

**RESISTANCE TO THE IMPLEMENTATION OF LEARNING MANAGEMENT SYSTEMS
BY LECTURERS IN HIGHER EDUCATION IN A DEVELOPING COUNTRY CONTEXT**



By

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the Degree of Doctor of Philosophy in Information Systems

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LUCY CHARITY SAKALA

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DEDICATION

To my two beautiful children, Kundai and Tavonga

and

To the pillar of my strength, my awesome mother, Tendai Matizanadzo.

ABSTRACT

Problem Statement: The implementation and use of Information Communication Technologies (ICTs) has been ascribed as a transformative drive across the world, especially to improve the human capacity development of individuals in Higher Educational Institutions (HEIs). However, developing countries are still struggling to harness the productive capacity of their ICT resources. The ICT index of '*access, use and skills*' in developing countries is less than 50%, whilst that for developed countries is above 75%. Whilst HEIs have incorporated ICTs, the uptake of the Learning Management Systems (LMS) is low, with the expected objectives remaining largely unachieved and the full potential of the technologies not realised. A myriad of challenges have contributed to the low uptake of ICT projects in resource-limited settings ranging from limited ICT expertise, cost and complexity of implementation, inadequate training, lack of top management support, poor organisational culture, limited infrastructure and resistance to change. Whilst these challenges play a significant role in limiting uptake, the role of ***user resistance*** to LMS implementation in HEIs has not been fully explored.

Purpose of study: This study offered an explanatory critique of user resistance and its implications on low uptake of LMS in HEIs. The objective was to examine how resistance behaviours manifested from lecturers during implementation of an LMS in an HEI of a developing country context. The study identified different forms of lecturer resistance behaviours and examined how they manifested to cause low uptake of the LMS. It also analysed the nature of responses and/or strategies from management and ICT implementers towards the lecturer resistance behaviours during LMS implementation. Furthermore, the study examined how contextual factors influenced manifestation of resistance practices in relation to habitus, capital and field positions of lecturers, management and ICT implementers.

Research methodology: The study adopted an interpretive research paradigm and drew on Bourdieu's Theory of Practice (TOP) framework and the Multilevel Model of Resistance to Information Technology Implementation (MRITI) as theoretical lens, to analyse the manifestation, interaction and logic of user resistance towards LMS implementation in HEIs. The study analysed data from semi-structured interviews and project documents to highlight issues of incorporating ICTs into teaching and learning. More data and field notes came from participant observations during the implementation of the LMS (Moodle). The case of Omega University in Zimbabwe was used as a representation of an HEI in a developing country context.

Key findings: User resistance affected the implementation and uptake of Moodle. The different forms of resistance behaviours that manifested from lecturers during Moodle implementation were disinterest, minimal use, refusal to use, pessimism, withdrawal, avoidance, prioritisation and delegation. The forms were classified into four episodes; apathy, passive resistance, covert resistance and active resistance. Aggressive forms of resistance were not found in this study. Delegation of responsibilities was a unique form in that it falsified and misrepresented acceptance of Moodle despite harbouring resistance tendencies; like two sides of the same coin.

Resistance behaviours manifested during Moodle implementation due to initial conditions that interacted with objects and triggers of resistance to generate perceived threats in lecturers. Initial conditions were Omega's management model, its ICT structure and ICT culture, whilst the objects of lecturer's resistance were mostly towards 'Moodle advocates' and less towards

‘Moodle features’ or ‘Moodle significance’. Therefore, lecturer resistance behaviours were directed towards external rather than internal factors with regard to the LMS. The triggers of lecturer resistance were grouped into management, infrastructure and personal triggers. Perceived threats from lecturers were either fear of loss of relevance, status, jobs or increased workloads. The positive responses and/or strategies from management and ICT implementers were acknowledgment, reward innovation, rectification, effective training and user consultations, whilst the negative responses were inaction, dissuasion, enforcement, no reward for innovation, ineffective training, and absence of change management. Due to other underlying contextual factors, the nature of these responses neither reduced lecturer resistance nor enhanced the low uptake of Moodle.

Contextual factors in form of differences in habitus and forms of capital influenced lecturer resistance as well as practices of management and ICT implementers during Moodle implementation. Lecturer resistance was caused by the following habitus: prior exposure to technology, age-related habitus, technophobia and pedagogical beliefs and the following forms of capital: qualifications, position, academic titles and employment status. The practices of management and ICT implementers were driven by the habitus of implementing, supporting, training of ICT projects, providing ICT infrastructure as well as developing and enforcing ICT policies. The following forms of capital motivated management and ICT implementers` practices: prestige, honour, level of Moodle expertise and university positions.

Contribution of the study: The study contributed to knowledge, theory and practice. First, the study provided a deeper conceptualisation of user resistance towards the implementation of ICT projects and suggested theoretical propositions to explain how lecturer resistance manifested during the implementation of LMS in HEIs. Second, the study developed a unified conceptual framework by integrating Bourdieu`s TOP and MRITI to explain resistance practices during LMS implementation in HEIs. Third, the study provided recommendations for managers and ICT implementers in Zimbabwean HEIs and similar contextual settings, to address user resistance issues by creating effective responses and strategies aimed at improving the design, implementation and uptake of LMS in HEIs. Additionally, recommendations were provided for HEIs who wish to achieve ‘technological determinism’ and/or ‘techno-centrism’, to implement policies that equip intended technology users with all the knowledge components of TPACK (Technology, Pedagogy and Content Knowledge). Finally, technology implementers should resolve exogenous issues in the institution before system implementation to avoid users directing focus on endogenous factors. This intervention and understanding may lead to the realisation of the full potential of ICT projects and achievement of expected objectives in HEIs of developing countries.

Key words: Resistance, ICTs, LMS implementation, Moodle, lecturers, Higher Education Institutions, developing countries, Zimbabwe.

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SOME PUBLICATIONS RELEVANT TO THIS THESIS

1. Lucy Sakala and Wallace Chigona (2017). Lecturer Resistance during ICTs Implementation in Higher Education in Zimbabwe: Forms and Triggers. *In Proceedings of SAICSIT '17, Thaba Nchu, South Africa, September 26–28, 2017, 10 pages.*
<https://doi.org/10.1145/3129416.3129449>
2. Lucy Sakala and Wallace Chigona (2019). How Lecturers Neutralise Resistance to the Implementation of Learning Management Systems in Higher Education. *Journal of Computing in Higher Education - Accepted for publication-June 2019*

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LIST OF ACRONYMS

CS	Computer Science
DRA	Deputy Registrar Academic
DVC	Deputy Vice-Chancellor
HCD	Human Capacity Development
HDI	Human Development Index
HEI	Higher Educational Institutions
ICT	Information and Communication Technology
ICT4D	Information and Communication Technology for Development
ICT4E	Information and Communication Technology for Education
IS	Information Systems
IT	Information technology
ITU	International Telecommunication Union
LDC	Least Developing Countries
LMS	Learning Management System(s)
MDGs	Millennium Development Goals
MHE	Ministry of Higher Education
MoICT	Ministry of Information and Communication Technology
Moodle	Modular Object-Oriented Dynamic Learning Environment
MOOCs	Massive Open Online Courses
MRITI	Model of Resistance to Information Technology Implementation
ODL	Open Distance Learning
PMLC	Project Management Life Cycle
PTC	Postal and Telecommunications Corporations
SDGs	Sustainable Development Goals
TAM	Technology Acceptance Model
TOP	Theory of Practice
TPACK	Technology, Pedagogy and Content Knowledge
UN	United Nations
UN	United Nations
VC	Vice-Chancellor

GLOSSARY OF TERMS

TERM	DEFINITION
Information and Communication Technology	A term that includes any device or application that supports the process of communication; or gathering, processing, and disseminating information
Moodle Learning Management System	An open-source software application used to conduct, administrate, document, track and report educational courses online or support face-to-face teaching, learning and research
Implementation	The process of designing, developing, installation and use of an ICT project
User resistance	The refusal by an expected recipient to comply with or accept something or change
Developed countries	High-income countries or resourceful settings
Developing countries	Low-income countries or resource limited settings
Human Development Index	A composite statistic, which measures the level of human development through level of life expectancy, level of education and per capita income in an economy
Habitus	The physical embodiment of cultural capital, to the deeply ingrained habits, skills, and dispositions that we possess due to our life experiences, past history and background. It links practices to positions in the social field.
Field /structure	A boundary consisting of a set of objectives, historical relations between positions anchored in certain forms of power (or capital), which it imposes on all the entities and agents, which enter into it.
Doxa	Political, economic, technological and socially constructed rules, policies, boundaries, expectations or norms and regulations that govern a field structure.
Practice	Identifiable patterns and repeated actions in which individuals or groups engage. They are not an unconscious reaction to rules, expectations or norms but they are well-planned, regulated improvisations resulting from relationships between a given situation in a field and habitus. So, [(Habitus*Capital) + Field = Practice].
Symbolic Capital	Agents may have varying levels of power depending on their respective capital and position in the field so by being in a position of influence, agents can retain or upgrade their positions. It is the socially recognised legitimisation such as prestige or honour. Incorporates cultural, social and economic capitals.
Symbolic Violence	When agents with more capital than others in the field apply the power conferred by it against others who hold less. They try to impose their culture, ways of behaving, and/or thinking on others who hold less.
Social Capital	Networks of influence or support based on group membership (such as family), friends, or other contacts
Economic Capital	Refers to money, property, and other assets
Cultural Capital	Forms of knowledge, educational credentials, and skills
System advocates	Top management, ICT experts, policymakers and Project implementers involved in implementing ICTs into HEIs
System value	The short or long- term benefits of a technology
System features	The functionalities and specifications of a technology
Initial conditions	The previously established work routines, power relations internalised in the organisation`s structures as perceived by its individuals or groups
Objects of resistance	These are entities from which users derive or direct their resistance. User resistance partly shapes what is being resisted, which is the directed object. Includes system features, system value and system advocates.
Triggers of resistance	Consequences of system use or non-use, which are activated by one or several initial conditions. Triggers such as unforeseen events, actions, reactions, responses or strategies, surround the implemented system
Perceived threats	Possible negative consequences of system implementation from the objects of resistance towards the subject of resistance such as individuals or groups

USE OF TERMS

In this thesis, the following terms were used interchangeably:

- 'Resistance' - 'User resistance' – 'resistance behaviours' - 'lecturer resistance'
- 'ICT projects' – 'educational technologies' - LMS(s)
- 'ICT implementation' – 'LMS implementation' - 'technology implementation'
- 'ICT implementers' - 'ICT experts'
- 'Developing countries' – 'low-income countries' – 'resource-limited countries'
- 'Top management' – 'senior management'
- 'Lecturers' - 'academics'
- 'Management' – 'managers'
- 'Management and ICT implementers' - 'system advocates' – 'Moodle advocates' – 'technology implementers' - 'project implementers'
- 'Moodle implementers' – 'LMS experts'
- 'Information technology' – 'technology'

CHAPTER ONE

THESIS OVERVIEW

Begin at the beginning . . . and go on till you come to the end: then stop.
∞ Lewis Carroll, English writer

1.0 Introduction

This thesis launches on the premise that developing countries are rapidly embracing the development and use of Information and Communication Technologies (ICTs) in almost all their economic sectors. To date, however, results indicate that developing countries in comparison to their developed counter parts still struggle to harness the productive capacity of their ICT resources. Despite all relevant stakeholders being in consensus with the vision of incorporating ICTs in their everyday lives, the expected objectives remain largely unachieved. The study investigates low uptake of Learning Management Systems (LMS) in Higher Educational Institutions (HEIs) with the potential of improving Human Capacity Development (HCD) of individuals in developing countries.

This chapter presents an overview of the whole study. The chapter begins with the background of the study, followed by the research problem, the nomological network and research purpose of the study. Subsequently, research questions and corresponding objectives are presented, followed by the research approach and the benefits of the study. The chapter culminates with a summary of the research motivation, purpose and organisation of the thesis chapters.

1.1 Background to the study

There is a wide range of evidence that has established the impact of ICTs implemented in HEIs in developing countries (Babić, Čičin-Šain, & Bubaš, 2016; Macharia & Pelsler, 2014; Nawaz, Awan, & Ahmad, 2011). HEIs are harbours of teaching, research and learning, which allow dissemination of knowledge whilst increasing the chances of enhancing the Human Development Index (HDI) of an economy (Faik & Walsham, 2013). Most HEIs in low-income countries have implemented ICTs in their workplaces to embrace the benefits afforded by technology (Broadband Commission, 2017). To date, most of these institutions have implemented ICT projects such as LMS or other applications to support teaching, research and learning activities (Canchu, Singer, & Ha, 2010).

Academics are encouraged to transform teaching practices by integrating technology to align with the 21st Century teaching and learning portfolios (Al-Busaidi & Al-Shihi, 2012). The process of embracing this new shift has posed both opportunities and challenges for HEIs. One of the challenges faced by HEIs is failing to reap the high expectations that comes with the implementation of LMS where the educational technologies are failing to become the means to an end (Nawaz, 2013). Despite HEIs implementing LMS to ease operational and academic processes, the uptake of the technologies among academics remains low (Watty, McKay, & Ngo, 2016).

ICTs continue to be a key enabler of societal and economic development. For the past three decades, the impact of ICTs on various sectors of most economies has been enormous, inclusive of HEIs in low-income countries. As societies become increasingly digital, ICTs must be harnessed to support HEIs, with the necessity to widen information access, advance quality teaching and learning and ultimately ensure more effective service provision (Broadband Commission, 2017). This is in line with Sustainable Development Goal (SDG) 4, which calls for quality education and SDG 9, which calls for (a) industrialisation, (b) infrastructure, and (c) fostering of innovation by year 2030 (United Nations, 2017). Most countries are investing in ICT programmes to close many gaps by 'leapfrogging' to ensure that SDG 4 and 9(c) targets are met. However, internet penetration in developing country households is below 50% compared to over 80% in developed countries (Broadband Commission, 2017).

Most developing countries in Africa are lagging behind on most of their SDG targets, including the countries in the sub-Saharan region such as Zimbabwe and Zambia. A myriad of factors have contributed immensely to the low uptake of ICTs in Higher Education. Some of these factors include, but are not limited to, lack of technical expertise, high cost of ICT implementation, inadequate training, complexity of implementation and poor organisational culture. Additional factors include lack of top management support, limited infrastructure, rapid technology changes, little user involvement, failure by users to perceive the value of the technologies and resistance to change (Cristina & Padilla-Pérez, 2017; Garg, Shukla, & Kendall, 2015; Scheuermann & Pedró, 2010).

1.2 Research problem

Many educational institutions have implemented various ICT projects, expecting to gain the long and short-term benefits afforded by integrating technology into work routines (Kituyi & Tusubira, 2013). It is now widely accepted that ICTs play an important role in teaching and learning norms in HEIs (Nawaz et al., 2011). Despite the significant role of ICTs in higher education and the continued implementation of LMS (such as Moodle, Sakai, Blackboard) to improve teaching and learning, the uptake of these technologies remains low in most developing countries (Touray, Salminen, & Mursu, 2013). In developing countries, ICT interventions face numerous constraints related to cultural, political and socio-economic perceptions (Garg & Shukla, 2017). However, achievement of the expected benefits has not always materialised due to poor policy frameworks, implementation plans, and ineffective communication of these benefits to intended users, resulting in conflicts between users, managers and implementers. In addition, the absence of effective change management mechanisms in HEIs has affected the way most users perceive newly implemented technologies. When clashes and misunderstandings occur, intended system users exhibit resistance behaviours to retain their status-quo (Jones, Jimmieson, & Griffiths, 2005).

The role of user resistance on the implementation and uptake of technology in HEIs in developing countries has not been fully explored. Many studies approach implementation of ICTs from the acceptance lens, developing many theories to explain how users adopt new technologies. Some of the acceptance theories include Diffusion of Innovation (Rogers, 1962) and Technology Acceptance Model (TAM) (Davis, 1989). These technology acceptance studies mostly explore adoption behaviours (Kumar & Daniel, 2016; Nawaz, 2013), leaving gaps in literature on resistance of technology in HEIs of developing countries.

