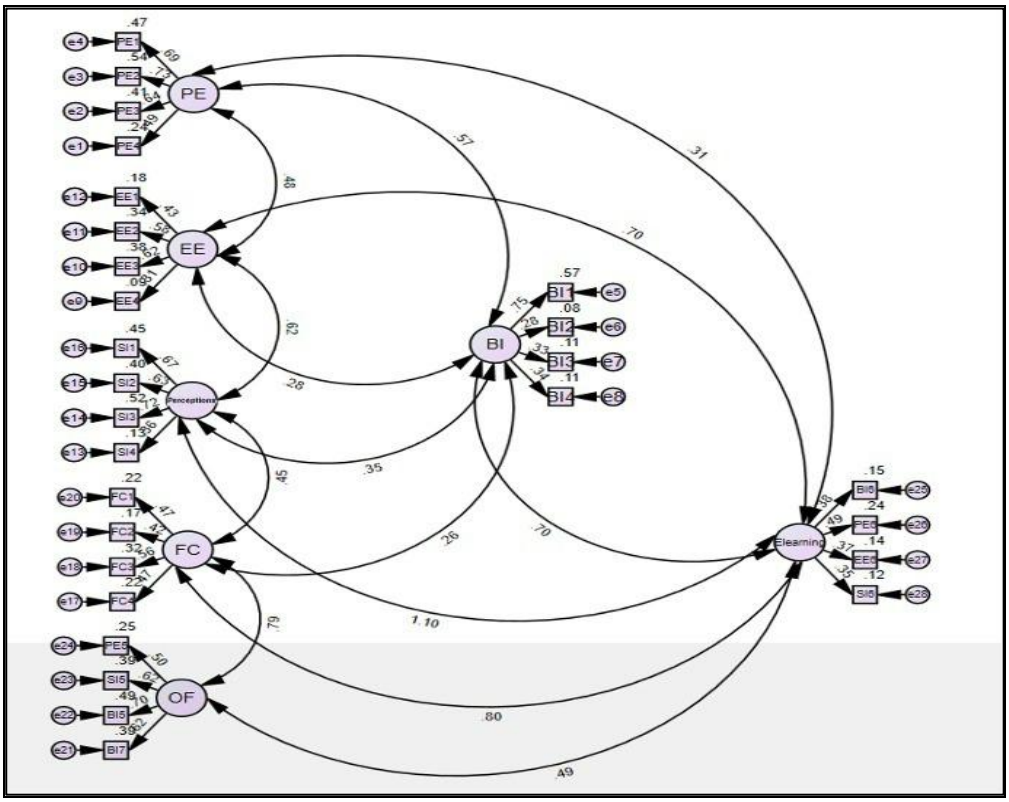
Figure 6.1: *Measurement Model with the Model Constructs PE, EE, P, FC and OF Correlations*



6.2.3 Proposed Measurement Model

The model outlines the correlations that indicate how measured variables depict adopting and utilising workplace e-learning practices in chosen public sector organisations. Two-headed arrows represent covariance between constructs, while one-headed connectors represent a causal channel from a construct to an indicator.

Figure 6.2: *Measurement Model with Covariances between Model Constructs*



On **SPSS AMOS software version 26**, clicking on 'Estimates', 'Scalars', and 'Regression weights' provides the unstandardized factor loadings. The loadings fixed to 1.0 do not include a significance test; however, the remaining test results are of the unstandardized factor loadings. In this output, all factor loadings are positive and statistically significant.

6.2.4 Moderation Analysis using SPSS AMOS

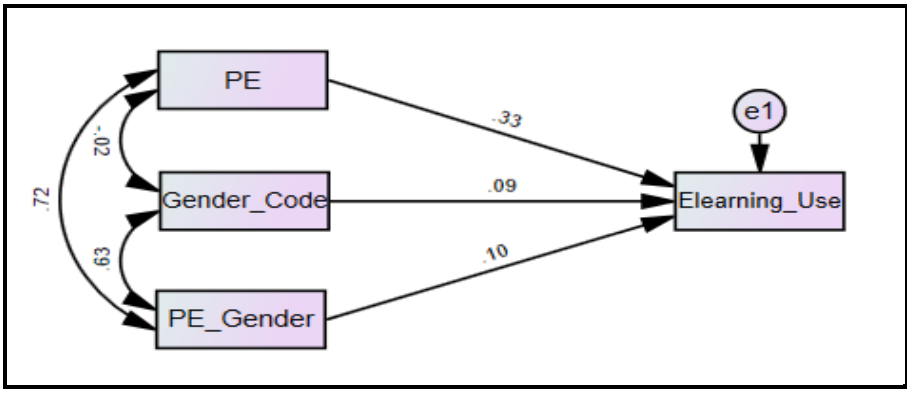
Moderation analysis examines the relationship between the dependent and independent variables when a moderation variable is present. The moderation analysis was performed using AMOS software version 27 to evaluate the intensity of relationships between independent and dependent components in the model. The study

examined moderating variables like gender, age, and education level. The moderating variables were expected to influence the strength of the association between independent variables (PE, EE, SI, FC, and OF) and dependent variables (BI and e-learning continuation).

6.2.5 The Effect of Gender on PE and E-learning Continuance Use

The effect of gender on PE and e-learning adoption and utilisation is interpreted as an explanation of a moderated relationship. The effect of gender, male (value 1 on the dataset) and female (value 2 on the dataset) on the performance expectancy of e-learning practices is assumed to vary based on gender values. PE is moderated with gender, **Gender code** is the moderation variable, **eLearning Use** is the dependent variable and **PE_Gender** is the interaction term of PE and gender.

Figure 6.3: *PE Moderation by Gender*

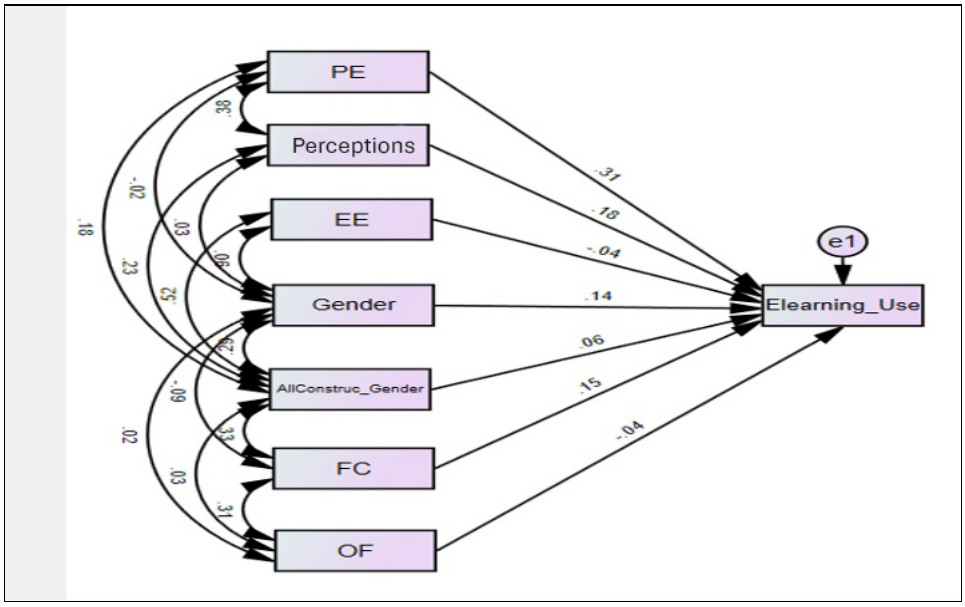


This figure shows PE moderation by Gender.

The moderating variable changes the direct influence of the independent variable on the dependent variable. The interaction between gender and performance anticipation did not significantly affect e-learning use, since the p-value of 0.720 above the

significance threshold of 0.001. Gender has minimal impact on PE and the use of e-learning.

Figure 6.4: *Simultaneous Moderation of Constructs by Gender*



The figure above shows the simultaneous moderation of constructs by gender.

The table **6.2** below summarises the effects of moderating gender on all dimensions in the simultaneous model. The difference in p-value between the baseline model and the constrained model for gender was not statistically significant ($p > 0.001$) across all constructs. Only (PE) showed statistical significance when gender was included as a moderator for e-learning utilisation. Thus, some paths differed between gender codes (1=males, 2=females).

Table 6.2: *Results of Moderation by Gender*

	ESTIMATE	S.E.	C.R	P	LABEL
Ele <--- EE	-.030	.067	-.447	.655	
Ele <--- Gender_code	.417	.222	1.882	.060	
Ele <--- AllConst_Gender	.000	.000	.597	.550	

Ele <--- FC	.129	.070	1.841	.066
Ele <--- OF	-.030	.058	-.507	.612
Ele <--- Perceptions	.159	.070	2.271	.023
Ele <--- PE	.302	.076	3.986	***

*The table above shows the results of moderation by gender, *** represents statistical significance.*

6.2.6 The Moderation Analysis with Age

The direct influence of all independent variables (PE, EE, attitudes, FC and OF) on adopting e-learning practices was measured/moderated by age. Age groups were used to assess the combined influence of age and model constructs on e-learning utilisation among selected sectors. The following age groups were re-coded as follows so that the values are numeric;

Table 6.3: *Age Group Values*

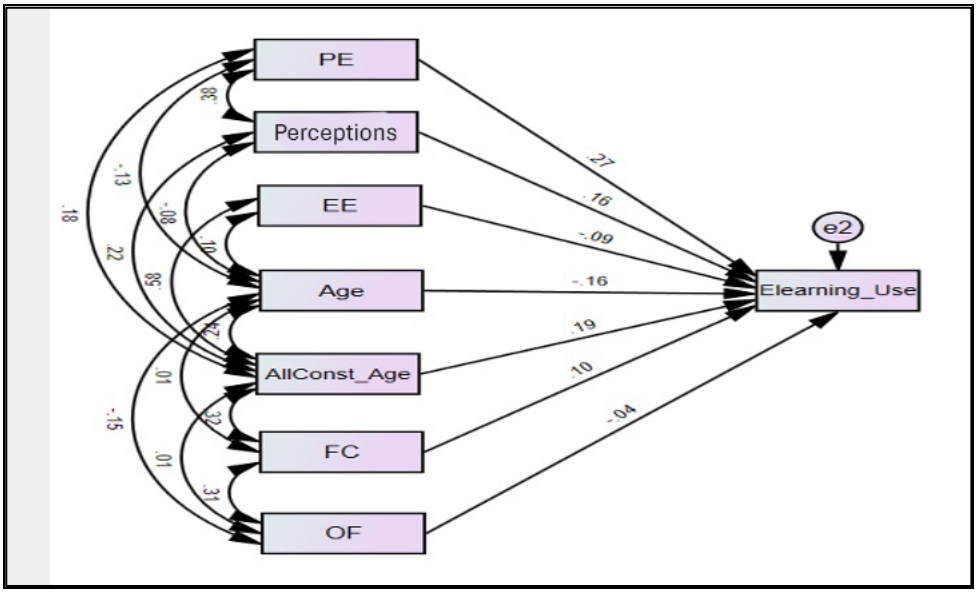
Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-30	33	20.4	20.4	20.4
	31-45	74	45.7	45.7	66.0
	46-60	54	33.3	33.3	99.4
	60+	1	.6	.6	100.0
	Total	162	100.0	100.0	

The table shows age group values.

Old Value	=	**New value**
18 - 30	=	1
31 – 45	=	2
46 - 60	=	3
60+	=	4

Figure 6.5: *Model Constructs Moderated by Age*



The impact of age on all constructs is shown on the diagram above, where age impact is examined on PE, EE, P, FC and OF and their interactions impact on e-learning adoption and utilisation. The results for moderating age on all model constructs are summarised in the table below. The p-value significantly changed from the baseline model to the constrained model for the age variable in the constructs of EE, attitudes, FC, and OF. Age influences effort expectancy, perceptions towards adopting e-learning, and organisational aspects related to e-learning adoption and utilisation.

Table 6.4: *Results and p-values of Moderating by Age Variable*

	ESTIMATE	**S.E.**	**C.R**	**P LABLE**
EE <---> Elearning_Use	1806.465	267.801	6.746	***
Perceptions <--->Elearning_Use	.926	.202	4.586	***
AllConst_age <--->PE	483.277	148.540	3.254	.001

FC<---> Perceptions	641.498	166.600	3.851	***
AllConst_Age <---> FC	929.856	190.436	4.883	***
PE<---> Elearning_Use	70.981	185.198	.383	.702
OF<---> Elearning_Use	1.007	.260	3.874	***
Age_Group <---> OF	-.060	.093	-.648	.517
PE<---> Elearning_Use	-.145	.105	-1.389	.165

The table above shows the results and p-values of moderating by age variable.