However, there are many studies that have examined barriers to ICTs implementation (Garg et al., 2015; Rizzuto, Schwarz, & Schwarz, 2014), where user resistance and/or resistance to change has often been mentioned in passing as one of the barriers simply to be removed whenever it manifests (Ali, Zhou, Miller, & Ieromonachou, 2016; Kossek, Young, Gash, Nichol, & Nichol, 1994). Nonetheless, there is a general acknowledgement of complexities in ICT implementation, where studies envision that the manifestation of resistance is an indication

of system failure or defects, which generates discomfort in intended users (Marakas & Hornik, 1996).

1.3 An overview of resistance to technology implementation

There is a sizeable literature on resistance to technology implementation in various institutions, so user resistance becomes a key concept in most studies related to Information Technology (IT) implementation (Laumer, Maier, Eckhardt, & Weitzel, 2015; Samhan, 2018). Despite some studies exploring resistance to IT implementation, relatively fewer studies have examined resistance in its entirety, how and why it manifests from academics in HEIs of limited resource settings (Watty et al., 2016). Consequently, there is still a dearth of literature on resistance from lecturers during LMS implementation in HEIs (Deaker, Stein, & Spiller, 2016), since a number of studies focus on user resistance in corporate and health organisations (Lapointe & Rivard, 2005; Vinthagen & Johansson, 2013).

Whilst user resistance has been identified as one of the causes of failure of technology penetration in organisations, the implementation of ICTs in HEIs remains vital for reduction of techno-socio divides between the developing and the developed world (Pick & Nishida, 2015). The Oxford Dictionary defines resistance as ‘the refusal to comply with or accept something’. In the field of Information Systems (IS), resistance is the opposing force behind the introduction of a new technology which, in most cases, is taken to mean the opposite of acceptance (Mahmud, Ramayah, & Kurnia, 2017). Drawing from the given definitions, this study uses, ‘resistance’ interchangeably with ‘user resistance’ and proposes the following definition:

Any deviation behaviours from an ideal technology application being implemented, which can lead to minimal or non-uptake of the application resulting in conflicts between implementers and users.

A technology application can either be accepted or rejected, depending on whether it is causing positive gains or dysfunctionalities to intended system users. User resistance occurs because of fear of loss of the status quo and new technologies which could cause disruptions in the workplace as users try to protect gains that they already possess (Van Dijk & Van Dick, 2009). If ICTs are viewed with a critical lens without over-assuming that their presence brings a means to an end, then they might slowly diffuse into HEIs without facing too much resistance and perhaps, with time, achieve the expected gains of improving teaching, learning

and research (Kirkup & Kirkwood, 2005). In addition, users tend to justify their resistance behaviours whenever they feel threatened by the new technologies or when they face some form of punishment for their deviant behaviours, hence they focus more on finding ways to rationalise than on making an effort to accept the new technology (Cheng, Li, Zhai, & Smyth, 2014).

What has not been thoroughly conceptualised so far, which this study is going to particularly focus on, is forms of lecturer resistance behaviours, how and why they manifest during LMS implementation as well as their effect on the uptake of LMS in HEIs. Additionally, analysis of responses and strategies by technology implementers in HEIs towards lecturer resistance will go a long way to enhancing the communication channels between implementers and users and will probably enhance LMS uptake. Further, the thesis argues that understanding contextual factors surrounding LMS implementation in HEIs can assist the relevant key stakeholders with rich information, which can be used to better inform the implementation process. Analysis of these could help develop strategies for implementers to effectively implement ICT projects within certain environments, whilst effectively managing user resistance. Therefore, the study proposes that an analysis of low uptake of LMS implementation in HEIs in developing countries should look at how, why, to whom and when different forms of lecturer resistance behaviours manifest as well as how project implementers manage the resistance behaviours to maintain normal work practices.

1.4 Nomological net of the research

A nomological net is fundamental in research, since it assists in the contextualisation of major concepts emerging from the empirical situation in relation to the extant literature (Benbasat & Zmud, 2003; Cronbach & Meehl, 1955). It represents the constructs of interest, emerging themes and causality relationships surrounding the phenomenon of interest (Zhang, 2013). Besides establishing the philosophical foundation of key concepts in the research, the network also validates research constructs in light of the existing and emerging concepts of issues under investigation (Benbasat & Zmud, 1999). A concept in the network is validated when a network statement presents evidence of relationships from empirical observations (Leary, Kelly, Cottrell, & Schreindorfer, 2013). Figure 1.1 illustrates core concepts of resistance

from extant literature, observable sub-constructs, emerging themes and their interrelationships.

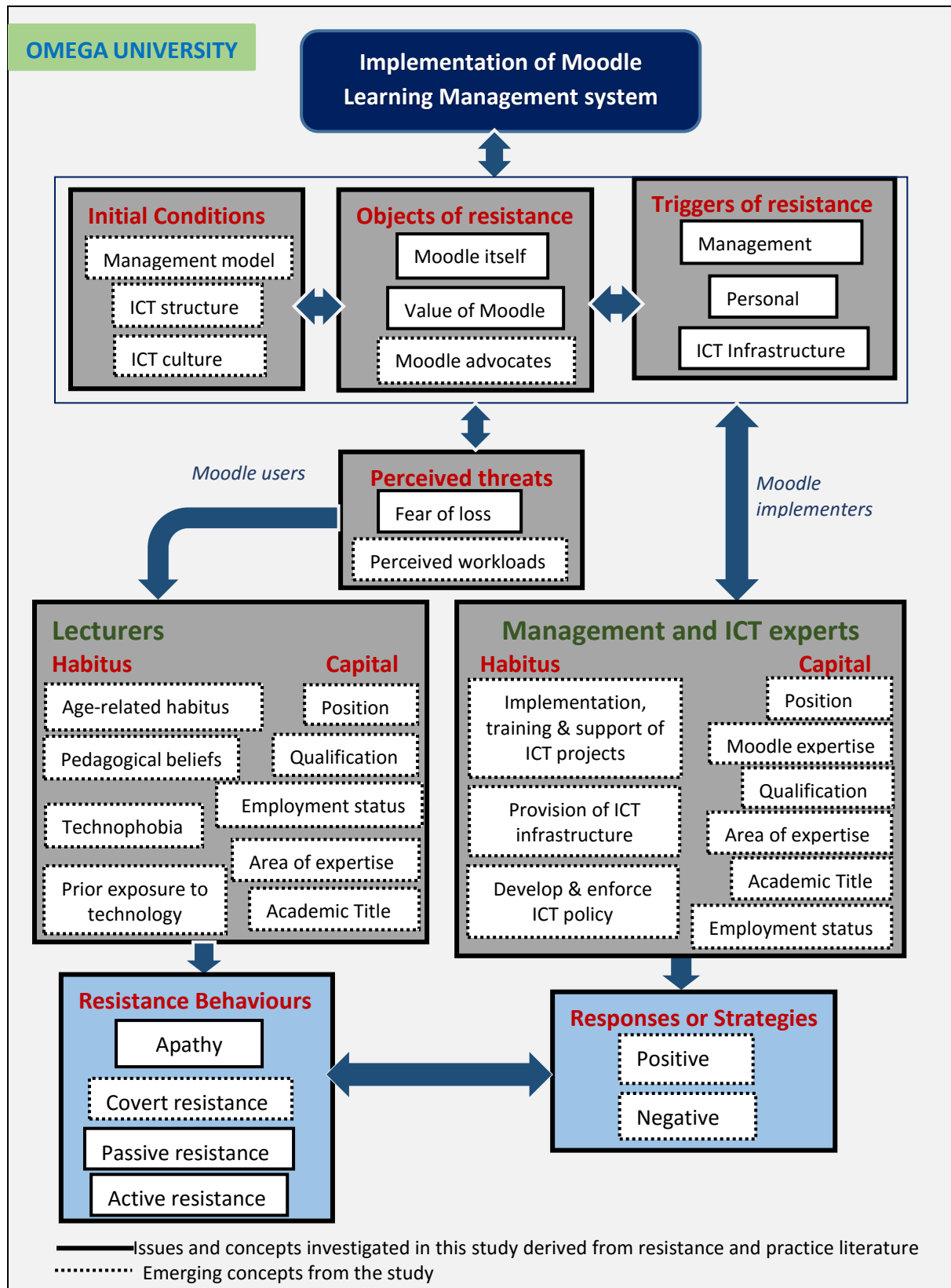


Figure 1. 1: Nomological net of the research

Further, the network relates the main concepts of resistance manifestation to the contextual factors of habitus and capital embedded in lecturers, management and ICT experts, leading to the understanding of the emergence process of lecturer resistance behaviours. The nomological network thus brings to an agreement the theories and the empirical data. Therefore, the causal factors determining the generation of lecture resistance behaviours were observed as initial conditions, objects and triggers of resistance, resulting in perceived threats, which in turn interact with the values and beliefs in relation to the position of the participants in the field, resulting in different forms of resistance behaviours as well as strategies.

1.5 Research purpose

This study is driven by the need to understand the phenomenon of resistance; to explore how, and why its various forms exist and manifest in HEIs in developing countries. In addition, the study wants to find out how project owners and top management respond to the emergence of resistance and which strategies they use to eradicate it. A deeper understanding of resistance behaviours and their nature may help provide a clear picture on what is happening on the ground with users. This could better inform ICT implementers and management on how to manage resistance, at the same time coming up with befitting strategies of managing change caused by disruptive technologies. The study of cases of low uptake of ICT projects in HEIs and resistance can provide appropriate prescriptive strategies, as well as illuminate on causality and contextual environments that affect the implementation process.

The research challenges the status quo of viewing resistance to change at face value as a negative factor where managers and ICTs implementers perceive it as negative and strive to overcome it whenever it manifests. Although some see resistance as a barrier to be removed (Ali et al., 2016; Kossek et al., 1994), others see it as a cry for help from users – a means by which users express their concerns over a flawed system that is being forced onto them for reasons best known to the implementers (Marakas & Hornik, 1996). Conceptualisation of resistance, together with the organisational processes and contextual factors in HEIs in developing countries, could help both end-users and project implementers widen their understanding in the cases of low technology uptake. Owing to the complexities of IT, it is

necessary to understand resistance to the implementation of ICT projects, under a comprehensive perspective that considers the implemented system, the user, the organisation, and its environmental context. The approach adopted in this research sought to understand the emergence of resistance through analysing the individual and contextual dimensions of an ICT project implemented in an HEI of a developing country.

1.6 Rationale of study focusing on lecturers

Current research on technology implementation highlights that there is a paucity of theory explicating manifestation of user resistance during implementation of ICT projects in HEIs of low-income environments (Laumer, 2011; Laumer et al., 2015). In view of this realisation, this research is interested in addressing this gap in developing countries by examining the manifestation of resistance behaviours from lecturers during implementation of an LMS.

The rationale behind the study using lecturers, not students, as intended users of the LMS, was to reduce complexity of the study by focusing on one type of users as well as other stakeholders involved in the implementation of ICT projects in HEIs. The researcher sought to conceptualise lecturer resistance because many studies on ICT implementation in HEIs tend to focus on how and why academics should adopt ICTs in teaching (Kirkwood, 2014), with less emphasis on how and why lecturers resist such technologies. Many studies place more importance on why academics should adopt ICT for the sake of students, without necessarily understanding contextual factors surrounding lecturers, which could make them resist rather than accept any new technologies into their teaching (Blin & Munro, 2008).

There is limited literature that has brought together, in one study, all the stakeholders of ICTs implementation in HEIs to explain the manifestation process of lecturer resistance, its effect on the uptake of LMS as well as how management and ICT implementers manage lecturer resistance (Habib & Johannesen, 2014; Nawaz & Kundi, 2011). Similarly, conceptualisation of contextual factors using practice theory enriched this study's theoretical explanations to contribute to the understanding of user resistance, how it manifests and how it could be managed to enhance uptake of LMS by lecturers in HEIs in developing countries (Bain & McNaught, 2006).

1.7 Research questions and objectives

The study investigated processes and factors surrounding the implementation of ICT projects in HEIs and analysed how and why they led to the manifestation of different forms of user resistance. Management and ICT experts play a significant role in the implementation of ICTs in an organisation (Rivard & Lapointe, 2012). However, ICT implementers and management in the education sector in most developing countries such as Zimbabwe have been criticised for having limited technical expertise and not following proper procedures during implementation of ICT projects, leading to failure and low uptake of many projects (Farrell & Shafika, 2007). The strategies or responses employed by ICT implementers and management during ICT implementation influences the lecturer`s choice to resist or accept the system. For these reasons, this thesis intends to find answers to the following primary research question:

How does resistance behaviours from lecturers manifest during the implementation of LMS in developing country HEIs?

To answer this primary research question, the following sub-questions and corresponding objectives in Table 1.1 were deduced.

Table 1. 1: Sub-research questions and corresponding objectives

Sub-questions	Objectives
What types of resistance behaviours manifest from lecturers during LMS implementation in HEIs in Zimbabwe?	To identify the forms of resistance behaviours that manifest from lecturers during LMS implementation in HEIs in Zimbabwe.
How do resistance behaviours manifest from lecturers during LMS implementation in HEIs?	To understand the manifestation process of different forms of lecturer resistance behaviours during LMS implementation in HEIs.
How do responses or strategies from ICT experts and management influence resistance from lecturers during LMS implementation?	To analyse the influence of management and ICT experts` responses or strategies on lecturer resistance behaviours.
How do contextual factors influence the practices of lecturers, managers and ICT experts during LMS implementation in HEIs in Zimbabwe?	To examine the influence of contextual factors in the realisation of practices of lecturers, ICT experts and management during LMS implementation in HEIs.

The objective of this study is to analyse resistance to the implementation of LMS in HEIs in a developing-country context. The intermediate objectives include the analysis of factors and respective determinants of resistance manifestation in the organisational context, as well as

to elucidate the tensions, conflicts and responses related to the clashes between ideas about the implementation of the technology.

1.8 Research approach

The study is interpretive, qualitative and based on a single case study focusing on LMS implementation and its low uptake in one of the universities in the developing-country context of Zimbabwe. Research instruments used to collect data were semi-structured interviews, secondary data, participant observations, informal conversations and field notes. Data was collected between mid-2015 and mid-2016. The constructs that informed data collection were drawn from an integrated conceptual framework of the study.

The integrated conceptual framework was formulated from two theoretical lens; Bourdieu's Theory of Practice (TOP) (Bourdieu, 1990b) and a multilevel model of resistance to IT implementation (MRITI) (Lapointe & Rivard, 2005). The study drew mainly from TOP to gain a broader understanding on the structures and dynamics of HEI practices. TOP explains what people do (practices), the nature of their work and efforts taken to solve conflicting interests amidst complex organisational work (Corradi, Gherardi, & Verzelloni, 2010). As the study attempted to gain more insights of the unique phenomenon of resistance as opposed to the usual adoption, MRITI was used to explicate the manifestation process of various forms of resistance behaviours from lecturers (Lapointe & Rivard, 2005).

1.9 Benefits of the study

The research makes three types of contributions: theoretical, practical and knowledge. The theoretical contribution emerges from the use of a practice theory to explain resistance practices towards LMS and integrating a resistance model MRITI into TOP to enhance its explanatory power with regard to LMS implementation in HEIs.

The research also adds to the body of knowledge on resistance to technology implementation in IS. The study further provides research propositions explicating the manifestation of resistance practices during LMS implementation. Relevant stakeholders such as senior management, ICT experts, project managers, policymakers and technology users would apply

research findings in their daily work; this formulates the practical contribution of the study. Such practical contributions will inform change management strategies, policies and processes appropriate for HEIs in developing countries during implementation of LMS, thus assist to improve uptake. The benefits of the study are summarised as follows:

1. The study contributes to the IS body of knowledge where there is a dearth of deeper theoretical insights on resistance studies compared to adoption. Further, the study provides propositions drawing on empirical observations and theoretical underpinnings to emerge with a better explanation, theory and conceptual framework for resistance.
2. The research is significant to HEIs in Zimbabwe and other developing countries because it provides lecturers/academics with a voice; a platform to air views thereby providing insights on how resistance behaviours manifest and, consequently, strategies or responses that can be used to manage those behaviours.
3. The research is important to managers, ICT experts, project implementers and policymakers involved in the design, development of ICTs, processes and strategies implemented in HEIs. The study provides a platform to listen, and hence inform on, better strategies that could help improve management of resistance behaviours, at the same time increase uptake of LMS in HEIs in developing countries and similar settings.
4. The research could be significant to the wider arena of HEIs in developing countries, which can draw on theoretical and practical insights to help address social inconsistencies and inequalities brought about by the implementation and use of new technologies in everyday work practices.