**** represents statistical significance*

6.2.7 The Moderation Analysis on Education Level

The level of education was used to examine the combined effect of education level and model constructs on e-learning adoption and utilisation. The following education levels were re-coded so that the values are numeric.

Table 6.5: *Current Value of the Education Levels (educational qualifications)*

qual

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor degree	75	46.3	46.3	46.3
	Certificate	17	10.5	10.5	56.8
	Diploma	32	19.8	19.8	76.5
	Doctorate or higher	1	.6	.6	77.2
	Master degree	32	19.8	19.8	96.9
	Other...(Specify).....	4	2.5	2.5	99.4
	Other... (Specify).....	1	.6	.6	100.0
	Total	162	100.0	100.0	

The table shows the current value of the education levels of Namibian public sector organisations employees and managers (educational qualifications)

OLD VALUE = NEW VALUE

Bachelor degree = 1

Certificate = 2

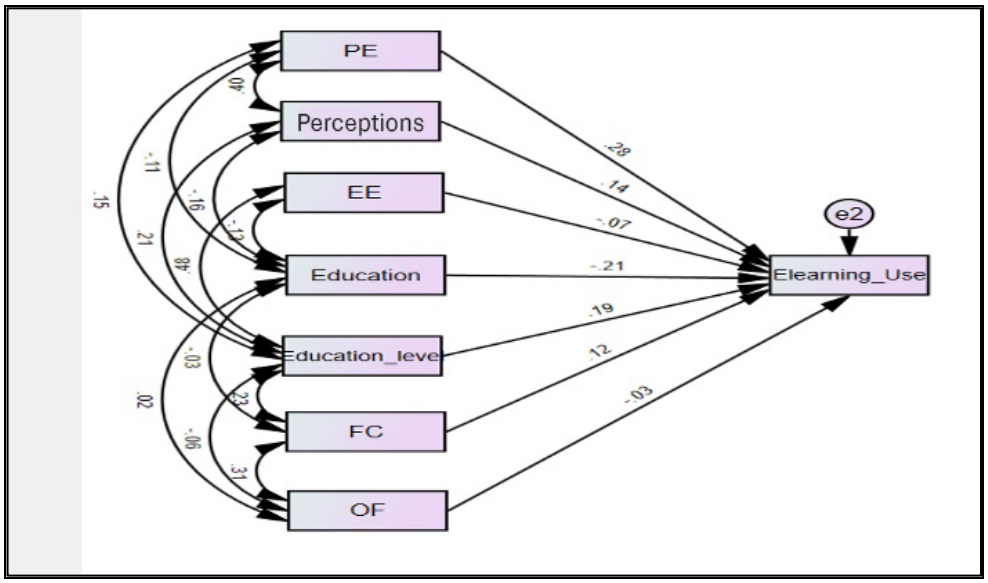
Diploma = 3

Doctorate = 4

Master degree = 5

Other = 6

Figure 6.6: *Moderation by Education Level*



The study analysed how education and several components (PE, EE, SI, FC, OF) interacted by considering the constructs as independent factors and e-learning use as the dependent variable, with education level acting as a moderating variable. The results indicate that education has a moderating effect on the adoption and utilisation of e-learning, as seen by the significant interaction term (education level) with a p-value of 0.023 illustrated in table **6.6** below. Education level is enhancing the association between the model constructs and e-learning continuing use.

Table 6.6: *Moderation Effect of Education Level on the Model Constructs*

	ESTIMATE	S.E.	C.R	P LABEL
Ele <--- EE	-.056	.061	-.914	.361
Ele <--- Education	-.201	.067	-2.996	.003
Ele <--- Education_Level	.000	.000	2.273	.023
Ele <--- FC	.099	.064	1.542	.123
Ele <--- OF	-.021	.058	-.369	.712
Ele <--- Perceptions	.127	.069	1.838	.066
Ele <--- PE	.275	.074	3.695	***

6.2.8 Assessing the Proposed Model

A model is considered to fit well with the data when the CFI value exceeds 0.95 (Hu & Bentler, 1999). Brown and Cudeck (1993) suggest that a model is deemed to have good fit if its RMSEA value is less than 0.05, fair fit if it is less than 0.08, and poor fit if it is less than 0.10. A small $\chi 2$ value compared to the degrees of freedom, namely values below 3, suggests a strong model fit (Hu & Bentler, 1998). Consult Table 4.25 shown above.

Table 6.7: *CMIN Model Fit Summary*

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	37	159.745	53	.000	3.014
Saturated model	90	.000	0		
Independence model	12	619.273	78	.000	7.939

The CMIN model above in the output represents the chi-square values used to traditionally verify a model's goodness of fit. The chi-square goodness of fit test determines if a model significantly deviates from one that perfectly fits the data (Kline, 2016). DF stands for degrees of freedom, whereas the p-value represents the significance level. If p is less than or equal to .05, the null hypothesis of an exact-fitting model is rejected. The model fits the data well because the p-value (p=.000) is less than 0.05. The chi-square goodness of fit test result suggests that the null hypothesis of an exact-fitting model should not be rejected, with χ^2 (53) = 159.745, p<.001.

The Normed fit index (NFI), Relative fit index (RFI), Incremental fit index (IFI), Comparative fit index (CFI), and Tucker-Lewis Index (TLI) are all types of fit indices that compare the fit of a model to a null or independence model (Byrne, 2010; Schumacker & Lomax, 2016).

Table 6.8: *Baseline Comparisons*

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.742	.620	.811	.710	.803
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

The RFI, IFI, NNFI, and CFI all consider model complexity to varying extents in their calculations. These indices usually range from 0 to 1 but may surpass 1 in certain instances. Whittaker (2016) suggests that values of .90 or above indicate a satisfactory model fit, whereas values of .95 or higher may indicate an excellent fit, as noted by Byrne (2010, p. 79). Two often used comparative fit indexes are the TLI and CFI. The

model's fit to the data can be considered moderate based on the TLI of 0.710 and CFI of 0.803.

RMSEA is an 'absolute fit index' where a value of 0 represents the best fit, whereas values greater than 0 indicate a worse fit (Kline, 2016). RMSEA values of 0.05 or lower are generally considered to indicate a well-fitting model. Values up to .08 (Brown & Cudeck, 1993; as mentioned by Whittaker, 2016) or .10 (Hu & Bentler 1995; as noted by Whittaker, 2016) are deemed acceptable.

Table 6.9: *RMSEA Output*

Model	**RMSEA**	**LO 90**	**HI 90**	**PCLOSE**
Default model	.112	.092	.132	.000
Independence model	.208	.193	.223	.000

The RMSEA output in this study is 0.112. The close fit is between 0.05 (close fit) and 0.10 (bad fit). The RMSEA from the model reveals that the model does not closely match the data but still shows an acceptable fit. The PCLOSE test offers an alternative method for evaluating the model's fit using the RMSEA. If the RMSEA score is ≤ .05, it indicates a close-fitting model. A p-close test result with $p > .05$ supports the initial model of close fit (Kline, 2016).

6.2.9 Assessing Sampling Adequacy

The adequacy of the sample was evaluated by calculating the Kaiser-Meyer-Olkin (KMO) statistic using the SPSS software. Netemeyer, Bearden, & Sharma (2003) suggest that KMO correlation between 0.60 and 0.70 is sufficient for exploratory factor analysis. The table displays the Kaiser-Meyer-Olkin (KMO) statistic for the dataset of

this study, with a value of 0.854. The value is deemed sufficient for conducting exploratory factor analysis as it is above the minimum acceptable threshold of 0.60, as stated by Coakes, Steed & Dzidic (2006). Bartlett's test of sphericity yielded a chi-square value of 1768.738, which was highly significant at $p<0.001$, suggesting sufficient links among the variables in the model.

Table 6.10: *Kaiser-Meyer-Olkin Measure (KMO)*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.854
Bartlett's Test of Sphericity	Approx. Chi-Square	1768.738
	df	465
	Sig.	<.001

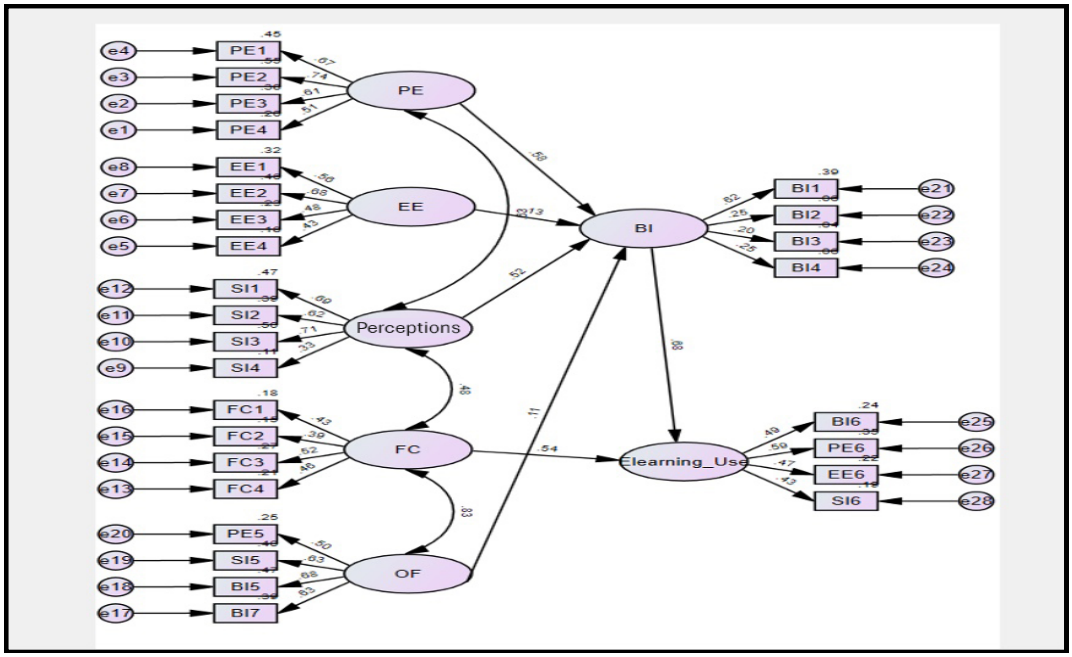
Table 6.10 shows the KMO measured calculated from the dataset.

KMO and Bartlett's test of sphericity are commonly used to assess the factorability of the output matrix. A KMO measure should typically exceed 0.5 (De Vaus, 2002; Field, 2005).

6.2.10 Hypothesis Testing of the Structural Model

Structural equation modelling (SEM) was utilized to analyse the correlation between the model constructs (PE, EE, P, FC, OF) and the adoption and utilisation of e-learning. This was achieved by using the AMOS path analysis, imputing the factor score from confirmatory factor analysis using AMOS software. As part of hypotheses testing, model constructs were tested as independent variables and age, gender and education levels as moderator variables. The following is the graphical representation of the structural model followed by results.

Figure 6.7*: The Structural Model based on the Hypothesis.*



6.2.11 Summary of the Hypothesis Testing

Results indicated a perfect fit for the model presented, including a chi-square value of 807.154, degrees of freedom of 343, RMSEA of .092, TLI of .572, and comparative fit index of .938. The RMSEA failed to achieve the desired values as RMSEA should be less than 0.08 for model fitness to be achieved. Nonetheless, the model is not a best fit but acceptable since the PCLOSE value measures less than 0.05, which suggests that a model fits the data well.

Table 6.11: *Summary of Hypothesis Testing*

HypNo.	Paths			Estimate	S.E.	C.R.	PLabel	Results
H1	BI	<---	PE	.598	.175	3.415	***	Supported
H2	BI	<---	EE	-.157	.123	-1.283	.199	Not supported
H3	BI	<---	P	.761	.281	2.714	.007	Supported

H4	BI	<---	OF	.079	.077	1.020	.308	Not Supported
H5	Elearning_ Use	<---	FC	.486	.147	3.307	***	Supported
H6	Elearning_ Use	<---	BI	.530	.116	4.583	***	Supported
H7	Perceptions	<---	PE	1.225	.239	5.131	.050	Supported

*Table 6.11 above shows the summary of hypothesis testing. Model Fitness: X2 = 807.154, df = 343, RMSEA = .092, TLI = .572, CFI = .938, *** < .05*

The hypothesis resulting from path analysis shows that PE is positively and significantly associated with BI (P < .05); therefore, H1 is supported. EE is also positively associated with BI but not statistically significant(P> .05); therefore, H2 is unsupported. Perceptions is positively and significantly associated with Behaviour Intention (P<.05). Organisational factors are positively but insignificantly related to Behaviour intentions (P > .05), therefore H4 is not supported. Facilitating conditions are positively and significantly associated with e-learning continuance use (P < .05). Therefore, H5 is supported. Behavioural intention is positively and significantly associated with e-learning use (P < .05), therefore H6 is supported. Performance Expectancy is positively and significantly associated with Perceptions (P < .05); therefore, H7 is supported.