1.10 Summary of research motivation and purpose

This study is motivated by the notion that the conceptualisation of the phenomenon resistance in the social dynamics of HEI in developing countries is limited and has not been adequately theorised and investigated in the current literature. Figure 1.2 provides the rationale behind the motivation and purpose of this research.

Research Motivation

The implementation of LMS in HEIs comes with its own fair share of challenges among which are limited technical expertise, high cost of ICT implementation, inadequate training, poor infrastructure and non-user involvement. Whilst these factors play a significant role in limiting LMS uptake, the role of **user resistance** to LMS implementation in HEIs in developing countries has not been fully explored.

There is still a paucity of understanding and organisation of resistance, compared to adoption given, that they both manifest in the same work environments where technology is implemented.

Validation of motivation

Research Gaps

User resistance has been taken for granted and at face value as a negative factor to be removed whenever it manifests during ICT implementation, without fully understanding its root causes. However, current studies acknowledge that resistance disrupts ICT implementations and that manifestation of resistance during implementation of ICTs indicates system failure or defects.

However, there is need for further improvement on the quality and degree of theorisation. Relatively fewer studies have examined resistance in its entirety; how it manifests, why, when and from academics in higher education in developing countries. Most studies on user resistance focus on corporate organisations and health institutions.

Formulation of research purpose

Research Purpose

This study purpose is to understand the manifestation process of resistance from lecturers during LMS implementation in HEIs in a developing-country context.

The study identifies forms of resistance behaviours that manifest from lecturers, as well as examines the responses and strategies used by management and ICT implementers to manage lecturer resistance behaviours. Further, the study analyses how contextual factors, internal and external to the HEI, influence the manifestation of lecturer resistance practices.

1.11 Organisation of the thesis chapters

This section provides a brief outline of each of the chapters as provided in the thesis.

Chapter 1 is the introduction, which gives an overview of the thesis. The chapter outlines the research problem, giving rationale on why it is important to gain more insights on the role of resistance in the low uptake of LMS implementation in HEIs in developing and similar environments. Primary and secondary research questions with their corresponding objectives are also presented, together with the potential contributions from the study.

Chapter 2 reviews the implementation of ICTs in higher education, highlighting global ICT trends and outlining the influence of university structures and culture on ICTs implementation in HEIs. The chapter further reviews the concept of organisation change, resistance to change and change management during implementation of ICTs. The chapter concludes by identifying factors that influence the implementation of ICTs in HEIs in developing countries.

Chapter 3 reviews literature by situating the research within the existing theories of user resistance during implementation of ICTs. A conceptualisation of user resistance is undertaken, followed by a review of the manifestation process of resistance using MRITI. The chapter further analyses responses and strategies from project implementers towards user resistance during implementation of ICTs. Gaps on resistance studies, which the thesis intends to address, are then summarised.

Chapter 4 discusses the theoretical dimensions of the study, drawing from Bourdieu's Theory TOP and MRITI. TOP concepts of habitus, practice, capital and field are located to explain why lecturer resistance manifests during LMS implementation in HEIs, whilst MRITI is appropriated to elucidate the forms of lecturer resistance behaviours and how they manifest.

Chapter 5 outlines the research methodology. The interpretive research paradigm is discussed, together with the justification for using it for this study. The case study research-design approach is also discussed. Various methods of data collection are outlined such as semi-structured interviews and documents. The chapter also narrates how analysis techniques were used and the data-analysis process, at the same time delineating validity and reliability issues.

The case description in **Chapter 6** summarises the context of the case study in Zimbabwe. There is a broader exploration of the situation underlying ICTs implementation in the country and its policies on the role of ICTs in Higher Education.

Chapter 7 presents the first phase of the findings based on MRITI. The chapter identifies the various forms of resistance that manifest from lecturers during LMS implementation at 'Omega' (pseudonym) University. Omega University' was chosen because it represented a

unique case, which distinguished itself from others by possessing heterogeneous and elevated levels of the phenomenon of interest. The process of how the lecturer resistance behaviours manifest is analysed using MRITI concepts. Responses and/or strategies from management and ICT experts are also analysed.

Chapter 8 presents the second phase of the findings based on Bourdieu's TOP. The analysis examines how contextual factors, internal and external to Omega, influenced manifestation of lecturer resistance practices during LMS implementation in relation to habitus, capital and field positions. The chapter analyses the habitus and capital in the realisation of practices of lecturers, management and ICT implementers in relation to their positions in the Omega field.

Chapter 9 discusses the results. The chapter presents a thematic summary of the study findings. It also examines the implications of the findings, using key theoretical concepts of TOP as well as MRITI, and suggests seven theoretical propositions for the study. The research questions are revisited to summarise how the study answered them.

Chapter 10 presents the conclusions of the study. It summarises the contributions of the study in terms of theory, knowledge and practice. It further reflects on the limitations of the study and outlines areas for further research. The chapter concludes with reflections on the research process by the researcher.

CHAPTER TWO

IMPLEMENTATION OF ICT PROJECTS IN HIGHER EDUCATION

There is no discovery without a search and there is no rediscovery without a research.

∞ Benjamin Suulola, Christian author

2.0 Introduction

This literature review chapter expands on the rationale for the study in the previous chapter, situating the research in literature of relevant main themes of this thesis: Implementation of ICT projects in HEIs in developing countries, structure and culture of HEIs, change management in HEIs and factors influencing implementation of ICT projects in HEIs. The chapter starts by reviewing the factors and processes of technology implementation in developing countries; it highlights the ICT policies, the role of ICT in higher education, analyses global trends of ICT uptake, outlining challenges faced during implementation of ICT projects in HEIs of developing countries. A section on factors influencing technology implementation in HEIs follows, and then organisational culture is linked to resistance to change. Change management is a crucial aspect when introducing new tools and processes into an organisation, hence explicating it could assist ICT implementers with practical implications to apply during IT implementation. The chapter culminates with a summary of knowledge gaps from the synthesised literature, which this thesis intends to address in line with research objectives.

2.1 Implementation of ICT projects

This section provides a working definition of ICTs project implementation and its scope. It also summarises three kinds of approaches to implementation of ICTs in other economic sectors.

2.1.1 Defining ICT projects implementation

ICT projects implementation is a composition of two terms (ICTs and project implementation), which can first be explained separately to easily understand the meaning. Literature provides different definitions for ICTs. Broadly, ICTs refers to all communications, information and related technologies (Zuppo, 2012). To narrow this definition, ICTs are *'technologies used by people and organisations for their information processing and communication purposes'* (Zhang, Aikman, & Sun, 2008). Additionally, ICT is also known as *'a collection of technologies'*

and applications which enable electronic processing, storing and transfer of information to a wide variety of users or clients' (Cohen, Salomon, & Nijkamp, 2002).

In general, 'project implementation' is the process of carrying out the activities described in a work plan. Similarly, project implementation is a post-sales process often overseen by a project manager to guide clients from system development or purchase stage to the use of the software or hardware being acquired (Proctor, 2011). The process includes requirements analysis, scope analysis, system integration, user training and system installation. This study consequently deduced the following definition for ICT projects implementation:

Acquiring and/or development of new technologies and applications (software and hardware) for use in HEIs to enable electronic teaching, learning, research, communication, storing, transfer and processing of information.

2.1.2 Process of implementing ICT projects

During the implementation of ICT projects, project managers and teams use project-management methodologies following the Project-Management Life Cycle (PMLC). PMLC phases are; initiation, planning, execution and closure (see Figure 2.1). In between these project phases are processes of project definition, detailed planning, monitoring and control and project review. A project is an endeavour with a beginning and end date involving a series of tasks which consume resources to meet specific objectives (Munns & Bjeirmi, 1996). A project's success depends on how project management techniques are applied.



Figure 2. 1: Project management life cycle for ICT implementation (Method123, 2018)

Five phases of the PMLC in Figure 2.1 are described as follows:

Initiation phase: It involves the early processes which assess project needs in terms of financial feasibility and which define the project scope (William & Kwak, 2000). Project needs include technical and financial constraints, staffing, training and support, change and scope constraints. Any unforeseen changes in the project pose time and cost risks. It is therefore, imperative for both developers and clients to understand requirements before any work commences as this would reduce problems along the way.

Planning phase: The second phase comprises a detailed list of work activities with their timelines and budget to ensure work is completed on time and within budget. This guides the project team through project development. Planning of risk, change and quality issues also assist management in meeting the project objectives on time and within budget. Project management consultancies provide ready-made templates for project managers to easily create clear project roadmaps since accuracy can be challenging (Method123, 2018).

Execution phase: The third phase builds project deliverables as agreed in the planning phase. Work packages are allocated to teams according to assigned tasks. Simply put, the project plan is put into action with proper coordination and management of personnel and other resources to achieve project deliverables (Weiss & Wysocki, 1992).

Monitoring and control phase: The fourth phase in most cases happens concurrently with the execution phase. This is crucial because changes are imminent in every project, despite proper planning. Project teams manage new changes such as scope creep; they implement corrective and preventive measures to comply with the project plan. This phase is iterative and includes measuring current project activities (where we are), measuring project variables, for example, cost, scope versus what was planned (where we should be) and identifying corrective actions to address issues and risks (how to get back on track) (Lewis, 2002).

Closure phase: The fifth phase is where teams close a project and deliver a finished product to the client. At this stage, resources are released to other projects. The project team reviews performance against initial project goals. Problem areas, time and budget compliance issues are evaluated. This analysis creates lessons learned, which are then documented and assist in building stronger processes and teams for future projects (Lewis, 2002).

Although project management may seem overwhelming due to the organised procedures, following all the PMLC phases assist project teams to achieve even the most complex of projects. Implementation of new ICTs project can be tackled from different approaches. The implementation approaches are described in the subsequent section.

2.1.3 Approaches to implementation of ICT projects

Accurate system implementation is crucial to the success of any project. Different approaches can be used to implement an ICT project, depending on complexity variables. Table 2.1 presents the parallel, phased and crash implementation approaches.

Table 2. 1: ICT project implementation approaches (Charvat, 2002)

Approach	Description
Parallel implementation	An older system runs simultaneously with the new system for a specified time until the new system is working correctly. The new system will then operate on its own and the old system is removed. Parallel implementation is safe in that one can always go back to the old system when the new system is not working well, allowing time to perfect the new system. However, the approach can be expensive as it involves doing twice the work for a given period.
Phased implementation	A new system is gradually introduced in several phases to replace some parts of the old system until the new system takes over. Implementing a new system all at once may not be feasible due to important operations that might still need to run to avoid a halt of business. This approach allows the system to be rolled out, one department or group at a time. There is minimal disruption to business operations and it allows users to gradually get used to the new system. However, data can be lost in case a part of the new system fails, since there would be no back-up.
Crash implementation	Also known as full-blown or direct changeover, crash implementation involves completely stopping the old system and starting the new system; all the data that was used in the old system goes into the new system. Proper planning is required such as necessary contingencies to minimise potential failure. Despite this being the most risky approach, most organisations favour this method because it takes minimal effort and time. The new system is usually implemented during less busy periods such as weekends and holidays.

Poor implementation can be a major cause for project failure. Training of system support and users from the client's organisation is also crucial during implementation of ICT projects to ensure overall success of the system.

2.2 Assessment of global ICT project implementations

Africa has a quite a low integration of ICT in the value global chain; it also has reduced levels of ICT penetration compared to most of the developed countries in Eurasia (Dobra, 2012; World Bank, 2016). Most developing countries in Africa such as Zimbabwe still lag behind in ICT implementation and usage (ZIMSTATS, 2016). This study investigates how such developing

environments contribute to contextual factors that influence the levels of ICT access, development and infrastructure.

Most countries in sub-Saharan Africa struggle to meet their SDG targets, including SDG 4 and SDG 9. Similarly, the Southern Africa sub-region prioritised its focus on a few SDGs, which include poverty eradication, gender equality and empowerment, as well as improved learning and health. Although education (SDG 4) is prioritised, innovation (SDG 9) remains under-prioritised. The uneven focus on SDGs poses challenges for the sub-African African region to achieve all the SDG targets by 2030 as expected by the United Nations (United Nations, 2015). Despite a general increase across the world in the implementation, use and access to ICTs since 2001 (see Figure 2.2), ICT developments are low in the regions of developing and least developing countries (LDCs) (see Figure 2.3) (ITU, 2017b).

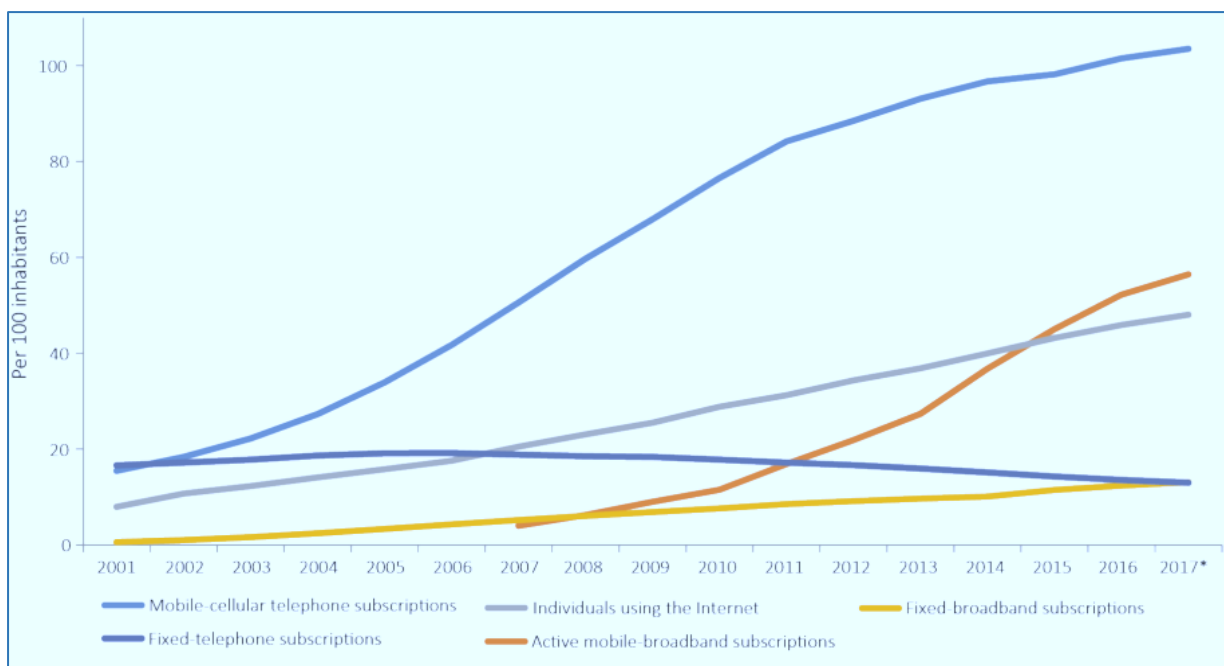


Figure 2. 2: Global trends of ICT implementation and uptake
Source: ITU (2017b)

Global internet access and use in developed settings was over 81% by 2016, compared to almost 40% in developing settings for the same period. Further comparison shows that Africa had 25% internet users by 2016 whilst Europe had almost 80% internet users in the same period (ITU, 2014, 2016). Despite an overall global growth of 20% in mobile-broadband subscriptions between 2012 and 2017, developed countries enjoyed four times more mobile-

broadband subscriptions per 100 people compared to that of developing countries and LDCs (ITU, 2017a).

Households in developed countries have almost twice as much internet access as developing countries, that is, 84.4% and 42.9% respectively, whilst LDCs have as little as 14.7% (see Figure 2.3). Internet users in most developing and LDCs access ‘free’ internet from universities, schools and public hubs (ITU, 2017b). The digital gap of ICT penetration between Europe and Africa is 84.2% and 18% respectively. With more than 4 billion people in the world without internet access and over 90% coming from the developing world, it remains a challenge for African regions to achieve SDG 9 targets to ensure equal access to information, knowledge and fostering innovation by 2030 (ITU, 2017b; United Nations, 2015).

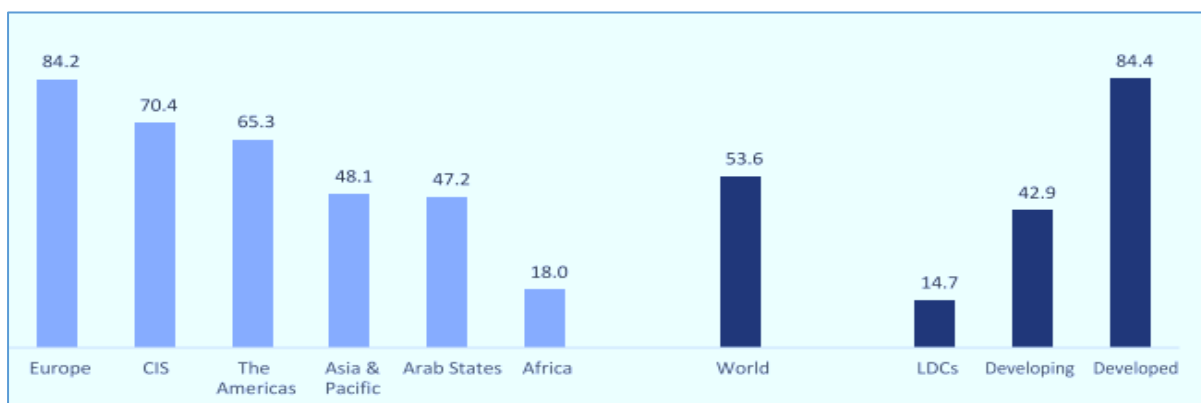


Figure 2. 3: Households with internet access by region
Source: ITU (2017b)

Some countries prioritised SDG 9 in line with contextual factors and previous achievements of Millennium Development Goal 8 (MDG8) from the 2000-2015 targets. MDG8 sought to develop global partnership for development and avail benefits of new technologies. For instance, South Africa attained universal access to voice communication through integrated access of fixed-line and mobile connections. Between 2003 and 2013, its mobile connections per 100 people tripled to 145 from 37 (Statistics South Africa, 2015). Similarly, Zimbabwe achieved success on MDG 8 of over 80% mobile penetration by 2014 from a meagre 2.1% in 2000 (United Nations Zimbabwe, 2015). Despite success of ICTs implementation in these sub-Saharan countries, it is not directly proportional to uptake by intended ICT users. Many HEIs

in developing countries have failed to achieve the expected objectives of harnessing the productive capacity of their ICT resources.

2.3 Information and Communication Technology for education (ICT4E)

Information and Communication Technology for Education (ICT4E) involves the use of ICTs to provide socio-economic growth and improvement of individuals, as well as skills of institutions in developing countries (Lubin, 2018; World Bank Group, 2012). The influence of ICTs in education has the potential to improve learning outcomes which transform societies by providing social equality and political stability (World Bank Group, 2012). The impact of ICTs is not only seen in the education sector, but also in industry. Lubin (2018) avers that ICTs have the possibility to improve e-commerce, social networking and development in low-income countries if there is access to internet and computers as well as improved computer skills. There has therefore, been an increase in ICTs investment in the education sector, despite limited evidence of the ICTs improving education.

Despite high rates of implementation failure, low uptake of ICTs and limited evidence of improved education, there is continued global lobbying to implementing ICTs in the education sector. Whilst the developing world perceives implementation of ICTs as catching up with the competitive international community, the developed world perceives ICTs as an opportunity to modernise education of the low-income countries (Lubin, 2018). Although, globally, ICTs have been used as a means to improve education access and quality, increased ICT investments in the education sector of most African countries have failed to be the means to an end (Yonazi, Kelly, Halewood, & Blackman, 2012).

2.3.1 Implementation of ICTs in higher education in developing countries

For over three decades now, many HEIs in developing countries are increasingly using ICT tools such as email, internet and LMS to enhance and transform workplaces (Nawaz et al., 2011). Several researchers posit that university education forms a vital component of the education system (Canchu et al., 2010; Sobaih, Moustafa, Ghandforoush, & Khan, 2016). Most universities in developing countries have implemented ICTs to enhance research, communication, governance, teaching and learning (Macharia & Pelsler, 2014). Despite

limited budgets towards HEIs, university management continuously advocate for ICT tools in teaching and learning.

Although many HEIs have implemented ICT projects, the technologies are failing to acquire expected benefits of transforming teaching and learning, or improving uptake by intended users (Nawaz, 2013). The majority of HEIs in developing countries have low uptake of ICTs due to a variety of factors. These factors include limited ICT infrastructure, lack of technology expertise, lack of top management support, and hostile and negative attitudes from users and implementers. Other factors include lack of user participation, limited training, high cost and complexity of technology implementation and poor organisation cultures (Garg et al., 2015; Laferrière, Hamel, & Searson, 2013).

2.4 Factors influencing implementation of ICT projects in higher education

The education sector faces many challenges during the implementation of ICT projects. It is, therefore, imperative to investigate why ICT projects in HEIs fail to leverage expected benefits (Garg et al., 2015). Extant literature categorises a variety of factors that affect the successful implementation of ICTs in HEIs. Bingimlas (2009) divided these factors into micro-level, meso-level and macro-level barriers. Micro-level barriers include resistance to change and attitude of users towards ICTs; meso-level are organisational context barriers; and macro-level barriers include political and external factors. Further, Bingimlas (2009) divided material from non-material factors where the former includes computer hardware and machines and the latter includes user expertise and technology integration. Other studies perceived barriers at institution, system and user levels. This section reviews barriers that influence ICT implementation in HEIs. This study classifies the impediments into four: technological, managerial, environmental and social (see Table 2.2).

2.4.1 Technological factors

Technical factors, such as quantity and quality of ICT infrastructure, nature of technical expertise, system complexities and training issues, can influence the success or failure of ICT implementation processes in HEIs, resulting in the reduction or improvement of technology uptake by users (Huda & Hussin, 2010). Lack of training and technical support may cause

increased technical breakdowns, which lead to users detesting ICTs (Bingimlas, 2009). Frequently, users would face difficulties in using any new technologies when there are system complexities, so continual effective training programmes are required. Consequently, poor ICT infrastructure culminates into inadequate internet bandwidth, technical tools and poor network connectivity, which makes it difficult to implement new technologies successfully. The infrastructure hindrances differ from country to country. In Syria, the inadequacy of computers is the highest barrier to technology integration by learners and teachers (Albirini, 2006). Similarly, poor internet access, poor bandwidth and lack of computers are impediments to technology uptake in Saudi (Bingimlas, 2009). Further, in Zimbabwe and Uganda, ICT projects are affected by electricity outages, poor internet connection, lack of ICT infrastructure and lack of technical expertise (Konyana & Konyana, 2013; Twinomujuni, 2011).

2.4.2 Managerial factors

An HEI's management model depicts its organisational structure and culture, which influences failure or success of ICT projects' implementation. Management factors include power structures, top management support, governance and organisational change (Searson, Laferriere, & Nikolow, 2011). Most managers in HEIs of developing countries do not consider the ICT department as critical; it exists as a service department assisting with operations of other critical departments (Okumus, Bilgihan, Ozturk, & Zhao, 2017). This perception leads to low budget allocations towards ICTs, exposing implementation of new ICT projects to failure. Lack of ICT expertise has led to poor implementation of ICT projects where implementation is marred by incompetent project managers and IT leadership. ICT implementation is rushed without proper planning and failure becomes rampant (Garg et al., 2015).

Many HEIs do not have change management policies to support organisational change. Proper change management and awareness assist a smooth transition by users to accept new technologies at a reasonable pace whenever there is conflict from misalignment of strategic plans and ICT implementation. A university with a bureaucratic or corporate culture is marred with communication breakdowns due to hierarchy and a lot of protocol (see Section 2.6). Poor communication between system users and project implementers hinders smooth

coordination of grievances and feedback; efforts to fix system dysfunctionalities are often thwarted (Awidi & Cooper, 2015).

2.4.3 Environmental factors

The economy, government, public infrastructure and policy factors play an important role in the implementation of ICT projects in HEIs. Since it is costly to implement ICTs in most HEIs in developing countries, it is imperative that governments provide enough financial budgets towards such ICT initiatives. Without enough financial support, HEIs experience high rates of failure in ICT projects (Garg & Shukla, 2017).

Most HEIs in developing countries are characterised by poor economic and political conditions despite increased investments in ICTs. Zimbabwe has had economic and political crises for over two decades now and this has affected the implementation of new technologies in most of its economic sectors (Musiyandaka, Ranga, & Kiwa, 2011). Despite ineffective ICTs policies, most developing countries are increasingly aligning their national policies to ICT investments. Ministries of high education are encouraged to design policies that enable integration of ICTs in their work (Karunaratne, Peiris, & Hansson, 2018).

2.4.4 Social factors

Implementation of ICT projects is influenced by individual or personal attributes, cultural beliefs and social norms (Huda & Hussin, 2010). Hostility towards technology by users includes resistance to change, failure to appreciate short and long-term benefits of ICTs and boycotting training. This challenge requires proper change management and awareness programmes to ensure that users are taught to appreciate ICTs in their workplaces (Awidi & Cooper, 2015). Differences in values, beliefs and past backgrounds of some academics make them believe that adopting new technologies does not bring any more benefits to the existing curriculum than there already are (Bingimlas, 2009).

Some technologies can be complex for users to adopt or understand at the same pace. To yield more user involvement, project implementers should be patient with slow learners and laggards, at the same time appreciating that users have diverse skills which call for different

levels of training (Rogers, 1962). Some challenges in using new technologies are age-related where older academics may lack prior computer knowledge, hence, negative perceptions (Garg et al., 2015). Table 2.2 presents a summary of the discussed factors and their examples (Awidi & Cooper, 2015; Bingimlas, 2009; Garg et al., 2015; Huda & Hussin, 2010; Rogers, 1962).

Table 2. 2: Factors influencing implementation of ICT projects in higher education

Category	Example of factors from literature	
<u>Technological</u>	<ul style="list-style-type: none"> • High cost of ICT facilities • Poor ICT infrastructure, bandwidth, shortage of computer tools • Incompatibility of hardware and software • Rapid evolution of technology • Systems not designed for purpose • Insufficient technical support staff 	<ul style="list-style-type: none"> • Complexity of the system itself • Quantity and quality of training • System-related knowledge barriers • Lack of technical expertise/implementers/project managers • Complexity of system implementation and use
<u>Managerial</u>	<ul style="list-style-type: none"> • Lack of commitment by top management (organisational support, shared vision) • ICT policy not integrated into university strategic plan. • Ineffective ICT policies • Organisation goals not aligned to ICTs • ICTs not prioritised, allocated low budgets • Limited ICT awareness • Lack of IT leadership 	<ul style="list-style-type: none"> • Heavy workloads and pressure of work • Poor communication channels • Lack of coordination leading to silos • Poor corporate culture, strategic plan and administrative structure • Lack of change management policy • Organisational politics and conflicts • Unrealistic project timeframes • Poor project planning, implementation and management processes
<u>Environmental</u>	<ul style="list-style-type: none"> • High cost of ICT implementation • Lack of financial support from government • Vendor issues (selection of ICT products from suppliers, contract agreements) • High cost of ICT-related applications • Lack of external funding • Limited or extensive role of suppliers 	<ul style="list-style-type: none"> • Cost of ICT planning, development and implementation • Cost of effective training and experimenting with ICT systems • Misalignment of government policies with ICT in HEIs • Lack of effective government ICT policy • Economic and political challenges
<u>Socio-cultural</u>	<ul style="list-style-type: none"> • Failure to perceive ICT benefits • No involvement and participation of users • No proper ICT awareness and education • Low user satisfaction from ICTs • Lack of ICT skills from users • Potential language barriers • Negative perceptions about technology • Privacy of work concerns • Insufficient computer knowledge • Restrictive mind-sets towards ICTs 	<ul style="list-style-type: none"> • User resistance, resistance to change • Difficulties in using the new system • User- friendliness of the system • Hostility towards adoption of ICTs • Perceived threats from technology • Lack of and boycotting of training • Over-expectation from ICTs. • Different users' skills • Technophobia • Cultural beliefs

2.5 Organisational structure of universities in Zimbabwe

HEIs in Zimbabwe consists of universities, teachers' colleges, and industrial training centres. Universities have a dual structure which gives them an advantage to operate flexibly and

transform themselves amid various changes (Clark, 1998). The dual structure allows accountability upwards to national bodies and downwards to various disciplines undertaken by staff, students and research projects. Most universities owe their success to diverse funding and academia, entrepreneurial culture and collaborative industry, as well as freedom of governance (Clark, 1998). A typical university exists within the following three distinctive organs (see Figure 2.4):

1. Top level– Top management providing strategic leadership.
2. Middle level – Deans of faculties, directors with intermediary roles between top and base levels.
3. Base level – Academics who produce results through teaching, learning and research.

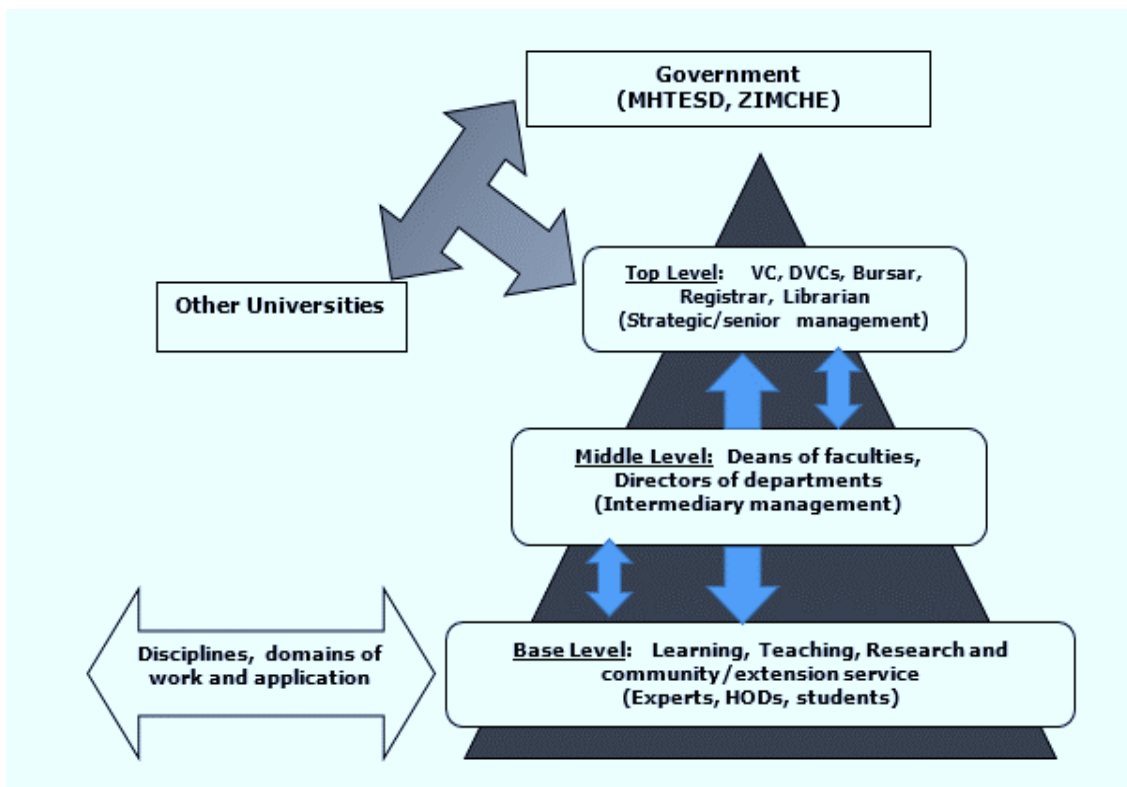


Figure 2. 4: The structure of state universities in Zimbabwe (Winberg et al., 2013)

In Zimbabwe, national bodies include the Ministry of Higher Education (MHE) and the Zimbabwe Council for Higher Education (ZIMCHE) for quality assurance. The interactions for most universities from the top through the middle to the base levels are serious about teaching, learning, research and innovation, due to bureaucracy (Winberg et al., 2013). To

solve the tensions, traditional and modern strategies can be used. The traditional strategy involves diluting senior management roles of making executive decisions, by placing support staff and university committees to handle lighter and sporadic management. The modern strategy, however, gives more power to the top management to run the university as a corporate entity, with strategic plans focusing on making profits at the expense of teaching, learning and research happening at the base level. Due to limited funding from government, most strategies from senior management in modern universities are deemed more important than those from expert majority groups in the base level (Van Vught, 2008).