Based on the results, hypotheses H1, H3, H5, H6, and H7 were accepted, indicating that Performance Expectancy, Facilitating Conditions and Behaviour Intention significantly influence e-learning adoption and utilisation. Conversely, H2 and H4 were rejected due to their statistically insignificant p-values. Interestingly, despite the non-support for these hypotheses, the direction of the relationships was positive. This

contrasts with the anticipated negative relationship hypothesized between the constructs and e-learning adoption and utilisation, conforming to evidence found in some research studies as suggested by Tenny and Abdelgawad (2023). By rejecting the null hypothesis for H2 and H4, the researcher accepts the alternative hypothesis that, aligning with the notion that while certain factors may not have a statistically significant impact, their influence on e-learning engagement cannot be entirely discounted.

6.3 Themes from Theories and Models

Themes were identified within theories and models as shown in the table below (Table 6.12).

Table 6.12: *Theme Factors and Theory Models*

THEME FACTOR	THEORY MODEL	RELATED CONCEPTS
Attitude	Technology Acceptance Model (TAM)	Policy Factors Performance Expectancy Facilitating Conditions Social Influence
Satisfaction	UTAUT	Continuance behaviour Perceived ease of use Perceived usefulness Quality Preparedness Performance expectancy Culture Social influence
Behaviour Intention	Theory of Planned Behaviour (TPB)	Behavioural attitude Policy factors (incentives) Performance expectancy Compatibility Relative advantage Observability Trialability Perceived ease of use

		Perceived usefulness
Continuance Intention	Diffusion Innovation Theory	Relative advantage Compatibility Attitude Performance expectancy Mobile technology
Organisational Factors	UTAUT	Time allocation Discipline Learning style Motivation Support

6.3.1 Relationships Among Factors

As indicated in the table above there is relatedness of factors among the theories and models. It also indicates that factors influencing adoption and utilisation of workplace e-learning stand out and appear frequently within each theme factor qualifying the model suitable for this study. The following factors appear often; performance expectancy, social influence, facilitating conditions, perceived ease of use, perceived usefulness, support, preparedness, social influence, culture and policy factor. The relatedness of some concepts in addressing technology acceptance aided in the model development. The identified factors were envisaged for inclusion in the development of AUWESPO model.

6.3.2 Synthesis of Factors and Descriptions

The identified factors were synthesised in consideration of related concepts attained from theories and models as well as empirical research on adoption and utilisation of e-learning. The following main factors were ultimately selected for AUWEPSO model; Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Organisational Factors, Perceptions and Behaviour Intention as illustrated in the table below:

Table 6.13: *Factors, Related Concepts and Descriptions*

#	MAIN FACTOR	RELATED CONCEPT	DESCRIPTIONS
1	Performance Expectancy (PE)	Perceived usefulness Motivation *	The belief that using the system will help someone to attain gains in job performance. PE is the strongest determinant of a user's behavioural intention to adopt e-learning
2	Effort Expectancy (EE)	Perceived ease of use*	The individual's belief that the system can help him or her to improve work performance when it requires less effort. PE and EE are direct determinants of BI
3	Social Influence (SI)	Subjective norm Social factors Gender Age Voluntariness Experience Education level	The belief that individual's behaviour can be influenced by interpersonal relationships such as; colleagues and peers.
4	Facilitating Condition (FC)	Perceived behavioural control	The belief that an organisation and technical infrastructure exist to support the use of the system
5	Organisational Factors (OF)	Preparedness Policy factors* Motivation* Time allocation Support Culture	Conditions to facilitate e-learning. Support includes; training programmes, technical support and resources allocated to enhance the usage and adoption of e-learning. Technological preparedness & performance; both factors have a good impact on satisfaction
6	Perceptions	Satisfaction Behaviour intention E-learning guidelines Infrastructure Motivation support	Factors that influence the desire to use e-learning. Views on behaviour intentions to use e-learning Experiences of e-learning practices Enablers to e-learning practices
7	Behaviour Intention (BI)	Policy factors* Perceived ease of use* Perceived usefulness*	A person's conscious decision to plan to use e-learning. Incentives and pressure policies have been reported to positively influencing BI to adopt e-learning. BI was positively influenced by perceived ease of use, and perceived usefulness.

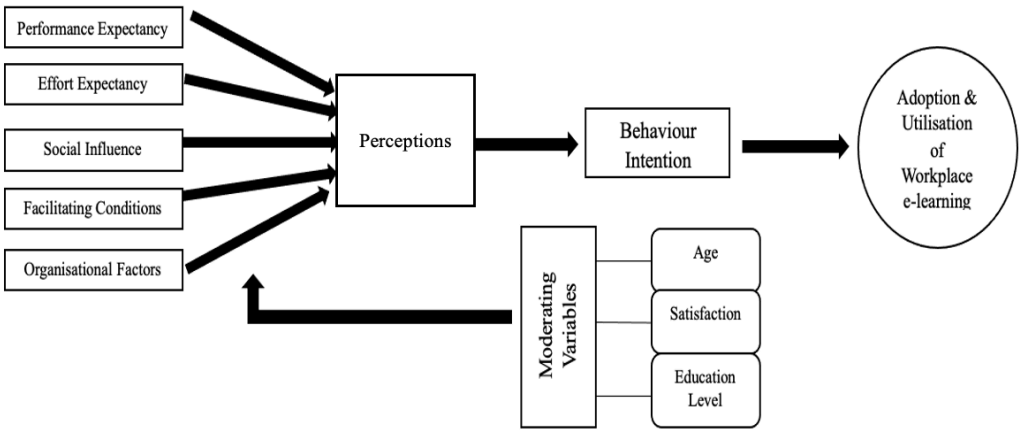
*Note: * concepts appear more than once*

6.3.3 Conceptual Model: Adoption and Utilisation of Workplace E-learning in the Public Sector Organisations (AUWEPSO)

Table 6.13 above shows that some concepts bear asterisks. This indicates concepts that repeatedly appear under the main factors. These concepts are the dependent variables and moderating variables.

The table presents AUWEPSO model developed from the theoretical and empirical search. The model constitutes a total of 7 factors in the first column, namely, Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Organisational Factors, Perceptions and Behaviour Intention. In the second column, the table shows 22 variables, and the third column describes the factors.

Figure 6.8: *Adoption and Utilisation of Workplace E-learning in the Public Sector Organisations model (AUWEPSO)*



6.3.4 Descriptions of Factors for AUWEPSO model

The final objective of this study was to construct a model that would facilitate adoption and utilisation of e-learning practices in the workplace within Namibia. In order to

accomplish this objective, UTAUT model was used as a conceptual framework. This model was based on the literature review on the research topic. The model for Namibian public sector called AUWEPSO was finally achieved from the empirical study. This model takes into consideration the major aspects, relationships, and hypotheses that were derived from the study. It is clear that it contains the most important components and relatedness amongst them, and a collection of hypotheses that correspond to them.

The SEM technique, was utilized in order to check the statistical significance of this proposed model. For the purpose of SEM analysis, correlations between model constructs such as PE, EE, P, FC, OF, BI, and E-learning use were included. The purpose of the testing of the hypotheses was to verify the relevant relationships, and the outcomes were then utilized to justify the building of the AUWEPSO model. The exploration included the assessment of content validity. This is on account of the fact that it guaranteed that the variables that were provided were able to capture the full extent of the constructs. Consequently, the content validity of each and every construct was established by utilizing theoretical considerations in conjunction with the support from the literature that has been studied.

Through the use of SEM, construct validity was established for the constructs that were included in the model. The process was concerned with whether the model accurately captures the factors that influence users' adoption and utilisation of e-learning practices. Additionally convergent validity was measured using Pearson Correlations as shown in Chapter 4 (4.2.2.7 - 4.2.2.11). The correlation coefficient matrix for items were generated using SPSS version 29 and were mostly over 0.3, indicating their appropriateness for factor analysis (Coakes, 2005).

It was necessary to conduct an analysis of the overall model fit indicators in order to determine whether or not the model accurately reflects the connections that exist between the components and the outcomes. The results showed that all items on the PE construct were positive and significant with the values measuring above 0.05 (5%). Since p-value less than 0.05 implies significant, this construct was fit and at acceptable level for this study (Tenny & Abdelgawad, 2023). The correlation values for EE items are less than 0.3, meaning that the data are weak for factor analysis, while For SI the results showed the correlation coefficients between items mostly over 0.3, suggesting they are appropriate. On FC the results between items are mostly over 0.3, also suggesting their appropriateness. Similarly, with BI construct, the items were mostly over 0.3 accurately fitting the model. In addition to the above, reliability measured through Cronbach's alpha values (table 4.12) showed high reliability to moderately high rates in predicting adoption and utilisation of e-learning practices. This qualified the model fitness for this particular study.

Several fit indices were used to provide a comprehensive evaluation of model, such as; CMIN, p-Value, GFI, IFI, AGFI, CFI and RMSEA. As indicated in table 6.1 the values generally showed the adequacy of the model fit to the data model constructs PE, EE, P, FC and OF. While the application of these was to ascertain the model adequacy, it was as well measuring the relationships between constructs and the data. The presence of a significant chi-square value (0.01) suggests that the suggested model and the observed data are consistent with one another. The R-squared (R^2) value was significantly reliable ($p < .001$) and accounted for between 76.8% and 85.6% (Cox & Snell, Nagelkerke values) of the variance in social factors in adopting e-learning adoption and utilisation practices (Table 4.14). The variables Age, Education Level

and Satisfaction were moderated with all the model constructs. These were found to be enhancing the association between the model constructs and e-learning use.

According to the findings of SEM analysis, the correlations between model constructs often exhibit substantial associations, which suggests that the data are compatible with factor analysis. In a nutshell, the evaluation of the importance and relevance of indicators for each of the constructs was determined to be statistically significant, which necessitated the building of this model. Thus, the UTAUT model in this study was found to be acceptable and relevant, based on the evaluation of validity and reliability as well as the assessment of significance and relevance using SEM. The discussion of the suggested model can be viewed as a standpoint on the findings of this study. The significance and usefulness of the model that relied on the SEM algorithm were validated by the discussion that was presented earlier in chapter 4. The SEM process is adequate for determining whether or not a model is significant and relevant, and for supporting the model that has been proposed. In the course of the discussion on the fit measures, it was established that the conceptual model, which had been discovered to be valid and relevant, also possessed a fit that was satisfactory.

The UTAUT model was evaluated in Namibia using SEM and the results demonstrated that Namibia, with some minor adjustments here and there, could likewise benefit from this conceptual model of UTAUT. This means that it can be used as a mirror to investigate the adoption and utilisation of e-learning practices, which enabled the construction of an acceptable model in Namibia as the AUWEPSO model. In summary, the contribution of the model of workplace e-learning practices uptake and utilisation presents an opportunity for Namibia to benefit from the implementation of

appropriate guidelines for ease of facilitating e-learning practices in public sector organisations.

The list below shows brief explanations of the concepts in the AUWEPSO model.

1. Performance Expectancy: This factor relates to the belief that using e-learning system will have benefits on the performance of their job.

2. Effort Expectancy: The factor relates to the belief that the use of e-learning system has to be easy and requiring less effort to perform tasks. In that way adopting and using e-learning can be possible.

3. Social Influence: This relates to the person's environment having influence in the use of e-learning. Collaborations with peers, colleagues and others are thus encouraged.

4. Facilitating Conditions: The factor articulates the importance of the existence of technical infrastructure in an organisation to support the use of e-learning system.

5. Organisational Factors: This one emphasizes the need to provide conditions that could facilitate the use of e-learning practices such as:

- Preparedness for people to be ready for e-learning system.
- Policy factors; incentive and pressure policies
- Motivation
- Time allocation
- Different types of support, e.g., management, technical, vendors, etc.
- A healthy organisational culture

6. Perceptions: The perceptions of e-learning users encompass their feelings toward the use of e-learning. With the satisfaction from the above five factors, users can gain

positive perceptions toward behaviour intention and ultimately adopt and use e-learning.

7. Behaviour Intention: This is the last step toward the actual adoption and utilisation of e-learning. The following are key points and necessary at this stage:

- Behavioural attitude
- Policy factors which include e-learning guidelines
- Perceived ease of use
- Perceived usefulness

8. **Adoption and Utilisation of E-learning:** This relates to the actual application of organisational learning experience through e-learning digital resources. The study has found this stage highly possible in the presence of all the variables discussed in this model.

6.3.5 Development of Research Hypotheses

The empirical research and findings of this study helped in the formulation of the hypotheses. There were 7 hypotheses developed from the 7 variables as illustrated as main factors in table 5.12. The intent for this section is to present research hypotheses and confirm the AUWEPSO model. SEM analysis in figure **4.6** demonstrates correlations between model constructs; PE, EE, P, FC, OF, BI and E-learning use.

As illustrated in table **6.11:** Summary of hypothesis testing:

PE relates to BI

As hypothesised in chapter one; if users think e-learning practices can increase their productivity, they will have behavioural intention to engage in e-learning practices, and that will have influence on adoption and utilisation of e-learning practices.

The correlation between PE and BI to use e-learning illustrates significant relationship between the constructs as hypothesised. Therefore, this study confirmed the hypothesis;

H_1. PE has influence on BI

EE relates to BI

This study also hypothesised the relationship between EE and BI. If users find e-learning tools easy to use they will develop behavioural intention towards adoption and utilisation of e-learning practices. Though the study showed statistical insignificance on p-values the direction of the relationship was positive, hence their influence cannot be completely disregarded. However, this hypothesis was not confirmed in this study.

H_2. EE has no statistical influence on BI

Perceptions relates to BI

This hypothesis assumed that if the organisation prepares the employees on the use of the e-learning system, they will develop satisfaction and positive perceptions towards adoption and utilisation of e-learning practices. The results showed significant relationship on the hypothesis. Therefore, this study confirmed the hypothesis;

H_3. Perceptions has influence on BI

Organisational Factors (OF) relates to BI

According to this hypothesis if users are exposed to learning culture whereby OF are conducive to e-learning, they will be able to develop adoption and utilisation of e-

learning practices. The results showed statistical insignificant relationship on the hypothesis. Therefore, this study did not confirm the hypothesis;

H_4. OF has no statistical influence on BI

FC relates to E-learning Use

It was anticipated that if users have e-learning infrastructure, policies and e-learning guidelines and understand them, they will develop satisfaction and positive perceptions towards adoption and utilisation of e-learning practices. The correlation between FC and E-learning Use illustrates significant relationship between the constructs as hypothesised. Therefore, this study confirmed the hypothesis;

H_5. FC has influence on E-learning use

BI relates to E-learning Adoption and Utilisation

This study had hypothesised; if users have behavioural intentions to use e-learning practices they will end up engaging in the continuous adoption and utilisation e-learning practices. The results showed significant relationship on the hypothesis. Therefore, this study confirmed the hypothesis;

H_6. BI has influence on E-learning Adoption and Utilisation

PE relates to Perceptions

The hypothesis for this study was if users think using e-learning tools can improve work performance they can develop positive perceptions towards regular use of e-learning tools. The results showed significant relationship on the hypothesis. Therefore, this study confirmed the hypothesis;

H_7. PE has influence on Perceptions

6.3.6 Implications of the Model

Adoption and utilisation of workplace e-learning practices in the Namibian public sector organisations can be relevant considering the factors as elucidated in AUWEPSO model. The following are some points that have been found to form part of the implications of this model;

- The positive perceptions of performance expectancy suggest that employees will likely be motivated to use e-learning practices. However, addressing concerns related to usability and providing adequate training and support may be necessary to maximise user acceptance and adoption.

- The perceptions of effort expectancy suggest that employees are likely to gain motivation to use e-learning practices. The outcomes reveal the ease of e-learning tools. Effective knowledge sharing can be enhanced through accessibility of e-learning platforms within the organisations and outside at their own time.

- For facilitating conditions, employees alluded to inadequate resources as a challenge in planning to adopt e-learning practices with some attributing to lack of financial allocation. Limited use of e-learning manuals and lack of e-learning guidelines. Addressing these challenges could aid in the effective use of e-learning practices in the public sector organisations.

6.3.7 Generalisation of the Model

The AUWEPSO model can be generalised to other public sector organisations in Namibia, as well as to any other similar contexts for effective adoption and those that plan to adopt. The model cannot be generalised in isolation from certain important components of this study. Some key areas to be considered include developing of an

e-learning policy to provide guidance for adopting and utilising e-learning processes. As indicated in chapter 7 of this study, national e-learning policy has been recommended for the establishment of institutional regulatory and legal frameworks to assist with deploying the effectiveness of e-learning in the public sector. It also includes more research to reveal the context, needs and challenges in order to provide appropriate solutions required.

Additionally, another important recommendation for this study is the transformation of NIPAM to Namibia Public Service College as a focal point of e-learning implementation in Namibia. This is envisaged to use skilled manpower and requisite resources to provide training and development for the public sector. It can be hoped that the institution can conduct relevant courses with curricula that can help to promote the adoption and utilisation of workplace e-learning practices.

6.4 Chapter Summary

The presentation in this chapter was intended for the development of the AUWEPSO model to guide the effective adoption and utilisation of e-learning in the public sector organisations in Namibia. The main aim was to address the objective, e) develop a model for the effective adoption and utilisation of workplace e-learning practices in public sector organisations. The results revealed that adopting and utilising e-learning practices can be effective in organisations when the following factors are ensured: Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Organisational Factors, Perceptions and Behaviour Intention.

Chapter 7 being the final chapter of this study presents conclusions and recommendations on the effective adoption and utilisation of e-learning in Namibian public sector organisations. The chapter also suggests areas for future research.

CHAPTER 7

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

7.1 Introduction

This chapter synthesises results of the study to address the research questions. This entails consolidating all the information obtained on this topic. The chapter addresses the contributions the study has made to the existing knowledge base and projects and articulates the relevance of the objectives of this study. It further continues to outline the recommendations considering the findings as well as the constraints and endeavours for further studies. Finally, the chapter presents a summary of the study.

7.2 Contribution to the Existing Knowledge Base

Objective a): To assess the adoption and utilisation of workplace e-learning practices in the public sector organisations.

The significant relationships among variables revealed the most salient findings on objective a) of this study. It has been revealed in the discussion of the findings of the quantitative and qualitative phases that the behaviour intention has influence on the continuance use and ultimately adoption and utilisation of workplace e-learning practices. The characteristics that include age, satisfaction and level of education are mediating factors towards behavioural intention, continuance use as well as the actual adoption and utilisation of e-learning. Another important finding of this study is that gender did not show any significant influence on e-learning use when moderated with all the UTAUT constructs. Thus, in this study gender is not one of the moderating variables for e-learning adoption and utilisation.

Another point is that satisfaction was found to be influential in the adoption and utilisation of workplace e-learning practices in the Namibian public sector. Interview findings revealed it as a component determining ongoing desire to adopt and utilise workplace e-learning practice. The respondents' expression of several benefits within public sector organisations due to the e-learning technology, could imply their satisfaction hence validating its importance in influencing behaviour intention to use workplace e-learning practices. Conversely, the challenges revealed from the interviews could somewhat contribute to dissatisfaction with adoption and utilisation of workplace e-learning practices in the public sector organisations. To justify the above argument, studies have shown that satisfaction was also found to be contributing to public sector employees' continuous use intention of e-learning (Chih-Yang et al., 2011; Garg & Sharma, 2020; Isaac et al., 2018; Lai, 2017; Pereira et al., 2015). Therefore, the researcher views satisfaction as a pertinent factor for inclusion in the proposed model, however it needs further investigation in future within the Namibian public sector.

It is also important to note that the relationship between the performance expectancy component and users' willingness to accept and use e-learning indicate statistical significance. Thus, employees' behaviour intention to embrace and exploit e-learning and the performance expectancy show positive correlation. This study shows that the effectiveness of e-learning relates with the level of easiness with which employees adapt and use e-learning. So, e-learning service providers and other relevant parties have the potential to enhance employees' intent to use e-learning. The study therefore, has found that emphasis must be placed on improvement of e-learning devices such as computers, internet increase including easy accessibility and simplicity of e-learning

system. If the system's performance is improved employees' work performance and productivity can equally increase.

The study has also revealed that performance expectancy and perceptions are positively related and significantly associated. When effective guidance and attitudes are promoted, the chance is that good habits are formed for employees to perform and become productive in their work. Therefore, performance of behaviours producing positive perceptions can be promoted through learning encounters repeatedly to enhance workplace e-learning practices. This indicates that public sector organisations should provide the tools and promote guidance for employees to be able to adopt and utilise workplace e-learning practices. The findings of this study showed positive correlation between performance and perceptions.

Effort expectancy and behaviour intention were correlated and positive association between the variables was revealed. In this study it was found that there is a connection between users' willingness to embrace and employ e-learning and the increase in the effort to use e-learning system. The Namibian public sector can put more effort on increasing employees' willingness to accept and utilise e-learning by focusing on improving simplicity and user-friendliness of e-learning content and the platforms.

Additionally, favourable relationships were found between organisational factors and e-learning use. Organisational management issues such as development of e-learning policies including the use of incentives to motivate employees were revealed in this study. Time allocation to encourage employees as well as considerations of different learning styles and planning for e-learning experiences were highlighted in the public

sector organisations. Workplace e-learning practices could be addressed by enacting relevant mechanisms including management policies.

The following conclusions were also reached from the objectives of the study:

7.3 Factors that Influence Adoption and Utilisation of Workplace E-learning practices.

Applying the UTAUT model as the theoretical framework of this study compelled this exploration to thoroughly analyse factors such as Performance Expectation, Effort Expectation, Facilitating Conditions, Social Influence, and Behaviour Intention. With more research, other factors, such as attitude, satisfaction, and organisational factors, were also identified as necessary for inclusion in this study (Yoo & Han, 2013; Zainab, Awais Bhatti, et al., 2017). The review of literature also revealed the influence of policy factors on the use of e-learning particularly incentive policy (Hsiu-Ying Chung et al., 2014; Zainab, Awais Bhatti, et al., 2017). Additionally, research has shown that e-learners' attitude was perceived paramount in affecting the use and the behavioural intention to use e-learning (Bhuasiri et al., 2012; Hsiu-Ying Chung et al., 2014; Lai, 2017; Yoo & Han, 2013; Zainab, Awais Bhatti, et al., 2017).

Objective b): To analyse the factors that promote adoption and utilisation of workplace e-learning practices in the public sector organisations.

7.3.1 Performance Expectancy

The employees and managers of Namibian public sector organisations concur that the implementation of e-learning improves their work performance. Namibian users' e-learning intentions and performance expectations are favourably related. Users' ease of adapting and using e-learning is connected with its projected efficacy. E-learning

device performance can be improved by emphasizing computers and the internet efficiency. For Namibian e-learning users to be happy with the system's performance, improvement in system's performance is vital. E-learning adoption and utilisation will improve system performance; therefore, a well-designed e-learning environment can enhance productivity. The study showed Namibian e-learning users' intention to be relevant, favourable, and vital. Namibian public sector productivity may improve with e-learning technologies. Many employees and managers within public sector organisations in Namibia perceive e-learning as a crucial tool, as it enhances work performance and productivity.

Therefore, it is suggested that the Government of Namibia should intensify support through allocation of resources towards the development of e-learning to continue improving performance and productivity in the public sector organisations. The findings of this study concur with other studies in that employees' attitude is positively affected by performance expectancy, facilitating conditions, and social influence (Zainab et al., 2017). It has also been found that performance expectancy, effort expectancy, and social influence have substantial effect on the culture of organisational learning (Lin, Huang, & Zhang, 2019). Therefore, organisational learning culture contributes to satisfaction, and that may lead to effective adoption and utilisation of e-learning. According to Sung and Choi (2014), electronic technology fosters learning. As Beauregard, Lemyre, and Barrette (2015) also found in their study, organisational learning and development was transformed primarily because of rapidly advancing technology, which greatly boosted online learning in the organisations.