In Zimbabwe, the middle level often supports top management and assumes most of the managerial roles delegated from the top level. The middle level, with deans and directors, is a strong sector, which often make decisions that benefit them (Winberg et al., 2013). These representatives align themselves with top management when implementing some policies onto the 'weak' base level. The middle level can also choose to align with the base level to resist some policies from top management. The middle level has more time and capacity to mobilise funding and even break away from the university for greener pastures (Winberg et al., 2013). Therefore, a university's organisational structure has influence on the implementation of policies and strategies, including those pertaining to ICTs.

2.6 Organisational culture of universities

University organisational cultures or management models exist in different forms: collegiality, research university, people's university, corporation, enterprise, bureaucracy, and multi-university (Dopson & McNay, 1996; Dwivedi & Gow, 1999; Pielmus, 2016). Certain organisational cultures go hand in glove with specific management models. University's control of implementation and development of policies depends on its management model. Dopson and McNay (1996) identified four university management models and illustrated their relationships against implementation control and policy definition quadrants (see Figure 2.5).

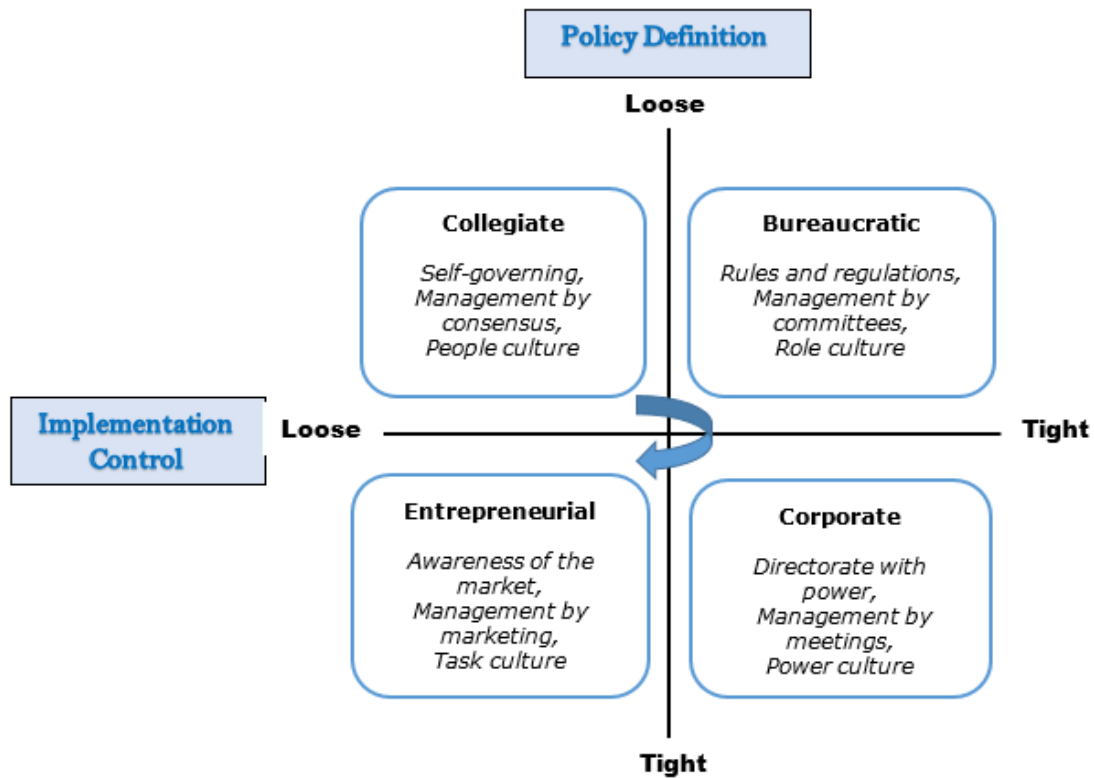


Figure 2. 5: Management models of universities (Dopson and McNay, 1996)

The four universities illustrated in Figure 2.5 are presented as loosely coupled organisations, depending on the looseness or tightness to which a university defines, controls and implements its policies. Two axes demarcate a university's level of control on policy definition and implementation. The collegiate university is categorised as (loose policy definition, loose implementation control), bureaucratic (loose policy definition, tight implementation control), corporate (tight policy definition, tight implementation control) and enterprise (tight policy definition, loose implementation control) (Dopson & McNay, 1996; Pielmus, 2016). The clockwise arrow shows transition of universities from the traditional collegial and bureaucratic management cultures to the modern corporate and enterprise models. The collegiate, bureaucratic, corporate and enterprise models have people, role, power and task cultures respectively aligned to them (Handy, 1993).

2.6.1 Collegiate university

A collegiate university has academic communities which collectively come together for the moral purpose of achieving excellence by consensus and compromise (Handy, 1993). Smaller colleges and polytechnics affiliated to central universities are given various mandates. For

example, in Zimbabwe, the University of Zimbabwe was central to Marondera Collegiate University, an extension faculty specialising in Agriculture. The *people* culture of the collegiate university serves interests of individuals opposed to dictates or control of rules and regulations. Decisions are consensual, based on individualistic expertise and often avoiding conflicts. During the development and implementation of organisational policy, there are extensive consultations before making any changes. Individuals and groups contribute to decision-making through persuasive rounds and the extant management is merely transactional (Pielmus, 2016). Despite the freedom to consult vastly and contribute to all changes, collegiate universities have been criticised for failing to create own visions and lack accountability or managerialism.

2.6.2 Bureaucratic university

Committees in a bureaucratic university have management consensus to develop and implement organisational policies. No individuals, departments or faculties wants to take responsibility of making decisions alone (Dwivedi & Gow, 1999). In the *role* culture of the bureaucratic model, it is the position of an individual that is more important and not necessarily the individual. Committees govern, using rules and procedures, while middle managers (deans, directors) coordinate the workplace. Protocol and hierarchy are followed religiously. Every decision made is by committees disguised behind the requirements of rules and regulations in strategic plans. Managers rely on written reports and minutes of meetings from committees which assist in 'controlling the flow of information' (Pielmus, 2016). This model promotes ethical bias by reducing accountability, while causing failure and conflicts in the university that may take long to resolve. In Zimbabwe, most public universities use the bureaucratic model and decision-making is made through 'statistical arguments' to reach formal rules (Dopson & McNay, 1996). The university case used in this study started as a collegiate before transitioning into a bureaucratic model.

2.6.3 Corporate university

A corporate university imitates the corporate-style governance of the private sector. Corporations emphasise identification and training of academics as managers to lead teams on behalf of the 'organisation', whilst the Vice-Chancellor (VC) acts as the Chief Executive

Officer (CEO) (Pielmus, 2016). The **power** culture in the corporate model is pro-political, driven by the need to retain power to control individuals in the base level. More power lies with vice-chancellors or groups of senior management who create webs of powerful networks to support management decisions, whilst instilling fear in subordinates. Academic leaders (middle management) such as deans and directors replace the role of university committees. The down-side of middle managers is that they are experts in their subject areas and are not necessarily trained in administrative work (Meek, Goedegebuure, & De Boer, 2010). In Zimbabwe, faculty deans and heads of departments are appointed to leadership positions temporarily before sliding back into their academic duties. Corporate universities bring loyalty, a sense of belonging and a common culture to the organisation where management applies regulations to make people conform to corporate objectives.

2.6.4 Entrepreneurial university

An entrepreneurial/enterprise university involves everyone in the running of the university, opposed to fragmentation in collegiate universities. The enterprise links the institution with the outside world through marketing itself as an innovation hub venturing on creating new ideas (Altmann & Ebersberger, 2013). The **task** culture of the enterprise model assume that people work towards a common goal. People use various expertise and energies on given tasks to achieve the same goal. The consensus is to link policies with practice through commercialisation of activities, which is rather uncommon in the academic arena. However, actors in the enterprise share common goals and have diverse interests, coupled with the zeal to gather resources and work together towards achieving solutions to societal problems. Consequently, people are judged by results and not by methods used to achieve the results. Each management culture is susceptible to change in one way or another for competitive advantage. In Zimbabwe, most public universities adopt two or more of the management models, resulting in integrated cultures, which, however, often lead to conflicts.

2.7 Organisation change and implementation of ICT projects

Changes to the structure and culture of an organisation are inevitable and adaptation is required to remain competitive (Pieterse, Caniëls, & Homan, 2012). Organisational change may come in the form of new technologies. Organisations implement ICTs to run processes

creatively and produce innovative products and services (Jackson, 2011). Whilst change is inevitable, implementation of ICTs has been quite challenging for most managers and project implementers, due to the need for users to learn and master new requirements. Acceptance or resistance behaviours may manifest from users as they try to adapt to the change (Erwin & Garman, 2010). Therefore, to manage resistance to change during implementation of ICTs requires an in-depth understanding of the organisational culture and monitoring of user behaviours (Stensaker, Henkel, Välimaa, & Sarrico, 2012).

2.7.1 Resistance to change

Resistance to change is an emotional behavioural response to either delay or stop change by users who may feel that their work routines are being threatened (Waddell & Sohal, 1998). To survive resistance to ICT implementation, organisations should be able to manage change effectively. To reduce user intimidation, it is advisable to introduce technologies that are relevant, non-complicated and in line with the technology that was already in use (Jones et al., 2005). Organisations should do background feasibility checks on types of technologies to be implemented rather than implementing ICTs because of the general perception that others are doing it. Since HEIs in developing countries have limited resources, they are encouraged to be cautious and thorough during implementation of ICT projects (World Bank Group, 2012). During advocacy for technology in the workplace, ICT implementers and managers need to work with users and educate them on system benefits (Pieterse et al., 2012).

ICT implementers should provide fundamental prerequisites regarding the expected technology, such as network infrastructure and internet connectivity, technical support for effective user training, as well as user involvement in all stages of the PMLC. Extensive user participation creates a sense of ownership of the system (Albugami & Ahmed, 2015). Successful implementation of ICTs in HEIs may enhance uptake from users. Increased uptake may eventually ease work by reducing time to process tasks, being innovative, improving performance of students and other services (Karunaratne et al., 2018). Good change management strategies are key to ensure successful ICT implementation in HEIs.

2.7.2 Change management in implementation of ICTs

Change management is an approach to prepare and support individuals and organisations in organisational change, driven by the need to review goals and processes through use of new methods or technologies (Pugh, 2016). Change management assists stakeholders with change adaptation during implementation, controlling and monitoring of change strategies. Most HEIs are increasingly implementing 21st Century digital tools through adoption of corporate and entrepreneurial cultures. With such business codes and practices, there is need to adapt to pure market logistics (Hornstein, 2015). Additionally, HEIs need to develop economical strategies to assess causes of change, create adequate responses and formulate strategic plans and policies to cater for any technological changes (Pucciarelli & Kaplan, 2016). It is, therefore, imperative to understand how best to manage change during implementation of ICT projects to ensure success. All relevant stakeholders should be actively involved in the implementation process through participation and support in decision-making (Barnard & Van der Merwe, 2016).

Prioritising change management is critical to ensure successful implementation ICT projects in higher education. Successful change management considers the nature of the organisation`s structure and culture, availability of resources, alignment of employees with the organisation`s strategic plans and vision, provision of effective user training, effective communication with stakeholders, leadership skills and monitoring of risks, costs and return on investments (Meyer & Gent, 2016). Furthermore, project implementers should build a support system for change agents by creating an inclusive web of all stakeholders to sustain the change momentum (Cummings & Worley, 2009). Change advocates should effectively communicate reasons for implementing any change, as well as clearly outline the expectations from stakeholders (Appelbaum, Degbe, MacDonald, & Nguyen-Quang, 2015). Suggestions and recommendations from stakeholders should be incorporated into the change process to ensure acceptance and forthcoming to the change (Pugh, 2016).

2.8 Failure of ICTs implementation in HEIs

Since the 1980s, the implementation of educational technologies has gradually increased within different HEIs. The prevalent belief is that educational technologies transform

teaching, learning and research by making them more significant, exciting and relevant for students, ultimately improving quality of learning (Karasavvidis & Kollias, 2017). Consequently, many HEIs have increased investments and implementation of virtual technologies such as Moodle, Massive Open Online Courses (MOOCs) and Sakai (Kirkwood, 2014; Kumar & Daniel, 2016). Proponents for ICTs in education assert that virtual technologies provide flexible online teaching platforms for lecturers, which allows customisation of content and adaptation to the nature of students (Conole, de Laat, Dillon, & Darby, 2008). However, opponents argue that there is no significant difference when technology is integrated in teaching and learning; implementation and uptake of these technologies remain low (Abrahams, 2010).

Many studies argue that technology has failed to transform teaching and learning activities in HEIs because of low uptake from academics (Karasavvidis & Kollias, 2017; Kumar & Daniel, 2016). The low uptake of technology by academics is mostly driven by resistance to change, which results from failure to adopt the technologies for innovative teaching, as well as the need to maintain the status quo (Condie & Munro, 2007).

2.9 Summary of chapter

Implementation of ICT projects in developing country HEIs is marred by a myriad of factors, resulting in low uptake and failure to achieve the expected objectives of improving research, teaching and learning. These factors include, but are not limited to, poor ICT implementation, poor ICT infrastructure, low ICT budgets to HEIs, lack of technical expertise, technophobia and user resistance. Conceptualisation of resistance to change in this problem has been scarce. Most managers take resistance for granted, believing it should be removed as soon as it manifests. This assumption has led to poor strategies and responses towards resistance to implementation of ICTs. Managing resistance to change and inducing change management remains critical during implementation of ICTs in HEIs where the structure and culture of an organisation influences IT implementation as well as uptake. Global trends of ICT penetration are increasing in developing countries, but it is the harnessing of the ICT resources that remains poor compared to developed countries. This study categorised factors causing failure of ICT implementation into technological, social, managerial and environmental factors.

CHAPTER THREE

USER RESISTANCE TOWARDS THE IMPLEMENTATION OF ICT PROJECTS

There is nothing wrong with change, if it is in the right direction.
∞ Winston Churchill, Politician writer

3.0 Introduction

This study explains the phenomenon of user resistance towards technology implementation in the context of HEIs in developing countries. The study took a multi-discipline approach to review the phenomenon of resistance by complementing literature from Sociology and Management disciplines. This integrated approach to review literature broadens knowledge and perceptions on technology implementation in the IS discipline. This chapter conceptualises how user resistance manifests drawing from the model of resistance MRITI by Lapointe and Rivard (2005). The concept of change management is also explained in the form of responses or strategies used by management and ICT implementers to manage user resistance during implementation of ICT projects.

3.1 User resistance

Whilst there is a sizeable literature on resistance to the implementation of ICTs in health institutions and private companies (Lapointe & Rivard, 2005; Lin, Huang, & Chiang, 2018), there is still a paucity of research on user resistance to ICTs in HEIs (Deaker et al., 2016). Relatively few studies in IS have conceptualised, in one study, the behaviours of integrated stakeholders during the implementation of technology in HEIs. This study looked at lecturers, management and ICT implementers.

The Oxford dictionary definition of resistance is the refusal to comply with or accept something. Some authors define resistance as negative attitudes with counterproductive behaviours from users which attempts to delay, halt or alter the new change (Waddell & Sohal, 1998). In IS, resistance is an opposing action and intentional force behind the introduction of a new technology, perceived as the opposite of technology acceptance (Mahmud et al., 2017).

Generally, in IS, resistance is not considered harmful or destructive, nor is it classified as good or bad. While resistance happens over time, users` intentions to adopt or resist a system are

based on the outcome of evaluating the benefits and costs of acceptance and resistance respectively (Joshi, 1991). There is a difference between rejection and non-adoption of a system. Rejection is an intention implying that there is no willingness or potential whatsoever to use the system in the near future, whereas non-adoption is a decision that comes later to resist the system, after first accepting it and evaluating it, based on informed experiences (Ferney & Sobrepez, 2006).

Conceptualisation of user resistance in IS dates back three decades, with a study that identified resistance to new management information systems (Markus, 1983). This study argued that power and politics played an important role in the manifestation of user resistance. It also highlighted that users can resist an IT system if they perceive loss of power within their work settings. Markus (1983) recommended further conceptualisation of user resistance to enhance technology adoption in future projects. In another study, Joshi (1991) perceived that users resist the technology if they sense that it brings inequalities among them. To better address inequalities brought about by user resistance, Joshi (1991) recommended application of an equity-implementation model for ICT projects. Additionally, Marakas and Hornik (1996) posited that if the newly implemented technology presents possibilities of fear and stress from changes in work routines, then user resistance behaviours were likely to manifest. User resistance was also linked to external or internal influences resulting from expected efficacy and outcomes directed towards the new technology (Martinko, Zmud, & Henry, 1996).

Technology acceptance is neither directly proportionate to technology resistance, nor are they direct opposites (Lapointe & Rivard, 2005). In some instances, there could still be traits of resistance behaviours even if the technology has been largely accepted, and vice versa (Bagayogo, Beaudry, & Lapointe, 2013). As more studies attempt to conceptualise resistance, user resistance can be looked at from other perspectives such as a status quo bias (Kim & Kankanhalli, 2009), system avoidance (Kane & Labianca, 2011), and cynicism (Selander & Henfridsson, 2012). User resistance manifests when there is uncertainty, territory invasion, work overload and complexity (Klaus & Blanton, 2010; Maier, Laumer, Eckhardt, & Weitzel,

2014). Similarly, resistance also influences system acceptance through users' perceptions of ease of use, as well as usefulness of the system (Laumer, Maier, Eckhardt, & Weitzel, 2016).

While technology affords new opportunities, resistance behaviours tend to disrupt work routines by surfacing organisational conflicts, which in most cases calls for resolutions (Blin & Munro, 2008). If not addressed during early stages, user resistance could progress and cause dysfunctionalities in an organisation. It is, therefore, imperative to explore different forms of resistance behaviours in an organisation and suggest practical recommendations. Several studies have conceptualised user resistance in organisations of developed settings (Kim & Kankanhalli, 2009; Laumer et al., 2015). There is, however, need to conceptualise, further, forms of user resistance that manifest in the context of HEIs in developing countries. In Zimbabwe, a number of HEIs have managed to implement new ICT projects amidst severe political and economic conditions. However, these implementations have succumbed to low uptake. This study identifies different forms of lecturer resistance behaviours that manifest during the implementation of an LMS.

3.2 Forms of user resistance behaviours

Since 1983, several authors in IS have conceptualised user resistance towards implementation of IT in organisations, and proposed various conceptual models (Joshi, 1991; Marakas & Hornik, 1996; Markus, 1983). These conceptual models later assisted the generation of MRITI (Lapointe & Rivard, 2005). These studies identified different forms of resistance behaviours that manifested when a new technology was implemented.

Markus (1983) averred that resistance manifested from groups of users who spoke resentfully about the new system whilst others maintained the status quo when doing their work. Similarly, Joshi (1991) asserted that resistance emerged when individuals attempted to reduce their work input and other users' outcomes by undermining other users' work input (Lapointe & Rivard, 2005). Additionally, Marakas and Hornik (1996) identified passive user resistance and misuse of technology, which he defined as an uncooperative, hidden behaviour resultant from stress, anxiety and fear of loss emanating from the introduction of new work routines, which disrupted the individual's status quo. Furthermore, Martinko et al.

(1996) conceptualised user resistance behaviours such as minimal use, lack of use and destructive use. Using Coetsee's (1999) taxonomy and the extant models on resistance in IS, Lapointe and Rivard (2005) generated and classified resistance behaviours into four episodes: apathy, and passive, active and aggressive resistance.

Apathetic resistance

Apathy behaviours include lack of interest, inaction, indifference, ignoring, continuing with old work habits and distancing self from anything related to the new system (Lapointe & Rivard, 2005). Apathetic resistance include disinterest, maintaining old work habits (Watty et al., 2016), system resentment (Markus, 1983), undermining (Joshi, 1991), ignoring (Kim & Kankanhalli, 2009) and prioritisation (Deaker et al., 2016).

Passive resistance

Passive resistance is a mild action, where users constantly give excuses on why they cannot use a new system; they perform delaying tactics whilst occasionally using the system (Lapointe & Rivard, 2005). Passive resistance behaviours include cynicism (Selander & Henfridsson, 2012), misuse (Marakas & Hornik, 1996), minimal use/underuse (Bagayogo et al., 2013), workarounds (Ferneley & Sobreperez, 2006), user-grumbling (Mahmud et al., 2017) and withdrawal (Lapointe & Rivard, 2005).

Active resistance

Active resistance is a little stronger than passive resistance but is not necessarily destructive. Active resistance behaviours include reacting negatively towards the system, asking for intervention of group alliances and opposing the system (Lapointe & Rivard, 2005). Similarly, complaining forcefully and issuing verbal insults are also forms of active resistance. Active resistance behaviours include refusal to use (Lapointe & Rivard, 2005), avoidance (Kane & Labianca, 2011), deception (Ferneley & Sobreperez, 2006) and opposition (Kim & Kankanhalli, 2009).

Aggressive resistance

Aggressive resistance includes explicit rebellious demonstrations, giving ultimatums, advocating for rights, making threats against system advocates and sabotaging the system with the intent to cause dysfunctionalities, disruptions and even destruction (Lapointe & Rivard, 2005). Aggressive resistance behaviours include insults (Selander & Henfridsson, 2012), rebelling, threatening to resign and explicit demonstrations from coalitions (Lapointe & Rivard, 2005).

3.3 Multilevel model of resistance to IT implementation (MRITI)

MRITI describes an iterative sequence of activities during IT implementation, outlining the manifestation process of user resistance behaviours (Lapointe & Rivard, 2005). The model extends conceptualisation of user resistance in IT implementation, drawing on extant studies on the same phenomenon (Joshi, 1991; Marakas & Hornik, 1996; Markus, 1983; Martinko et al., 1996). MRITI explains user resistance brought about by perceptions of loss of power or status due to a new technology (Lapointe & Rivard, 2005). MRITI asserts that users do not resist change for the sake of it without valid reasons. Users first assess the possible benefits from the change versus the losses. If losses outweigh benefits, resistance behaviours are likely to manifest, whilst acceptance behaviours occur when the reverse is true (Joshi, 1991).

Lapointe and Rivard (2005) deduced the six attributes linked to manifestation of user resistance: initial conditions, interaction, perceived threats, objects of resistance, resistance behaviours and subjects of resistance (see Table 3.1).

Table 3. 1: Attributes of resistance manifestation

Resistance attributes	Description
Initial conditions	Previous set-up comfortable to the user – status quo
Interaction	Causal attributes
Perceived threats	Unforeseen risks (stress, fear)
Objects of resistance	New technology, its benefits or its advocates
Resistance forms	Deviant behaviour
Subjects of resistance	System users (individual, group)

The six resistance attributes were employed to come up with an iterative synthesised model of user resistance to IT implementation over a period (see Figure 3.1).

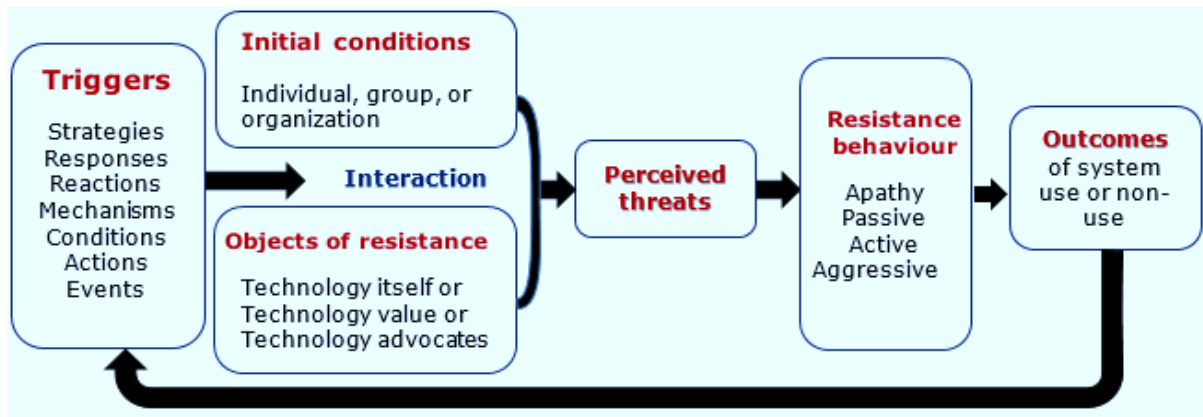


Figure 3. 1: Manifestation of resistance to IT implementation (Lapointe & Rivard, 2005)

Outcomes of use or non-use of the implemented system combines with other external events to form triggers of resistance.

3.3.1 Initial conditions

Initial conditions are previously established work routines, power relations and culture within organisation structures perceived by individuals or groups during implementation of a new IT (Marakas & Hornik, 1996; Markus, 1983). When initial conditions interact with different objects of resistance (system features), users can perceive threats (loss of status) that can lead to system use or non-use (Selander & Henfridsson, 2012). Outcomes of system use or non-use, and external triggers, stimulate the next set of interactions that combine with new conditions and objects. The cyclical process generates different forms of resistance behaviours (Lapointe & Rivard, 2005).

3.3.2 Objects of resistance

Objects of resistance are entities from which users derive or direct their resistance behaviours (Lapointe & Rivard, 2005). Resistance is partly shaped by the subsets of what is being resisted, which is the directed object. Examples of resistance objects include the system itself, system significance or system advocates. The system itself refers to features of the newly implemented technology; system significance is the value or benefits expected from the system; and system advocates are implementers of the technology and/or management. User resistance can be directed towards one or more of these objects. User resistance may be

triggered from the system's complexity, lack of system benefits or poor system implementation by system advocates (Bhattacharjee & Hikmet, 2007).

3.3.3 Perceived threats

Perceived threats are possible negative outcomes from the objects of resistance directed towards the subject of resistance (Van Offenbeek, Boonstra, & Seo, 2013). User resistance behaviours manifest when users perceive negative outcomes (threats) (Lapointe & Rivard, 2005). Before employees resist change they first respond to the threats perceived to be brought by the new change (Dent & Goldberg, 1999). When a new technology is introduced, users first assess its features against the initial conditions of the organisation before deciding its usage outcome. If expected outcomes are threatening, user resistance is likely to manifest (Lapointe & Rivard, 2005). Examples of perceived threats include fear of loss of status at work, emotional stress (Marakas & Hornik, 1996), conversion costs (Polites & Karahanna, 2012) and perceived workloads (Klaus & Blanton, 2010). Joshi (1991) avers that users resist a system when they perceive inequality, whilst Markus (1983) posits that groups of users resist technology when they fear potential loss of power. Different threats stimulate various episodes of resistance, which may trigger certain reactions from system advocates.

3.3.4 Forms of resistance behaviours

Resistance behaviours can manifest from individuals, groups or an organisation, causing dysfunctionalities (Marakas & Hornik, 1996; Markus, 1983). Resistance behaviours range from being passively uncooperative to physically destructive behaviours, or from little cooperation to sabotaging the technology (Marakas & Hornik, 1996). Apathy, and passive, active and aggressive resistance are the forms that manifest when triggered by a variety of perceived threats from users (recall Section 3.2). The relationship between forms of resistance behaviours against perceived threats can be illustrated in form of a line graph (see Figure 3.2). The intensity of the behaviour is proportional to the perceived threat.

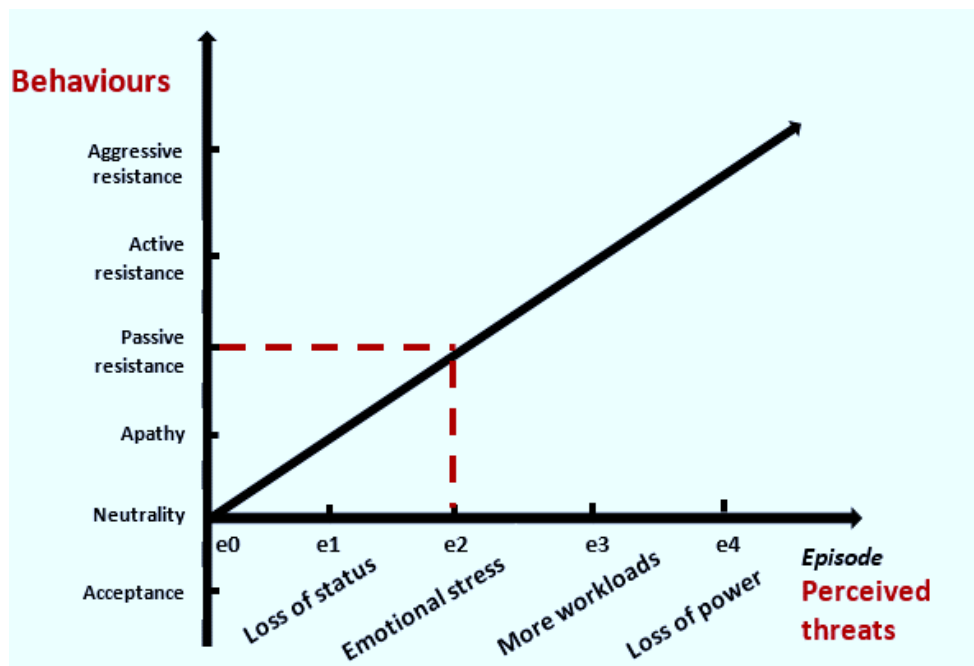


Figure 3. 2: Episodes of resistance behaviours against perceived threats

When a technology is introduced, users may be affected as they try to balance between the status quo and the integration of the new technology into their work. The indecisiveness could result in emotional stress leading to manifestation of passive resistance behaviours (see dotted lines in Figure 3.2). This example, however, may not be applicable to all organisations, neither is the relationship always proportional (Bagayogo et al., 2013). Similarly, the presence of resistance does not necessarily equate to non-adoption; instances of each can be found in different quantities and/or quality in various organisations, depending on culture, structure and external factors (Lapointe & Rivard, 2005).

3.3.5 Subjects of resistance

The subject of resistance is an entity that displays resistance behaviours and resists a new technology. The subject can be an individual (Marakas & Hornik, 1996), a group (Markus, 1983) or the organisation itself (Lapointe & Rivard, 2005).

3.3.6 Triggers of resistance influenced by outcomes of system use or non-use

Outcomes of system use or non-use occur by default, whether or not they are expected. They can transform the nature of, as well as activate, one or several initial conditions. Outcomes of systems combine with external and unforeseen events to form triggers of resistance.