7.3.2 Effort Expectancy

The analysis uncovers a statistically significant and favourable association between users' behavioural intent to accept and utilise e-learning and anticipation to use it. By prioritizing elements that enhance effort, such as improving simplicity and usability, the public sector in Namibia can increase users' intention to utilise e-learning. Based on this study and other studies, the conclusion reached can be that the Namibian public sector's willingness to adopt and use e-learning practices can be significantly influenced by improving the easiness and use of e-learning. Research emphasizes easy use of technology in learning as determinant for continuous use of technology (Kapo et al., 2020; Chih-Yang, 2011; Zainab et al., 2017; Isaac et al., 2018; Mohd Asarani & Ab Rahim, 2016; Montgomerie et al., 2016)). Thus, enhancing easiness of the system and tasks are key components to augment the intention to use e-learning.

7.3.3 Perceptions

This study concludes that there is a compelling connection between users' perceptions and e-learning usage. Namibian society, steeped in African culture, has strong personal relationships and mutually influential networks, making it unique and culturally oriented. The data implies that perceptions may improve e-learning behaviours. Positive perceptions influence Namibians' e-learning adoption and utilisation practices. Co-workers affect e-learning adoption and utilisation practices in Namibia as they tend to help one another. They also acknowledged supportive management assistance for e-learning deployment. There is also an assertion in Namibia that e-learning platforms improve professional achievements. The study also concludes that constant training in e-learning platform usage motivates employees and managers to use e-learning at work. In agreement to the findings of this

study other studies have also found that attitude is the most important predictor of e-learning adoption (Bhuasiri et al., 2012; Hsiu-Ying Chung et al., 2014; Lai, 2017). Additionally, the support for one another has been acknowledged by other studies as also affecting e-learning adoption (Montgomerie et al., 2016). Therefore, Namibian public sector organisations can take advantage of the African culture to influence the organisation in advancing e-learning practices.

7.3.4 Facilitating Conditions

The availability of superior online learning platforms, the presence of policies and guidelines, the IT skills, and the allocation of financial resources to implement policies were discussed in the interviews as part of perceptions, opportunities and challenges. The study revealed that creating an e-learning department for each ministry will be expensive. "This would cost the Namibian Government money for each organisation". Thus, interviews revealed the necessity for new bodies to assist public sector organisations in adopting and utilising e-learning. Interviewees indicated quality learning systems, trainers, and consultants. They suggested the reform of NIPAM to improve it as a central point where Namibian public sector organisations could access quality e-learning services. A large percentage of participants don't understand their organisations' e-learning policies because there were no guidelines as far as they are concerned. Further probing also indicated a lack of sufficient resources. Respondents also believe e-learning strategic planning and implementation budgets are insufficient. The organisations have e-learning training guides, although their use is limited. A lack of models and frameworks hinders e-learning adoption and utilisation in Namibia. This assumption conforms to the argument made by (Kaisara & Bwalya, 2020) as in (Eke, 2010 & Barteit et al., 2019). They relate e-learning failure as an outcome of no implementation frameworks as well as haphazard and disorganised plans.

Technology service providers in Namibia give uneven technical assistance, unstable infrastructure like internet access, and inexperienced managers who are not technology savvy, contributing to challenges and poor access to e-learning opportunities. There is a significant necessity to establish a standardised curriculum for both employees and managers within the NIPAM so that the facilitation and implementation of elementary, intermediate, and advanced e-learning programmes are adhered to. This can prevent the same e-learning programme from being provided to public servants with varying e-learning skills. Therefore, it is imperative to develop instructional materials tailored to employees' specific requirements, to avoid the scenario where individuals with advanced expertise are enrolled in the same course as beginners. The respondents from some parastatals indicated that they outsourced e-learning services from institutions that provide training and development. In the same token NIPAM as a public service school could extend its support to parastatals and to any other enterprise that require the service.

7.3.5 Behaviour Intention

The findings reveal a positive correlation between perceived behaviour intentions and the use of behaviour components, indicating the existence of this relationship. The findings indicate a robust and favourable linkage between users' aspirations to adopt and apply e-learning approaches and their subsequent engagement with e-learning platforms in the Namibian environment. According to the results, users' inclination to adopt and utilise e-learning gadgets can be enhanced by increasing and enhancing their involvement in the activities. The findings also indicate that users' behaviour intention significantly and positively influence adopting and utilising e-learning in Namibian public sector. Based on the data gathered from the questionnaire survey, behaviour

intention is a significant factor that accurately predicts the use of e-learning in organisations. The study assessed behaviour intention by examining several concepts, such as the intention to utilise e-learning (given access), the apprehension on the ability to effectively use e-learning systems, the proficiency levels in e-learning practices, the inadequacy of employee confidence in utilising e-learning tools, the existence of a culture that promotes e-learning practices, and the need to invest in technology. The hypotheses were formulated to assess the influence of behaviour intention on consumption patterns. Research studies have also revealed that the behaviour intention to use e-learning was aggravated by factors that include policy (incentives and pressure policies) as well as performance expectancy (Donmez-Turan, 2019; Zainab et al., 2015). Since the Namibian public sector organisations expect employees to perform their job effectively, some determinants can be suggested as motivating factors. If there is e-learning policy it can serve as a determining factor or rather compel them to perform as expected; employees can apply themselves in e-learning practices and their behaviour intention can be enhanced.

7.3.6 Organisational Factors

Organisational factors have a direct influence on this study. The questionnaire results indicate that an organisation's characteristics significantly predict the use of e-learning. The results suggest a positive correlation between organisational factors and the use of behaviour components. The results indicate that the need for implementing and using e-learning in organisations could be positively affected by factors associated with management issues. Organisational variables may encompass aspects related to planning and support from different contexts. The premise is that the absence of these factors may jeopardise the implementation of e-learning in organisations. The study demonstrates that organisations need help in effectively adopting and utilising e-

learning, making planning for e-learning seems difficult. There is typically a need for more resources and limited access to e-learning systems due to inadequate network coverage, slow internet speeds, and freezing caused by low bandwidth. Furthermore, this study revealed that older employees lack the motivation and readiness to engage in e-learning practices due to their limited knowledge. Additionally, the absence of proper monitoring leads to users being distracted since most content is in a foreign language, mainly English, which poses a communication barrier for some employees. Based on the study's findings, it can be concluded that organisational factors play a substantial and positive role in adopting and using e-learning in Namibia. There is a pressing need to enhance these issues in Namibia and transform them into possibilities. The issue of support was reiterated by Montgomerie et al. (2016). In the same study the researchers argue for peer support since it can improve motivation and discipline amongst employees. Intensifying support through organisational factors such as allocation of resources including time, funding for computers and internet provisions. Training and development are undoubtedly important in motivating employees considering their educational levels differences and individual learning styles.

7.3.7 Satisfaction

Based on this study, the characteristics of the employees, such as their perceptions, anxiety, and self-efficacy, significantly affect satisfaction and their successful adoption and utilisation of e-learning. Furthermore, enabling employees to apply themselves to e-learning requires their motivation and assistance. The support of the organisations relating to training, technical assistance, and management are critical components for launching employees into accepting and using innovations, and ensuring employee satisfaction with the e-learning system is crucial. Various elements

relating to performance expectancy, effort expectancy, perceptions, facilitating conditions, organisations and behaviour intention must be considered. For e-learning in public sector organisations to succeed, the system, instructor, employee and organisation should engage in close collaboration. By integrating these distinct sets of factors, stakeholders can better comprehend the elements contributing to heightened satisfaction levels. In agreeance to the above discussion, the review of studies has revealed that user satisfaction result from the quality of the system that is versatile and enjoyable to use (Isaac, Abdullah, Ramayah, & Mutahar, 2018). In addition, the quality of the information is also significant, current and relevant in causing satisfaction. The user should also be content with the system of the organisation. As illustrated by Pereira et al., (2015), quality and value have a favourable influence on satisfaction.

7.4 Perceptions

Objective c): To determine users' perceptions on adoption and utilisation of workplace e-learning practices in selected public sector organisations in Namibia.

7.4.1 Perceptions on e-learning adoption and utilisation

The findings demonstrated that various factors influence the adoption and utilisation of e-learning. It also indicated that the employees' behavioural intention towards e-learning is the primary factor influencing their willingness to adopt and utilize e-learning. Various factors, such as performance expectancy, support, conducive environment, and organisational attributes, influence their perception of acting. The employees' decision to embrace and utilize e-learning is also influenced by their subjective norm, which pertains to the degree of influence exerted by the influential individuals in their immediate environment, such as their co-workers. It was also revealed by literature that the more the significant others perceive the use of internet

as a good idea; the more employees get satisfaction with internet usage (Isaac et al., 2018).

During the interviews, some noteworthy concerns were revealed. The perceptions encompassed the backing of management for e-learning, developing an organisational e-learning policy, as well as establishing a vital e-learning institution. Moreover, concerning the development of positive optimism towards the use of e-learning, it was found that the perceptions of the efficacy and user-friendliness of e-learning system were noteworthy. It has been found that e-learning instructors' and tutors' viewpoints on the available materials have a substantial effect on shaping their perspective on e-learning. Similarly, the judgments of usability were influenced by experience and self-efficacy. As illustrated by Bhuasiria (2012), among others computer self-efficacy, and programme flexibility are ranked high amongst influential factors that impact e-learning success.

Finally, the employees' inclination to adopt and utilize e-learning was not significantly influenced by their reproductive status-many employees within the Namibian public sector advocate for increased managerial support and access to well-informed technical guidance. To concur with the above, Montgomerie, Edwards and Thorn (2016) also found technical support equally important when provided as supportive feedback from peers. It was perceived as reducing the effect of technical delivery challenges on performance from peers, whereas unfavourable remarks worsen the problem.

More importantly, a significant number of employees within Namibia's public sector need essential resources, such as laptops and educational materials, to facilitate continuous learning from home. These resources should ideally include features that offer guidance on virtual meetings using platforms like Zoom and Microsoft Teams.

Furthermore, they advocated for enhanced network coverage. The individuals expressed concerns over infrastructural challenges, such as the limited availability of e-learning systems due to inadequate network coverage and the sluggish and intermittent internet connectivity resulting from insufficient capacity.

7.5 Opportunities and Challenges

Objective d): Identify users' opportunities and challenges on adoption and utilisation of workplace e-learning practices in selected public sector organisations in Namibia.

7.5.1 Opportunities

The study suggests that the success of workplace e-learning in Namibia relies on several factors, including top solid management backing on financial resources, training, knowledgeable assistance, a well-established institution, policies, technical expertise, and technological support. There are numerous opportunities accessible for online learning. The Namibian government offers e-learning opportunities to its employees nationwide, fostering innovation, research, and improvement. This initiative also supports the development of other strategies, including information and communication technology and the facilitation of knowledge transfer. Not just users but also consultants, educators, and various other stakeholders derive benefits from e-learning offerings. Several individuals can benefit directly or indirectly from the information economy established by the Namibian government. This, in turn, has contributed to improving e-learning standards and has provided opportunities by developing the knowledge-based economy. Many employees and managers within Namibia's public sector organisations possess a substantial level of education or a postgraduate degree, enabling them to comprehend the intricacies of technology within

an organisational environment. It is suggested that Namibia's public sector persists in its efforts to provide ongoing e-learning programmes for employees and managers. Given the dynamic nature of technology, it is imperative for individuals to periodically pursue continuing professional education to stay abreast of emerging innovations, as well as to gain self-motivation to identify their needs and upgrade themselves.

7.5.2 Challenges

E-learning offers users a limitless array of possibilities to capitalize on opportunities. In the near future, e-learning may render the role of face-to-face unnecessary. The primary challenge lies in devising and implementing strategies to ensure relevance related to e-learning utilisation. A basic disparity exists between the technology and the pedagogy instructors utilise. There needs to be more synergy between the instructor and technology. Developed countries often transfer their institutions and course materials to developing nations without considering the new environment, which poses issues for countries like Namibia.

This study emphasizes the need for e-learning resources that are both generated internally and externally to assure reliability. This can only be achieved by considering the needs and incorporating relevant factors. To overcome the problem articulated in this study, the e-learning systems and programmes should be organised based on the user's perceptions. The primary factors that impact employees in Namibia's public sector organisations that utilise e-learning are the anticipated performance of their e-learning systems and the potential benefits and advantages they may derive from adopting and employing e-learning in their daily lives. Hence, Namibian public sector organisations must acquire e-learning systems that include user-friendly interfaces and are characterised by ease of use. The employees responsible for e-learning training in

the public sector organisations of Namibia assert that there is a need for increased organisational support to allow them sufficient time to participate in relevant practices. Thus, it is imperative to consider the perceived complexity and involvement associated with specific e-learning systems and platforms such as Moodle, YouTube, Zoom and Microsoft Teams, which necessitate additional time for workers to acquire the relevant skills.