Triggers include individual actions, group reactions and responses or strategies from system advocates towards resistance. During the cyclical process, triggers can modify the set of initial conditions to form a new set of conditions (Lapointe & Rivard, 2005). When a trigger modifies an initial condition involving power relations between user departments, the object of resistance shifts from the system itself to system value. When the modified initial conditions seem to be in favour of system advocates, the object of resistance is redirected towards system advocates. Triggers interact with initial conditions and objects of resistance, causing perceived threats, which result in user resistance behaviours. The iterative nature of MRITI allows outcomes of system use or non-use to feed into the organisation together with external triggers; this restarts the manifestation process of resistance.

3.4 Review of IS models on resistance to IT implementation

Whilst there is sizeable research on resistance to IT implementation in IS, there is a general consensus that, due to its complexity, resistance needs further conceptualisation and an improvement on theorisation (Samhan, 2018). Table 3.2 presents an overview of conceptual models on resistance to IT implementation in IS.

Table 3. 2: Conceptual models in IS on resistance to IT implementation

Conceptual model	Description
Equity-implementation theory	Users assess the net-gain from their own inputs and outcomes compared to inputs and outcomes of other users and the organisation. Changes in outcomes may either mean gains in job security and better working conditions, whilst losses mean reduced power and job insecurity. If users perceive inequity during IT implementation, they resist and vice versa (Joshi, 1991).
User resistance model	Users use the notion of status quo bias to decide whether to resist the system or not. Status-quo is maintaining the current situation. Switching of costs can lead to resistance. Costs are intermediaries between perceived value and its antecedents, self-efficacy, company support and social influence (Kim & Kankanhalli, 2009).
Interaction theory	Interaction theory is either system-based or people-based. Resistance occurs when the system interacts with its environment; users adopt a system only if it supports their positions of power otherwise they resist (Markus, 1983).
Passive resistance and misuse	User behaviours range from passive to aggressive when a new system is implemented. A new system exposes a user's rigidity towards change whilst resentment of the system triggers resistance behaviours (Marakas & Hornik, 1996).
Attributional process resistance	Internal and external forces interact with the new technology and individuals experiences to cause acceptance or resistance. The greater the causal attributes, the more resistance towards the new technology (Martinko et al., 1996).
Dual factor model in technology usage	Enablers promote system use whilst inhibitors hinder usage. However, the absence of inhibitors does not equate to system use. Inhibitors are independent of enablers and, therefore, can exist together with consequent effects (Cenfetelli, 2004)
Multilevel model of resistance to IT	Users are driven to resist a system due to perceived threats. When initial conditions interact with objects of resistance, perceived threats lead to different forms of resistance behaviours (Lapointe & Rivard, 2005).

Socio-psychological resistance theory	Resistance results from a violation of trust between individuals and their organisation. Resistance behaviours are politically driven and system acceptance can only happen if sociological differences are mended (Klaus & Blanton, 2010).
Deduced causal map of resistance	This model was deduced from empirical data of health practitioners against a new e-Health records system. The model avers that perceived value, perceived threats and avoidance shapes resistance behaviours (Samhan & Joshi, 2017).

Conceptual models in Table 3.2 were derived from different contexts through MRITI which, initiated groundwork towards developing a unified theory of resistance to IT implementation (Samhan, 2018).

3.5 Resistance to technology implementation

Most resistance studies fall within developed contexts, private companies and health institutions. The context from which these resistance behaviours manifest and the solutions offered to address them fall short of catering adequately for developing contexts and LDCs. Table 3.3 summarises studies that conceptualised user resistance towards different objects within certain initial conditions and research contexts. Evidently, fewer studies have focused on these aspects in HEIs in developing settings. This thesis presents contextual evidence on user resistance from HEIs in Africa.

Table 3. 3: Selected studies on resistance to technology implementation

Author	Objects of resistance	Initial conditions & Perceived threats	Resistance behaviours	Research context
Markus (1983)	Power interaction with IT system	Political patterns	IT resentment, use of old habits	Developed settings
Joshi (1991)	IT System	Internal/external inputs or outcomes	Undermining	Developed settings
Marakas & Hornik (1996)	Work practices & IT system	Mode of work practices/outcomes	Misuse, passive	IS implementation, Developed settings
Lapointe & Rivard (2005)	Status, power & IT system	Work habits, power and status	Apathy, passive, active, aggressive	Health IS, Developed settings
Selander & Henfridsson (2012)	IT system, system advocates	Implementation incompetency	Cynicism	Customer relationship management (CRM), Developed settings
Watty et al. (2016)	IT system	Lack of faculty uptake	Continue old habits	HEI, Accounting, Developed settings
Mahmud et al. (2017)	IT system	Technostress, maintaining the status quo	User-grumbling	ERP system, Developing settings

The reviewed studies identified the following forms of resistance: resentment, misuse, undermining, user-grumbling and cynicism. Resentment occurs when users are not willing to use the newly implemented system (Markus, 1983). They maintain their interests and

preserve their work practices by rejecting any directives from implementers, complaining and creating bogus stories about the new system (Selander & Henfridsson, 2012). Other types of resistance are apathy, and passive, active and aggressive resistance (see Section 3.2).

Most managers assume that resistance needs to be removed to improve uptake of new technologies (Vinthagen & Johansson, 2013). Explicit exploration of resistance can reveal how the behaviours manifest, making it easier to formulate better ways to address them. Classification of resistance could assist managers to avoid one-size-fits-all mechanisms when responding to resistance behaviours. Individuals, groups, academics and faculties have different needs and personalities such that personalised strategies would better assist in the management of resistance behaviours (Marakas & Hornik, 1996). Similarly, use of MRITI to classify triggers, initial conditions, objects of resistance and perceived threats assist HEIs to create strategies which better manage resistance attributes as well as resistance behaviours.

3.5.1 Trends in IS research on resistance to technology implementation

Figure 3.3 illustrates existing and possible future research in IS derived from studies on resistance to IT implementation (Samhan, 2018). The review of the extant research on resistance to IT implementation reveals several implications for future research in IS. The implications include a call for deeper conceptualisation of resistance to IT implementation and exploration of how an organisation's culture influences user resistance in developing countries (Winberg et al., 2013).

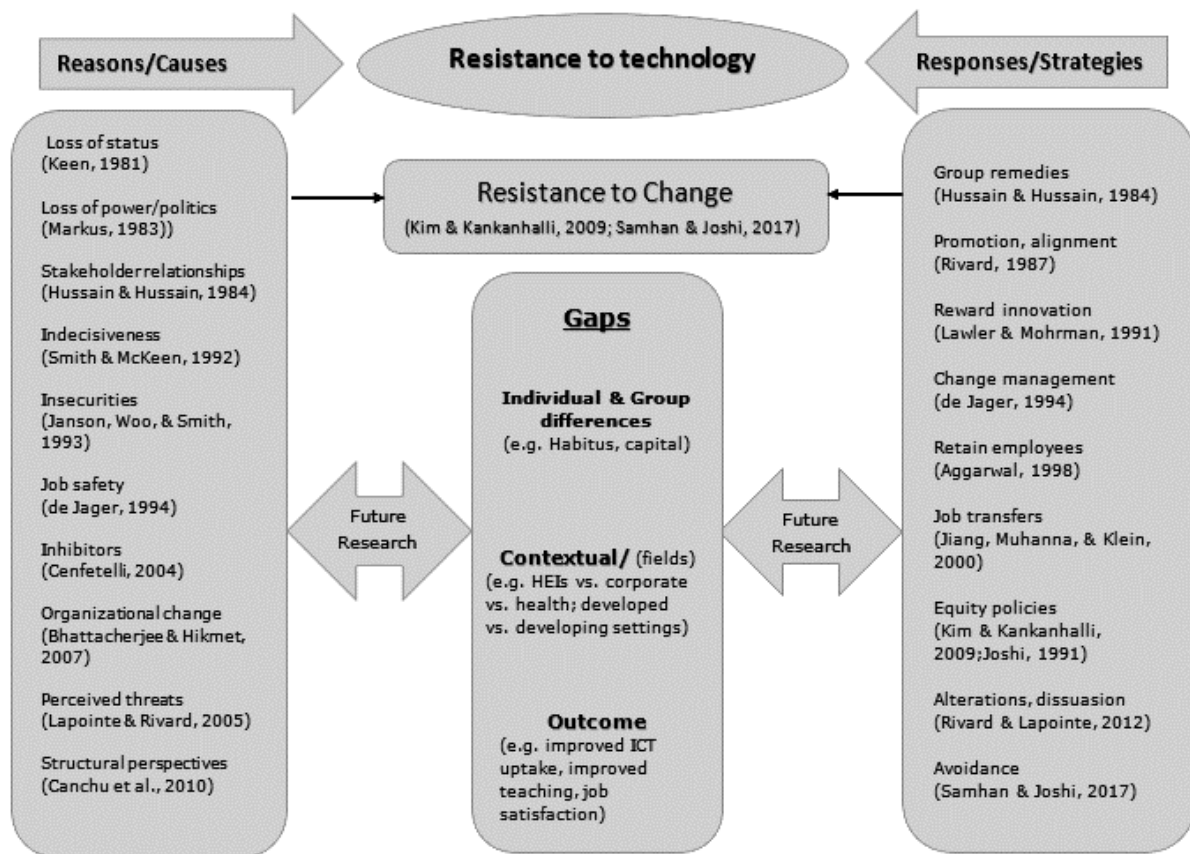


Figure 3. 3: Existing literature in IS on resistance to IT implementation (Samhan, 2018)

There is need for a more unified theory (which is still lacking in IS) to work towards conceptualisation of resistance to technology implementation. Samhan (2018) proposes to focus on outcomes of resistance such as employee job satisfaction as well as providing a deeper theorisation of resistance through integrating extant models in IS with theories from other disciplines. External influences should also be considered when analysing user-resistance behaviours such as individual differences (Oreg, 2003). Lastly, investigation of responses and strategies from project implementers assists to better manage further recurrences of user resistance behaviours (Rivard & Lapointe, 2012).

3.5.2 User resistance to technology implementation in HEIs

A number of studies affirm that user resistance is behind the low uptake of educational technologies by lecturers in HEIs (Canchu et al., 2010; Zarei, Kargar, & Bazayr, 2014). Although low uptake can also be attributed to other factors such as time constraints, heavy workloads and poor ICT implementation (Shohel & Kirkwood, 2012), there is relatively little theorisation

on manifestation of lecturer resistance in HEIs, as well as how and why they resist technology (Canchu et al., 2010; Howard, 2013). Resistance to technology is a conspicuous reason for system implementation failure (Kim & Kankanhalli, 2009). Therefore, it is imperative to investigate how lecturer resistance influences implementation and low uptake of ICT projects in HEIs prevalent in developing countries rather than in developed countries.

Conflicts are imminent between lecturers and project implementers during implementation of ICTs in HEIs, resulting in the former failing to adopt the digital artefacts or integrating them into the curricula (Shohel & Kirkwood, 2012). Interestingly, these socio-political issues may create sabotage from individuals or groups to define winners (technology users) and losers (technology implementers) (Nawaz, 2013). To minimise user resistance, the implementation process needs improved communication and feedback between users and implementers, adequate ICT infrastructure, clear management roles, skilled technical support and effective training for users with different levels of ICT skills (Jiang, Muhanna, & Klein, 2000).

Technology acceptance and resistance is a process of the interplay of structure and human agency (Schultze & Orlikowski, 2004). When lecturers are introduced to a new technology, they consider factors such as system features, organisation culture and approach to implementation, before they accept or resist the technology. Technology structures remain virtual until they are activated (Canchu et al., 2010). Once activated, the structural attributes look appealing to the user whose socio-cultural values and perceptions interpret a favourable response, which culminates in technology acceptance. In the same way, when potential users perceive threats from the virtual structures of the technology, they draw on institutional values to resist the technology. In such a case, users' resistance is directed more towards the university management than the technology itself or its significance (Canchu et al., 2010).

This study investigates how and why resistance manifests from lecturers during LMS implementation. The aim is to gain understanding on user resistance and assist on better ways to manage it, hoping to improve uptake of ICT projects in HEIs. Implications of understanding resistance can help project implementers and managers to devise change management strategies that assist academics to appreciate the benefits of integrating ICTs in teaching and

learning. MRITI posits that system advocates respond or react differently towards user-resistance behaviours as they try to mitigate resistance.

3.6 Responses or strategies from project implementers towards resistance

This study analyses responses and/or strategies system advocates towards lecturer resistance during LMS implementation in HEIs. Further, the study examines the influence of such responses on further manifestation of resistance. Many past studies focus on preventive measures towards resistance. Relatively fewer studies focus on responses from system advocates and their impact on manifestation of user resistance (Brett, Uhl-Bien, Huang, & Carsten, 2016; Rivard & Lapointe, 2012). There is an interesting link between reactions from project implementers and the progression of user resistance (Jiang et al., 2000). It is, therefore, key to find out how project implementers respond to user resistance as this impact on the progression of resistance.

3.6.1 Negative responses from project implementers towards user resistance

Rivard and Lapointe (2012) identified **two** categories of negative responses from project implementers and their frequency: ***inaction* – 38%** and ***dissuasion* – 22.6%**. The study showed that the sum of negative responses (**60.6%**) was more than the positive responses (see Section 3.6.2). Table 3.4 presents examples of negative responses and/or strategies from project implementers towards user resistance in IS research.

Inaction was characterised by not doing anything (Gunawardane & Perera, 1985), uncaring by deliberately posing relaxed approaches (Joshi, 2005), or being helpless by posing ineffective strategies (Martin, 2005). ***Dissuasion*** (coercion, persuasion) is when implementers used force and threats to make users accept the system (Kotter & Schlesinger, 2008). On the other hand, instead of force, some implementers rationally persuaded users to accept the system through encouragements and assurance of mandatory use (Markus, 1983).

Table 3. 4: Negative responses from project implementers towards user resistance

Author	Negative response or strategy	Description
Rivard & Lapointe (2012)	Inaction, Dissuasion	Not doing anything, ignoring resistance behaviours, Use of force, threats and persuasion.
Rivard (1987)	No promotions, Misalignment	No promotions for outstanding system users, System destructive rather than improving work.
Lawler & Mohrman (1991)	No rewards for innovation	No incentives to encourage uptake from users, No incentives for being innovative with technology.
Hussain & Hussain (1984)	Enforcing system	Enforcing system ideas without user involvement or participation.
Joshi (1991), Kim & Kankanhalli (2009)	Inequity policies	Use of strategies that promote unequal power relations during implementation of the new system.
Aggarwal (1998)	Little or no training	Minimal or lack thereof of effective training.
de Jager (1994)	No change management strategies	Absence of change management strategies to allow transition from old to new work practices.
Jiang et al., (2000)	Job insecurities	Technology introduction threaten loss of jobs.
Samhan & Joshi (2017)	Avoidance	Management ignores the situation and implements ineffective solutions.
Resker (2008)	Resentment	Attack the user`s personality based on their reaction, Management are defensive regarding their positions.
	Despise	Focus on the user`s previous failures to achieve goals, Pitching feedback to match user`s negative reaction.
	Hostile	Attack the user`s personality based on their reaction.

3.6.2 Positive responses from project implementers towards user resistance

Markus (1983) posits that one of the first responses towards resistance by project implementers is to identify causalities behind resistance, as well as to determine what to do with the resistance. In some cases, it is necessary for project implementers to sacrifice rejection of the prototype system and prepare users to accept a modified final system. If users have issues with prototype features, implementers should relieve users of the complications of a defective system (Ferneley & Sobreperez, 2006). If resistance persists after trying to perfect the prototype, project implementers should consider other solutions such as educating users on system benefits to change their perceptions of technology (Martinko et al., 1996).

If project implementers respond to user resistance emotionally, the success of the technology is compromised and the entire organisation is affected. Similarly, implementers may worsen the gravity of resistance behaviours if their responses are unfriendly, non-objective and

unaccommodating (Rivard & Lapointe, 2012). Project implementers have the power to retain or remove resistance; hence the need for them to manage their own personalities before responding objectively to user resistance. Although it is challenging to deal with the typical negativity of resistance, project implementers are expected to restore normalcy by ensuring that implementation of new technologies do not totally fail (Pugh, 2016).