Within the Namibian public sector, the acceptance and use of e-learning among employees is significantly impacted by their peers, close acquaintances, and other prominent individuals within their social circles. Consequently, they are more inclined to conform to the prevailing social norms within their society about their e-learning practices. Additionally, there is a preference for videos that facilitate group learning and comprehension. Many employees within Namibia's public sector need essential resources, such as laptops, cell phones, and educational materials, to encourage continuous learning from home. These resources should ideally include features that offer guidance on virtual meetings using platforms like Zoom and Microsoft Teams. Furthermore, they advocated for enhanced network coverage. The individuals expressed concerns over infrastructural challenges, such as the limited availability of e-learning systems due to inadequate network coverage and the sluggish and intermittent internet connectivity resulting from insufficient capacity. There is a prevailing demand for enhanced discipline, particularly considering the self-directed nature of e-learning. It is suggested that learners receive instruction in concise educational programmes on many subjects. Thus, adopting and utilising workplace e-learning practices can also be attained through various programmes in a proposed public service college. Furthermore, while organisations should allocate time for e-learning practices, employees should also be responsible for effectively managing their

time, fostering motivation, enhancing communication skills, and cultivating preparation for e-learning.

7.6 Recommendations

This research posits that workplace e-learning possesses a broader and more beneficial capacity beyond subject-specific information. It could transition society into a knowledge-driven paradigm, where policies can be rewritten, organisations transformed, and individuals are perpetually engaged in learning. To do this, e-learning programmes must be meticulously designed and effectively executed. This study provides comprehensive recommendations for the application and effective utilisation of e-learning in the Namibian public sector that relate to the conclusions.

7.6.1 Organisational e-learning guidelines

The ever-changing and interconnected institutional, social, political, and global contexts influence the capacity to make informed decisions regarding the optimal steps for public sector organisations and their communities. It is recommended that Namibia public sector organisations develop e-learning guidelines to guide the adoption and utilisation of e-learning practices. The purpose of the guidelines is to aid in their autonomous adoption and utilisation process. The guidelines could emphasise the development of mobile-responsive digital resources and platforms, with the production of superior digital learning materials commonly referred to as e-learning packages. Regular surveys and evaluations are necessary, utilising both qualitative and quantitative data, to assess learners' experiences, participation, and viewpoints with e-learning packages and blended learning courses. Establishing institutional guidelines is crucial to helping e-learning be deployed effectively within the public sector.

7.6.2 Availability of e-learning infrastructure

E-learning resources in this study have been cited as critical in promoting workplace e-leaning practice. The need to access essential resources like laptops, desktops, educational materials as well as cell phones were mentioned as important since they can encourage continuous learning. These enable independent practice and flexibility among technology users while also enhancing learning. However, employees decried a great challenge with availability of e-learning systems due to inadequate network coverage and the sluggish and shortage of internet connectivity. Considering the demand to enhance discipline, motivation and self-directed nature of e-learning the need to invest in relevant technology infrastructure cannot be overstated in public sector organisations. Namibian public sector should intensify resource allocation in order for the organisations to succeed in the digitization of processes.

7.6.3 Namibia Institute of Public Administration and Management (NIPAM)

The study emphasized the importance of skilled manpower and reliable internet connectivity while underscoring the value of providing high-quality training and development and individualised mentorship to facilitate personal development. The study also emphasized the significance of online learning in enhancing efficiency and efficacy. Employees specifically cited NIPAM for reform to become a Public Service College. It is anticipated that government employees will consequently cultivate a collective sense of purpose, ethical principles, and historical awareness. It is therefore recommended that NIPAM be transformed into the Namibia Public Service College, which would incorporate e-learning implementation to promote learning activities both on-campus and through remote learning methods. An advanced focal point like a public service school was thought to have skilled manpower and reliable internet connectivity while also underscoring the value of providing high-quality training and

development and individualised mentorship to facilitate personal development. This study recommends transferring all government-run courses in Namibia to the newly proposed Public Service College coordination to aid the adoption and utilisation of e-learning.

7.6.4 Development of the curriculum for the public sector

The e-learning curriculum should be aligned with the demands of those currently employed in this sector. To effectively equip the learners to confront the demands and complexities of the future, the college must wholeheartedly embrace digital innovation in all possible domains. Developing and implementing programmes that support public servants at all levels are necessary. The cutting-edge training and development programmes in areas that can augment the adoption and utilisation of workplace e-learning practices and promote individual growth can potentially yield significant benefits like serving Namibians with excellence. The programmes offered by the institution can be customised to align with the public sector policies, acts, and strategies for specific needs of individual and organisational development.

7.6.5 Establishment of alliances, partnerships, and collaborative communities

Establishing robust alliances and partnerships between public sector organisations and building collaborative communities to engage in topics that promote growth and professionalism. The optimal approach would involve establishing a tight collaboration with various departments, establishing collaborative networks with individuals and organisations both domestically and internationally, gaining access to superior knowledge and ideas, and fostering innovation and creativity for optimal performance. This cooperative effort would enhance the effectiveness of the training and development interventions, maximising the outcomes achieved. Organisations that

offer e-learning have a greater opportunity to improve their organisational identity, establish and maintain learning communities, and keep all members and stakeholders informed about current organisational developments and practices.

7.7 Limitations

Despite the enormous efforts that have been made, this study is subject to certain limitations. As a result, it is of the utmost importance to bring attention to these concerns and offer solutions for future research, which could be described as follows:

- Since this study was conducted within the public sector, engaging participants was a bit challenging; with government protocols observed, the researcher's liberty to decide on the study participants was limited. Additionally, the estimated time planned for data collection was prolonged. The controls were dependent on the assistance of human resources personnel to grant permission for data collection more suited to their available time.

- While the study explored the adoption and utilisation of workplace e-learning practices in the selected Namibian public sector organisations, it did not consider all the factors that could influence users' desire to adopt and utilise them. Subsequent research should consider additional variables such as culture, anxiety, attitudes, sparsity, etc. Furthermore, future research should evaluate the suggested factors' applicability to other developing countries and e-learning platforms.

- The evaluation of user behaviour is conducted subjectively using several channels, such as behaviour intention (BI) and interpersonal impact. One limitation of the UTAUT is its restricted capacity to elucidate behavioural intention across various situations. This critique highlights the UTAUT's shortcomings in comprehensively understanding behaviour intention across multiple contexts. This model may fail to consider certain essential elements of human behaviour. Interviews were done to fill the gap, but even that may need to be more.

7.8 Minor Reflections

This study has shown the extent of the use of workplace e-learning practices in varying degrees. While organisations in general indicated the effective implementation of e-learning in their organisations, none of them have shown the availability of organisational e-learning policy to guide its implementation. Disparity has been illustrated in the use of e-learning practices with some using the e-learning platforms while at the place of work and cannot access it outside. This could mean that regular practice and knowledge gained can be scanty, inadequate and unevenly spread among employees in organisations. More importantly, with the realisation of employees' diverse knowledge and different learning styles, effective planning for e-learning experiences could certainly yield better results.

Some organisations have indicated the support from management acknowledging a budget for technology gadgets like laptops and computers. For others there is lack of resources that include access to laptops and minimal bandwidth leading to poor internet coverage and limited skilled manpower. There is clear indication of ad hoc

decisions on e-learning approaches and methods of implementation in this study. It is therefore unlikely for employees to gain motivation unless

organisations take heed of these considerations with the recommendations as stipulated in section 7.6 above.

Nonetheless, this study has shown that e-learning adoption and utilisation was accelerated largely by the advent of Covid 19 pandemic. Employees expressed their awe-inspiring experiences as they embraced new platforms such as Zoom and Microsoft Teams in the Namibian public sector for meetings and trainings. It has been revealed that all the organisations in this study have access to these and was found to be a generally welcome development.

7.9 Further Research

In addition to the identified limitations encountered during the investigative phase, prospective pathways exist through which this work could be pursued to advance research within the subject. When performing more related studies in the future, it is crucial to refer to the limitations identified in the study.

Future research endeavours exist to explore the multifaceted nature of e-learning use within the public sector. One such could be to examine the impact of e-learning in Namibia's public sector organisations. In addition to the above, it is imperative to do further research to assess the application of the developed model on a larger scale in the public sector in Namibia. This objective can be achieved by implementing a comprehensive study encompassing the entirety of the government, encompassing both organisations that have yet to utilise e-learning and organisations needing access to skills development. Because of resource limitations, the present study could not undertake the above tasks.

Additionally, research could cover the following areas;

- To explore the factors influencing individual differences in perceptions of performance expectancy and investigate strategies for enhancing user acceptance and utilisation of e-learning practices in the organisation.
- To assess the perceptions of effort expectancy using other methods of data collection and expanding to a broader scope within the public sector organisation.

7.10 Chapter Summary

The process of synthesising the data into concluding remarks was the focus of this chapter, which was written to provide an implicit answer to the research objectives. In Namibia, employees and managers in selected public sector organisations are exposed to a few factors influencing their intention to adopt and utilise workplace e-learning practices. These elements include a variety of factors that influence their behaviour. This category of factors includes performance, effort, perception, facilitating conditions and organisational elements. These elements influence the behaviour intention and adoption and utilisation of e-learning in the selected Namibian public sector. Age, satisfaction, and educational level are all factors that have a moderating effect on this relationship. The findings demonstrated that e-learning factors exist and fairly related to the theoretical framework for this study. This suggests that the research model was suitable for the study since it demonstrated similarities to this study. It should also be noted that the chapter has several recommendations, limitations, and areas that call for further research in the future.

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APPENDICES

Appendix A: QUESTIONNAIRE FOR EMPLOYEES

A A A

EMPLOYEES Questionnaire

ADOPTION AND UTILISATION OF WORKPLACE E-LEARNING PRACTICES IN SELECTED NAMIBIAN PUBLIC SECTOR ORGANISATIONS

Kindly participate in our study by completing the survey below.

Thank you!

EMPLOYEES Questionnaire:

ADOPTION AND UTILISATION OF WORKPLACE E-LEARNING PRACTICES IN SELECTED NAMIBIAN PUBLIC SECTOR ORGANISATIONS.

Confidentiality statement

Data obtained from this questionnaire will be treated with utmost confidentiality and solely be used for the purpose of academic research. No information will be divulged or attributed to any person or organisation.

Purpose of the study

The purpose of this study will be to explore adoption and utilisation of workplace e-learning practices in selected Namibian public sector organisations.

Name of Organization:
* must provide value

PART 1: Demographic Data and Experience

SECTION A: Participants' Background Information

Select the most appropriate response that apply to you. Tick ( ) appropriately.

1. Gender:
* must provide value

- Male
- Female

reset

2. Age:
* must provide value

- 18-30
- 31-45
- 46-60
- 60+

reset

3. Highest Qualification
* must provide value

- Certificate
- Diploma
- Bachelor degree
- Master degree
- Doctorate or higher
- Other...(Specify).....

reset

4. What is your job title?
* must provide value

5. Does your job involve making decision on policy formulation?
* must provide value

- Yes
- No

reset

6. State your main job responsibility.
* must provide value

Expand

PART 2: Participants' workplace e-learning adoption and utilisation in relation to Unified Theory of Acceptance and Use of Technology (UTAUT).

Instruction: Please tick ( ) the most appropriate box to indicate the extent to which you agree or disagree with e-learning adoption and utilisation in your organisation. Use the options below to respond:

1. SD=Strongly Disagree 2. D=Disagree 3. U=Undecided 4. A=Agree 5. SA=Strongly Agree

SECTION A: PERFORMANCE EXPECTANCY

	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)	
E-learning practice improves employees work performance * must provide value	○	○	○	○	○	reset
E-learning practice increases employees' productivity * must provide value	○	○	○	○	○	reset
The use of e-learning saves time for workplace learning * must provide value	○	○	○	○	○	reset
The use of e-learning improves collaborations with others * must provide value	○	○	○	○	○	reset

My organisation benefits from e-learning practices * must provide value	○	○	○	○	○
					reset
Using e-learning tools regularly can improve work performance * must provide value	○	○	○	○	○
					reset

SECTION B: EFFORT EXPECTANCY

Instruction: Please tick ( ) the most appropriate box to indicate the extent to which you agree or disagree with e-learning adoption and utilisation in your organisation. Use the options below to respond:

1. SD=Strongly Disagree 2. D=Disagree 3. U=Undecided 4. A=Agree 5. SA=Strongly Agree

	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)	
Employees find the use of e-learning tools easy * must provide value	○	○	○	○	○	
						reset
Management can complete any job timely using e-learning * must provide value	○	○	○	○	○	
						reset
I can share ideas with other employees through e-learning tools * must provide value	○	○	○	○	○	
						reset
It requires a lot of effort to perform tasks using e-learning * must provide value	○	○	○	○	○	
						reset
Learning to use e-learning platform is difficult * must provide value	○	○	○	○	○	
						reset
We can engage in discussions through e-learning platform * must provide value	○	○	○	○	○	
						reset

SECTION C: SOCIAL INFLUENCES

Instruction: Please tick ( ) the most appropriate box to indicate the extent to which you agree or disagree with e-learning adoption and utilisation in your organisation. Use the options below to respond:

1. SD=Strongly Disagree 2. D=Disagree 3. U=Undecided 4. A=Agree 5. SA=Strongly Agree

	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)	
Management support on e-learning practices can improve employees' performance * must provide value	○	○	○	○	○	reset
Shared knowledge through e-learning platform is effective in the organisation * must provide value	○	○	○	○	○	reset
Continuous training and development on the use of e-learning system motivates employees to use e-learning * must provide value	○	○	○	○	○	reset
My colleagues influence my behaviour to use e-learning at work * must provide value	○	○	○	○	○	reset

SECTION D: FACILITATING CONDITIONS

Instruction: Please tick ( ) the most appropriate box to indicate the extent to which you agree or disagree with e-learning adoption and utilisation in your organisation. Use the options below to respond:

1. SD=Strongly Disagree 2. D=Disagree 3. U=Undecided 4. A=Agree 5. SA=Strongly Agree

	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)	
We need IT skills to use e-learning system in our organisation * must provide value	○	○	○	○	○	reset
Inadequate resources for e-learning practices are a challenge in planning for e-learning practices * must provide value	○	○	○	○	○	reset
Relevant e-learning system of good quality is available * must provide value	○	○	○	○	○	reset
Employees understand e-learning policy in the organisation * must provide value	○	○	○	○	○	reset
There is financial allocation in planning for e-learning adoption	○	○	○	○	○	
Training manuals for e-learning support are available in the organisation * must provide value	○	○	○	○	○	reset

SECTION E: BEHAVIOUR INTENTION

Instruction: Please tick ( ) the most appropriate box to indicate the extent to which you agree or disagree with e-learning adoption and utilisation in your organisation. Use the options below to respond:

1. SD=Strongly Disagree 2. D=Disagree 3. U=Undecided 4. A=Agree 5. SA=Strongly Agree

	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)	
Given access to e-learning system, I intend to use it at work * must provide value	○	○	○	○	○	reset
Employees have fear of failure to use e-learning system * must provide value	○	○	○	○	○	reset
I am embarrassed at my level of competence for e-learning practices * must provide value	○	○	○	○	○	reset
Some employees lack confidence in using e-learning tools * must provide value	○	○	○	○	○	reset
Our work culture encourages e-learning practices * must provide value	○	○	○	○	○	reset
I believe there is the need to invest on e-learning resources * must provide value	○	○	○	○	○	reset
Our social orientation encourages e-learning adoption * must provide value	○	○	○	○	○	reset

Would you like to be contacted for further clarity?
* must provide value

○ Yes
○ No

reset

THANK YOU VERY MUCH FOR YOUR PARTICIPATION!

Appendix B: QUESTIONNAIRE FOR MANAGERS

A A A

MANAGERS Questionnaire - ADOPTION AND UTILISATION OF WORKPLACE E-LEARNING PRACTICES IN SELECTED NAMIBIAN PUBLIC SECTOR ORGANISATIONS.

Kindly participate in this study by completing the survey below.

Thank you!

MANAGERS Questionnaire

ADOPTION AND UTILISATION OF WORKPLACE E-LEARNING PRACTICES IN SELECTED NAMIBIAN PUBLIC SECTOR ORGANISATIONS.

Confidentiality statement

Data obtained from this questionnaire will be treated with utmost confidentiality and solely be used for the purpose of academic research. No information will be divulged or attributed to any person or organisation.

Purpose of the study

The purpose of this study will be to explore adoption and utilisation of workplace e-learning practices in selected Namibian public sector organisations.

MANAGERS Questionnaire

ADOPTION AND UTILISATION OF WORKPLACE E-LEARNING PRACTICES IN SELECTED NAMIBIAN PUBLIC SECTOR ORGANISATIONS.

Confidentiality statement

Data obtained from this questionnaire will be treated with utmost confidentiality and solely be used for the purpose of academic research. No information will be divulged or attributed to any person or organisation.

Purpose of the study

The purpose of this study will be to explore adoption and utilisation of workplace e-learning practices in selected Namibian public sector organisations.

Instructions:

Kindly answer all the questions in this questionnaire. Your cooperation will be highly appreciated for the completion of this questionnaire. The responses will be based on your experiences in your workplace e-learning practices. You will be required to tick ( ) appropriately in the boxes to agree or disagree with the statement provided. Please note that any information you give will be treated with confidentiality and at no instance will it be used for any other purpose other than for this project. Your assistance will be highly appreciated. I look forward to your prompt response. The length of this questionnaire is estimated at 20 minutes.

Name of Organization:
* must provide value

PART 1: Demographic Data and Experience

SECTION A: Participants' Background Information

Select the most appropriate response that apply to you. Tick ( ) appropriately.

1. Gender:
* must provide value

- Male
- Female

reset

2. Age:
* must provide value

- 18-30
- 31-45
- 46-60
- 60+

reset

3. Highest qualification:
* must provide value

- Certificate
- Diploma
- Bachelor degree
- Master degree
- Doctorate or higher

PART 2: Participants' workplace e-learning adoption and utilisation in relation to Unified Theory of Acceptance and Use of Technology (UTAUT).

Instruction: Please tick ( ) the most appropriate box to indicate the extent to which you agree or disagree with e-learning adoption and utilisation in your organisation. Use the options below to respond:

1. SD=Strongly Disagree 2. D=Disagree 3. U=Undecided 4. A=Agree 5. SA=Strongly Agree

SECTION A: PERFORMANCE EXPECTANCY

	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)	
E-learning practice improves employees work performance * must provide value						reset
E-learning practice increases employees' productivity * must provide value						reset
The use of e-learning saves time for workplace learning * must provide value						reset
The use of e-learning improves collaborations with others * must provide value						reset

My organisation benefits from e-learning practices * must provide value	○	○	○	○	○
					reset
Using e-learning tools regularly can improve work performance * must provide value	○	○	○	○	○
					reset

SECTION B: EFFORT EXPECTANCY

Instruction: Please tick ( ) the most appropriate box to indicate the extent to which you agree or disagree with e-learning adoption and utilisation in your organisation. Use the options below to respond:

1. SD=Strongly Disagree 2. D=Disagree 3. U=Undecided 4. A=Agree 5. SA=Strongly Agree

	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)	
Employees find the use of e-learning tools easy * must provide value	○	○	○	○	○	
						reset
Management can complete any job timely using e-learning * must provide value	○	○	○	○	○	
						reset
I can share ideas with other employees through e-learning tools * must provide value	○	○	○	○	○	
						reset
It requires a lot of effort to perform tasks using e-learning * must provide value	○	○	○	○	○	
						reset
Learning to use e-learning platform is difficult * must provide value	○	○	○	○	○	
						reset
We can engage in discussions through e-learning platform * must provide value	○	○	○	○	○	
						reset

SECTION C: SOCIAL INFLUENCES

Instruction: Please tick ( ) the most appropriate box to indicate the extent to which you agree or disagree with e-learning adoption and utilisation in your organisation. Use the options below to respond:

1. SD=Strongly Disagree 2. D=Disagree 3. U=Undecided 4. A=Agree 5. SA=Strongly Agree

	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)	
Management support on e-learning practices can improve employees' performance * must provide value	○	○	○	○	○	reset
Shared knowledge through e-learning platform is effective in the organisation * must provide value	○	○	○	○	○	reset
Continuous training and development on the use of e-learning system motivates employees to use e-learning * must provide value	○	○	○	○	○	reset
My colleagues influence my behaviour to use e-learning at work * must provide value	○	○	○	○	○	reset

SECTION D: FACILITATING CONDITIONS

Instruction: Please tick ( ) the most appropriate box to indicate the extent to which you agree or disagree with e-learning adoption and utilisation in your organisation. Use the options below to respond:

1. SD=Strongly Disagree 2. D=Disagree 3. U=Undecided 4. A=Agree 5. SA=Strongly Agree

	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)	
We need IT skills to use e-learning system in our organisation * must provide value	○	○	○	○	○	reset
Inadequate resources for e-learning practices are a challenge in planning for e-learning practices * must provide value	○	○	○	○	○	reset
Relevant e-learning system of good quality is available * must provide value	○	○	○	○	○	reset
Employees understand e-learning policy in the organisation * must provide value	○	○	○	○	○	reset

There is financial allocation in planning for e-learning adoption * must provide value	○	○	○	○	○
					reset
Training manuals for e-learning support are available in the organisation * must provide value	○	○	○	○	○
					reset

SECTION E: BEHAVIOUR INTENTION

Instruction: Please tick ( ) the most appropriate box to indicate the extent to which you agree or disagree with e-learning adoption and utilisation in your organisation. Use the options below to respond:

1. SD=Strongly Disagree 2. D=Disagree 3. U=Undecided 4. A=Agree 5. SA=Strongly Agree

	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)	
Given access to e-learning system, I intend to use it at work * must provide value	○	○	○	○	○	
						reset
Employees have fear of failure to use e-learning system * must provide value	○	○	○	○	○	
						reset

I am embarrassed at my level of competence for e-learning practices * must provide value	○	○	○	○	○
					reset
Some employees lack confidence in using e-learning tools * must provide value	○	○	○	○	○
					reset
Our work culture encourages e-learning practices * must provide value	○	○	○	○	○
					reset
I believe there is the need to invest on e-learning resources * must provide value	○	○	○	○	○
					reset
Our social orientation encourages e-learning adoption * must provide value	○	○	○	○	○
					reset

Would you like to be contacted for further clarity?
* must provide value

○ Yes
○ No

reset

THANK YOU VERY MUCH FOR YOUR PARTICIPATION!

Appendix C: INTERVIEW SCHEDULE FOR EMPLOYEES

EMPLOYEES SEMI STRUCTURED INTERVIEW GUIDE

ADOPTION AND UTILISATION OF E-LEARNING PRACTICES IN SELECTED NAMIBIAN PUBLIC SECTOR ORGANIZATIONS.

Confidentiality statement

Data obtained from this interview will be treated with utmost confidentiality and solely be used for the purpose of academic research. No information will be divulged or attributed to any person or organization.

Purpose of the study

The purpose of this study will be to explore adoption and utilisation of e-learning practices in selected Namibian public sector organizations. Whatever is collected in this interview process is meant to serve this purpose.

The length of this interview is estimated at **30 minutes - 1 hour**

INTERVIEW QUESTIONS

1. **Do you find e-learning practices effective in your organization?**
2. **What do you think managers are saying about e-learning practices in the organization in relation to; time allocation for e-learning, different learning styles of employees and the curriculum content and platform/s used?**
3. **Do you think employees' needs are considered when planning e-learning programs in your organization?**

4. **What are your views regarding e-learning support to employees when they need it?**
5. **In your view what determines your usage of e-learning practices in the organization?**
6. **What challenges and opportunities do you encounter with e-learning practices in your organization?**
7. **What suggestions do you have to further improve the adoption and utilisation of e-learning in your organization?**

Appendix D: INTERVIEW SCHEDULE FOR MANAGERS

MANAGERS SEMI STRUCTURED INTERVIEW GUIDE

ADOPTION AND UTILISATION OF E-LEARNING PRACTICES IN SELECTED NAMIBIAN PUBLIC SECTOR ORGANIZATIONS.

Confidentiality statement

Data obtained from this interview will be treated with utmost confidentiality and solely be used for the purpose of academic research. No information will be divulged or attributed to any person or organization.

Purpose of the study

The purpose of this study will be to explore adoption and utilisation of e-learning practices in selected Namibian public sector organizations. Whatever is collected in this interview process is meant to serve this purpose.

The length of this interview is estimated at **30 minutes - 1 hour**

INTERVIEW QUESTIONS

1. **Do you find e-learning practices effective in your organization?**
2. **What do you think employees are saying about e-learning practices in the organization in relation to; time allocation for e-learning, different learning styles of employees and the curriculum content and platform/s used?**
3. **Do you think employees' needs are considered when planning e-learning programs in your organization?**

4. **What are your views regarding e-learning support to employees when they need it?**
5. **How do you determine employees' usage of e-learning practices in the organization?**
6. **How do you track employees' performance of e-learning practices in the organization?**
7. **What challenges and opportunities do you encounter with e-learning practices in your organization?**
8. **How do you for see the future of e-learning practices in your organization in the near future?**
9. **What suggestions do you have to further improve the adoption and utilisation of e-learning in your organization?**

Appendix E: CONSENT LETTER

Dear Participant,

My name is Marguerite Margie Serema a PhD candidate in Adult Education from the University of Namibia. I am conducting a study entitled "Adoption and utilisation of e-learning practices in selected Namibian public sector organisations."

You are therefore invited to participate in this research study which aims at exploring adoption and utilisation of e-learning practices in the public sector organisations, determining users' perceptions, attitudes, needs, opportunities and challenges on adoption and utilisation of e-learning practices. Having been identified as key stakeholders and the importance of your point of view on e-learning, your participation in this study will assist the researcher in data collection.

Therefore, the following points highlight your role as participants in this research study:

1. Please note that your participation in this research study is absolutely voluntary. You have the right to withdraw from the study point; no action will be taken against you for your withdrawal. Should you agree to participate, you are kindly required to sign this consent letter below.
2. For the questionnaire, you are kindly required to read the questions carefully and answer them according to the instructions provided. Document review template will be used to capture and review any documents related to e-learning adoption and utilisation in the organisation.
3. The interviews will be conducted for approximately 60 minutes and will be done after the administration and analysis of the questionnaire. The location for the interview will be decided by the participants at their convenient place.

4. The participants' right will be highly protected. There will be no questions to identify the participants, rather codes will be used to ensure strict confidentially to prevent identity disclosure to any party or anywhere in the content of the study.
5. Data will be collected, recorded, and stored electronically in order to transcribe, analyse and extract information. The interview material will be stored securely for two years, thereafter it will be destroyed.

The participants are required to clarify all the outlined points, their roles and rights. In case you need any clarity please feel free to contact the researcher at the following email address; seremamm11@gmail.com

_____ _____ _____

Name of Participant Signature Date

_____ _____ _____

Name of Researcher Signature Date

Appendix F: LETTERS OF APPROVAL

UNAM
UNIVERSITY OF NAMIBIA

ETHICAL CLEARANCE CERTIFICATE

Ethical Clearance Reference Number: WKC0014

Date: 28 September 2022

This Ethical Clearance Certificate is issued by the University of Namibia Decentralized Ethics Committee (DEC) in accordance with the University of Namibia's Research Ethics Policy and Guidelines. Ethical approval is given in respect of undertakings contained in the Research Project outlined below. This Certificate is issued on the recommendations of the ethical evaluation done by the **School of Education (Windhoek & Khomasdal Campuses) Decentralized Ethics Committee**.

Title of Project: Adoption and utilization of workplace e-learning practices in selected Namibian public sector organizations.
Researcher: Marguerite Margie Serema
Student number: 221141960

Take note of the following:

1. Any significant changes in the conditions or undertakings outlined in the approved Proposal must be communicated to the ethics committee. An application to make amendments may be necessary.
2. Any breaches of ethical undertakings or practices that have an impact on ethical conduct of the research must be reported to the ethics committee
3. The Principal Researcher must report issues of ethical compliance to the ethics committee (through the Chairperson) at the end of the Project or as may be requested by the ethics committee
4. The ethics committee retains the right to:

i) Withdraw or amend this Ethical Clearance if any unethical practices (as outlined in the Research Ethics Policy) have been detected or suspected,

ii) Request for an ethical compliance report at any point during the course of the research.

The ethics committee wishes you the best in your research.

Dr. Job U. Hengari (Chairperson, Windhoek & Khomasdal Campuses Decentralized Ethics Committee)

Prof. Davis Mumbengegwi
(Head, Multidisciplinary Research)

NCRST

AUTHORIZATION OF RESEARCH PROJECTS

Authorization is hereby granted in terms of Section 21 of the RST Act No. 23 of 2004, to:

Name: Marguerite Margie Serema

Address: P. O .Box 20359, Windhoek,
Namibia

Coworkers: N/A

Certificate Number (if applicable): RCIV00022018 **Authorization No:** 202201003

Type of Research:
Non- Commercial research and the use of resources be limited to what is in the proposal.

Title of Research Authorized:

Adoption and Utilization of E-learning Practices in Selected Namibia Public Sector Organization.

Locality:

Office of the Prime Minister (OPM), Namibian Institute of Public Administration Management (NIPAM), Ministry of Information and Communication Technology (MICT), Communications Regulatory Authority of Namibia (CRAN) and Mobile Telecommunications Company (MTC).

Duration: 10 October 2022 - 31 October 2023

Research / Sample Collection Conditions:

Refer to research conditions on the next page.

Yours sincerely,

Ms. Albertina Ngurare

Acting Chief Executive Officer

National Commission on Research Science & Technology
10 OCT 2022
P/Bag 13253
Windhoek, Namibia

Head Office:
Private Bag 13253 Windhoek

Innovation Hub:
Cnr Louis Raymond & Grant Webster Street, Olympia Windhoek
+264 61 431 7099
+264 61 255 758

CRAN
Communications Regulatory Authority of Namibia

Physical Address: Communications House, No.56 Robert Mugabe Avenue, Windhoek, Namibia
Postal Address: Private Bag 13309, Windhoek, Namibia **Tel:** +264 61 222 666 **Fax:** +264 61 222 790
Email: cran@cran.na **Fax2Email:** +264 088 642 748 **Website:** www.cran.na

REF: VT/02/RESEARCH REQUEST/MS **ENQUIRIES:VISTORINA TABU**

28 October 2022

MS.MARGUERITE SEREMA
Doctor of Philosophy Student
University of Namibia (UNAM)
Faculty of Education and Human Science (FEHS)
Windhoek

Attention: Marguerite Serema
PER EMAIL

Dear Ms. Marguerite,

REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT CRAN ON THE TOPIC; "ADOPTION AND UTILIZATION OF WORKPLACE E-LEARNING PRACTICES IN SELECTED NAMIBIAN PUBLIC SECTOR ORGANIZATION"

The Authority refers to your email dated 21 October 2022 and your request to conduct research titled "Adoption and utilization of workplace e-learning practices in selected Namibian Sector Organization" at the Communications Regulatory Authority of Namibia (CRAN).

The Authority is delighted to inform you that your request is approved to conduct research at CRAN, provided that the content required for the thesis meets the scope covered under the information that is available to public as per Communications Act (No. 8 of 2009) with a restriction on confidential information.

For any further information or clarity please do not hesitate to contact Vistorina, Human Capital Assistant at 061-222 666 or vtabu@cran.na.

Allow me to wish you the best in your research.

Yours faithfully,

COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA CRAN PRIVATE BAG 13309 WINDHOEK, NAMIBIA

MRS. EMILIA NGHIKEMBUA
CHIEF EXECUTIVE OFFICER

Namibia Power Corporation (Pty) Ltd
PO Box 2864, Windhoek, Namibia, NamPower Centre, 15 Luther Street
Tel: +264 61 205 4111
Fax: +264 61 232 805
Email address: register@nampower.com.na
Website address: www.nampower.com.na

NamPower
Powering the Nation and beyond

Ms Marguerite Margie Serema
University of Namibia
Student No: 221141960

Enquiries : M. M. Situmbeko
Telephone : 061 – 205 2595
Date : 17 May 2023

Dear Ms Serema

RE: REQUEST FOR PERMISSION TO CONDUCT ACADEMIC RESEARCH STUDY AT NAMPOWER

We acknowledge receipt of your request dated 16 February 2023, to conduct your intended research study titled: **Adoption and Utilization of Workplace e-Learning Practices in Selected Namibian Public Sector Organisations** in NamPower.

NamPower hereby grants permission for you to carry out research and data collection. Kindly take note that you are allowed to contact NamPower employees to participate in your study.

Further take note that information from any NamPower document should only be used for the study mentioned above and will under no circumstances be used for other purposes without prior written consent from NamPower.

Should the research be published, the source of data i.e., NamPower should be acknowledged in the research report. Upon completion of the research, NamPower requires that a copy of the study should be submitted to Education, Training & Development Section and/ or the Records Management Section for future research and record keeping.

For further enquiries, kindly feel free to contact Education, Training and Development Section.

Recommended by

EDUCATION, TRAINING & DEVELOPMENT • NAMPOWER VOCATIONAL TRAINING CENTRE •
NamPower
Allan Street
Northern Industrial Area
PO Box 2864
Windhoek Namibia

17/05/2023
Date

Mercy M. Situmbeko
Manager: Education Training & Development

Approved / Not Approved

17/05/23
Date

Kahenge S Haulofu
Managing Director

NIPAM
NAMIBIA INSTITUTE OF PUBLIC ADMINISTRATION AND MANAGEMENT

27 Paul Nash Street Olympia
Private Bag 13218 Windhoek
Tel +264 61 2964700
Fax +264 61 2964819

Enquiries: Hendrina Halueendo
E-mail: hhalueendo@nipam.na
Tel: +264 61 2964704

24 October 2022

Ms Marguerite Margie Serema
128 George Hunter Street
PO Box 20359
Olympia
Windhoek

Dear Ms Serema,

RE: PERMISSION TO CONDUCT RESEARCH STUDY

The undersigned write to acknowledge receipt of your letter dated 21 October 2022 on the above-captioned matter.

Having considered your request, the undersigned is herewith grant permission for you to conduct a research study within the Namibia Institute of Public Administration and Management [NIPAM] for your PhD thesis.

We wish you the very best with your studies.

Yours sincerely,

Institute of Public Administration and Management
Executive Director

Maria N. Nangolo
Executive Director

REPUBLIC OF NAMIBIA

OFFICE OF THE PRIME MINISTER

Tel No: (061) 287 9111
Fax No. (061) 234 296

Private Bag 13338
WINDHOEK

Enquiries: David Lyeengolo
Tel: 061-2872149

26 October 2022

Ms. Marguerite Margie Serema
P. O. Box 20359
Olympia
Windhoek
Namibia

Dear Ms. Serema

RE: PERMISSION TO CONDUCT ACADEMIC RESEARCH STUDY ON *ADOPTION AND UTILIZATION OF WORKPLACE E-LEARNING PRACTICES IN SELECTED NAMIBIAN PUBLIC SECTOR ORGANISATIONS*

1. Your request to conduct academic research within the Office of the Prime Minister titled "*Adoption and Utilization of Workplace E-Learning Practices in selected Namibian Public Sector Organisations*" has been approved.

2. Upon completion of your research you are expected to share the report with the Office. The research must be anonymous to any individual, and must be shared with the Office of the Prime Minister prior to publication.

Yours Sincerely

27/10/2022

I-BEN NATANGWE NASHANDI
EXECUTIVE DIRECTOR

OFFICE OF THE PRIME MINISTER
EXECUTIVE DIRECTOR

All official correspondence must be addressed to the Executive Director

Corporate Communications & Public Relations Office
Head Office, 9 Judge JP Karuaihe Street
PO Box 297, Windhoek, Namibia
Tel: (+264 61) 201 2448
Fax: (+264 61) 201 2074
E-mail: CommPR@telecom.na
Website: www.telecom.na

07 March 2023

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER OF AUTHORISATION TO CONDUCT RESEARCH

This letter serves as authorisation to Ms Marguerite Margie Serema to conduct the research project titled "Adoption and Utilization of Workplace E-Learning Practices in selected Namibian Public Sector Organisations at Telecom Namibia(TN)".

Upon review of the request by the student, we are glad to offer her the opportunity to conduct her research at our organisation. All interviews, surveys, observations around the business and the distribution of questionnaires will be duly overseen by the researcher herself.

The onus rests with the researcher to negotiate appropriate and relevant time schedules with Telecom Namibia's Corporate Communication department to conduct the research.

If you have any concerns or require additional information, please contact the Corporate Communication and Public Relations Department.

Yours sincerely,

Nomvula Kambinda
Head: Corporate Communication & Public Relations