Rivard and Lapointe (2012) identified two categories of positive responses from project implementers: **acknowledgement – 3.6%** and **rectification – 35.8%**. The study showed that the sum of positive responses (**39.4%**) were far less than negative responses (see Section 3.6.1). This is congruent with studies which assert that managers are quick to judge resistance as a negative factor without first investigating root causes behind its manifestation (Lin et al., 2018). Table 3.5 presents positive responses and/or strategies recommended for project implementers when managing user resistance during IT implementation.

Table 3. 5: Positive responses from project implementers towards user resistance

Ing.	Positive Response or Strategy	Description
Rivard & Lapointe (2012)	Acknowledgement, Rectification	Deliberation of issues between users and implementers, Alterations by redesigning and redeveloping the system.
Rivard (1987)	Promotion, Alignment	Reward the forthcoming users with better incentives, Avoid disruption of work practices due to new systems.
Lawler & Mohrman (1991)	Reward innovation	Offer incentives to encourage more uptake from users.
Hussain & Hussain (1984)	Group remedies	Encourage focus-group deliberations where difficulties are discussed and solutions are presented.
Joshi (1991), Kim & Kankanhalli (2009)	Equity policies	Devise strategies that do not promote unequal power relations due to the introduction of the new system.
Aggarwal (1998)	Effective training, Retain employees	Training of users should be effective to avoid frustrations that result in staff turnover.
de Jager (1994)	Change management	Implement change-management strategies to enable users to integrate technology in their work practices.
Jiang et al. (2000)	Job transfers	Reward employees for their innovative work.
Resker (2008)	Instil confidence	Encourage users that more effort makes usage easier, Provide smaller guidelines that can be followed more easily.
	Consultations	Consult users and provide adequate feedback, Find out reasons why user is resisting.
	Rational encouragement	Ask users to reflect on system use and confirm uptake, Discuss consequences of continued denial.

Acknowledgement, not used by many managers, consisted of deliberation of issues, getting views from users through questionnaires, conducting focus groups and nomination of teams

to help with tasks. **Rectification** comprised the need to redesign or redevelop the system if user resistance was directed towards complexity of system features (Wagner & Newell, 2007). However, if the object of resistance was system significance, then there is need for more user-training and realignment of work schedules to suit system needs, as well as adding more technical staff to cater for back-ups and shortages (Brett et al., 2016).

3.6.3 Recommendation of strategies towards user resistance

The organisation's change management team should assist users during the implementation of new technologies to reduce chances of resistance behaviours manifesting. However, in the event that resistance behaviours continue to manifest, project implementers should ensure that any conflicts are resolved amicably (Resker, 2008). It is critical that when implementers respond to user resistance, they pay attention to individual differences and understand user resistance psychology by employing knowledge gained from development and promotion of the previous technologies (Kuisma, Laukkanen, & Hiltunen, 2007).

Project implementers should use certain strategies, depending on the nature of resistance (Kotter & Schlesinger, 2008). There is need to first diagnose the forms of resistance and then customise the remedies accordingly; for example, users with technophobia would need extra training in ICTs. Table 3.6 presents five methods for managing resistance effectively when a system is needed urgently are education, participation, facilitation, negotiation and coercion.

Table 3. 6: Strategies for managing resistance to IT implementation (Kotter & Schlesinger, 2008)

Strategy	How to Use	When to Use	Strengths	Weaknesses
Education	Communicate any changes and reasons for having them	Users lack information about consequences of the changes	Once taught, users often assist in the implementation of change	When there are too many users, it can be time-consuming
Participation	User-involvement in design, development and system implementation	Implementers have little information on how to implement the system	Users are motivated to implement the system	It takes more time to design a system with novices
Facilitation	Provision of skills training and technical support	Users are sceptical about the system and fear failure to implement it	Encourages users who have phobias	Expensive and time-consuming with no guarantee of success
Negotiation	Incentivise users for adopting the system	Not mandatory but it's necessary to adopt the system	It's a win-win situation for the user and the implementer	Costly and users may only push for incentives rather than system use

Coercion	Use force or threats to those refusing to adopt and incentivise those who accept the system	Crisis – system urgently needed and implementers have right to push for mandatory use	Fast way of implementing a system with little or no open resistance	Users may resent implementers and management for using force
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3.7 Gaps in IS research on resistance to technology implementation

Resistance studies and theories in the IS discipline are rich but, at the same time, fall short on the level of theorisation. Systematic studies on resistance are uncommon within the IS discipline whilst the term ‘resistance’ is sporadically used with limited understanding. Although previous research has analysed resistance and provided insightful information on managing resistance, the degree of research on the phenomenon still needs improvement. Thus, the limited conceptualisation of resistance drives this research to contribute to such theoretical development. The review of existing research on resistance to IT implementation in IS reveals the following implications for future research:

1. First, user resistance is a complex phenomenon and calls for a comprehensive conceptualisation of resistance to IT implementation.
2. Second, there is need for further exploration of how an organisation’s structure, culture and change strategy influences resistance to technology implementation in HEIs of developing country contexts.
3. Third, to create a unified theory of resistance to technology that is lacking in IS research; there is need for a deeper theorisation and conceptualisation of resistance that builds onto MRITI.
4. Fourth, literature explores beliefs and attitudes as causes of resistance, for example, loss of power or status and IT inhibitors. However, there is still a paucity of work on the effects of project implementers’ responses or strategies towards user resistance. Analysing reactions from project implementers during ICT implementation could assist in formulating better strategies of managing user resistance and thus enhance ICT uptake.
5. Fifth, most technology studies explain resistance from the theoretical lens of technology adoption. Despite being significant, it is more critical to study resistance from the resistance theoretical lens to reveal novel explanations of how and why people resist technology. For example, combining concepts from Bourdieu’s TOP with

Lapointe and Rivard`s MRITI could provide more theorisation on how and why users resist implementation of ICT projects in HEIs.

6. Sixth, past studies show that social factors influence the forms of resistance behaviours that manifest from users. However, these studies have only considered social factors from workplaces, disregarding private and external environments, such as home, family, friends or religious ministries. Research in these areas can assist to explain user resistance by accounting for individual differences such as age, academic titles and educational qualifications.

3.8 Summary of chapter

The chapter reviewed literature on resistance to technology implementation in IS, explaining user resistance and its different forms, namely, apathy, and passive, active and aggressive resistance. Further, the chapter conceptualised MRITI detailing key elements (initial conditions, perceived threats, triggers, objects and subjects of resistance), which play a critical role in the manifestation of user resistance during IT implementation. Next, was a review of conceptual models on resistance in IS. The chapter also reviewed responses and strategies used by project implementers to alleviate resistance and recommended strategies. Lastly, the chapter outlined gaps in resistance to IT implementation studies, addressed by this study.

CHAPTER FOUR

BOURDIEU AND THE LOGIC OF PRACTICE IN HIGHER EDUCATION

Resistance to the habitus moulds the habitus from within.
∞ Pierre Bourdieu, Sociologist

4.0 Introduction

This chapter presents the main theoretical framework guiding this research. The study investigates the manifestation of user resistance during the implementation of LMS in HEIs in developing settings. This inquiry adopted a practice perspective, which drew on Bourdieu's TOP (1990b) to explain low uptake of LMS caused by lecturer resistance. Since resistance is a sensitive and complex phenomenon in technology implementation, where managers are quick to regard it as bad despite sometimes pointing out system defects (Awidi & Cooper, 2015), Bourdieu's TOP was deemed optimal to conceptualise how and why lecturers resist the implementation of educational technologies in HEIs. The chapter justifies a practice-oriented approach before reviewing some practice theorists. Rationale for using Bourdieu's TOP is given and key concepts from TOP are presented. Next, studies that have used Bourdieu in IT and ICT4E research are reviewed and TOP is particularised. Finally, Bourdieu's TOP is critiqued before formulating an integrated conceptual framework adopted for this study.

4.1 Justification of a practice perspective

The reviewed literature established that resistance manifests when users try to engage with newly-implemented technologies in work practices. Schultze & Orlikowski (2004) assert that 'practice' is used mainly to bridge the gap between abstractions and reality (meaning practice versus theory) through people's repeated actions. When studying work practices, one seeks to understand the dynamics of a society based on what people do, what their work is like and the efforts they put in to resolve conflict in an organisational work (Corradi et al., 2010). Specifically, practice can be defined as:

'. . . a coherent and complex form of socially established co-operative human activity through which goods internal to that form of activity are realised in the course of trying to achieve those standards of excellence' (MacIntyre, 1981: 187).

MacIntyre's (1981) definition focuses on cooperation and coherence for the sake of the field's stability, defining practice as human actions formulated by cultural traditions. This study defines practice as doing, but not just doing in and of itself, but it is doing in a cultural,

historical and social context, to give structure and meaning to what people do, emphasising that, behind world features, there is ongoing productive and reproductive work (Nicolini, 2012).

A practice perspective transforms the way in which humans regard social dictates and perceive the strength of social structures, thus creating new knowledge (Nicolini, 2012). This knowledge forces people to reconsider the roles of individuals and agents; for instance, the roles for the managed and the managing, reaffirming power structures in everything people do. A practice-based approach asserts that agents behave and interpret their surroundings in certain ways as a result of social practices, which both enable or constrain them (Reckwitz, 2002). Thus, conceptualising user resistance from a practice perspective allows for a deeper understanding of how individuals from different social groups (lecturers, project implementers) conduct themselves during the implementation of technology in HEIs.

Orlikowski (2000) was one of the first authors to recommend use of practice theory in technology studies. She viewed technology from two perspectives: (1) the IT artefact and (2) technology use, and investigated how people used technology in their work, which in turn motivated them to use the technology more (Orlikowski, 2000). Similarly, Schultze and Boland (2000a) posit that a practice approach is more relevant when implementing a technology, since it explains what actors actually do rather than what they say they do or are expected to be doing. Accordingly, studying what people actually do requires observing the technology implementation process, as well as the practices that are produced and reproduced during the process (Bourdieu, 1991).

4.2 Practice-based theorists

Practice theories do not only describe what people do; they also provide meaning, formulate identities and dictate the order of activities (Nicolini, 2012). Because of their diverse nature, practice theories not only accept the norm, but also question and may even resist attempts made by organisations to impose their values on actors. Social theorists agree that there is no such entity as a unified, comprehensive and coherent practice theory; rather there is

extensive literature from diverse authors who adopt a roughly defined practice approach (Postill, 2010).

Schatzki (2001) categorises practice theorists into *four* types: **social theorists** (*Pierre Bourdieu, Anthony Giddens*), **cultural theorists** (*Michel Foucault, Jean-François Lyotard*), **philosophers** (*Charles Taylor, Ludwig Wittgenstein*) and **science theorists** (*Bruno Latour, Joseph Rouse*). Postill (2010) also divides practice theorists into two generational trends; the first comprise authors of the 20th Century who laid the foundations of practice theory (for example, Bourdieu, 1977; Foucault, 1980, Giddens, 1979, 1984, and Certeau, 1984) whereas the second generation focused on testing foundations and extending the theoretical network (for example, Schatzki, 1996, 2001; Reckwitz, 2002; Warde, 2005 and Orlikowski, 2000). Table 4.1 presents the first and second generation practice theorists based on Schatzki (2001) and Postill (2010)`s classifications.

Table 4. 1: A synopsis of practice theorists and their generations

Generation	Type of practice theorist	Practice theorist and their works
First generation (foundation layers)	Social theorists	Bourdieu (1977,1990b), Giddens (1979, 1984)
	Cultural theorists	Foucault (1979), Certeau (1984), Lyotard (1989)
	Philosophers	Wittgenstein (1958), (Taylor, 1971, 1995)
	Science theorists	Latour (1987), Rouse (1996)
Second generation (foundation testers/extenders)	Social theorists	Levina & Vaast (2006), Orlikowski (2000)
	Cultural theorists	Kendall & Wickham (2004), Manovich (2009), Edgar & Sedgwick (2007)
	Philosophers	Schatzki (1996), Abbey (2002)
	Science theorists	Elam (1999), Ginev (2005)

Without exhausting all practice theorists, this study focuses on Bourdieu`s TOP which is grounded in exhaustive empirical research and practical sociological data, compared to most of his first-generation counterparts who deduced their theories from social theory and history of philosophy (Eriksen & Nielsen, 2001). Therefore, Bourdieu`s practice theory is appropriate to conceptualise practices, habitus and capital of actors during technology implementation in the HEI field.

4.3 Justification for Bourdieu`s Theory of Practice

Bourdieu`s TOP presents a methodological, theoretical and conceptual link between the implementation of ICTs and the forms of resistance behaviours that manifest from lecturers

in HEIs. Bourdieu`s concept traces stakeholder experiences in the workplace to deduce different practices and relationships. TOP`s contribution to knowledge is descriptive and explanatory but not prescriptive; meaning that, instead of telling people how things should be done, it gives room for complex processes and multiple relationships to be explained (Mutch, 2006). This implies that the TOP can be adapted to a variety of contexts (for example, ICT implementation in IS) to explain internal and external interactions of the social field. In particular, TOP has three key elements:

1. *Field* – describes the context in which events and actions take place and define boundaries/constraints that govern a social space.
2. *Habitus* – analyses strategies used by actors to survive the struggles in a social context.
3. *Capital* – explains as to who qualifies to enter the field, how and why.

Several researchers have employed the practice-oriented approach from various theoretical lenses, such as Giddens` structuration theory (for example, Orlikowski, 2000), Foucault`s power relations theory (for example, Willcocks (2004), communities of practice (for example, Wenger, 1998) and Bourdieu`s TOP (for example, Ignatow & Robinson, 2017). This study employs Bourdieu`s TOP.

TOP`s concepts of practice, habitus, capital and field are appropriate for this study because they allow for a more finely-grained version of practical understanding. The approach allows for a better account and analysis of daily practices and strategies that characterise developing countries` HEIs. The structure and dynamism of HEIs pose conflicts due to the existence of practices such as implementation of ICTs and technology adoption or resistance. The clashes can cause failure of ICT projects` implementation and propagate low uptake of ICTs in HEIs. While MRITI in Chapter 3 explains the manifestation process of user resistance behaviours during technology implementation, TOP explains why such resistance behaviours manifest in the given context. Further, TOP explains the influence of HEI management structure on technology implementers` strategies and responses towards user resistance behaviours.

4.4 Bourdieu`s Theory of Practice

TOP focuses on dynamic activities within social and historical structures characterised by overlapping social spaces (fields) of practice, which can unify or divide agents (Levina & Vaast,

2005). It explains what agents do every day (practices) in the field, driven by existing power relations, to resolve differences or conflicts that may arise amidst complex organisational work (Bourdieu, 1990b). Conflict occurs when agents attempt to conserve or transform the habitus and social structures, based on their relative positions in the field, when there is unequal allocation of resources (Bourdieu, 1977). Although borrowed from Sociology, several studies in IS have used TOP as a theoretical lens (Petit-Dit-Dariel, Wharrad, & Windle, 2014; Schultze & Boland Jr., 2000b).

Knowledge is constructed rather than passively recorded (Bourdieu, 1990b). TOP refutes both the notions that Social Science research is either objective or subjective but argues that the components of both phenomena can be mixed together to produce a rich theory that explains experiences, lessons learned and practices of any social cluster. Bourdieu argues that it is not possible for individuals to uphold an objectivity stance alone without often having to implicitly draw on some subjectivity characteristics, whilst subjective individuals fail to consider objectivity aspects in their social scenes which, however, would have enabled that subjectivism (Bourdieu, 1991). Therefore, Bourdieu denounces either of these approaches to analyse practices and behaviour during interaction with the world and chooses to strengthen his approach by facilitating a dynamic-based view of social events and practices.

This study adopts both objectivism and subjectivism to highlight the dynamic nature of HEIs in developing countries. To facilitate dynamism, Bourdieu proposed a conceptual framework with key concepts of habitus, field and capital. An empirical and conceptual interaction among Bourdieu's key concepts formulate practices. It is difficult to retain meaning of contexts in trying to explain 'practices' without understanding interactions of field, habitus and capital (Bourdieu, 2002). Habitus, field and capital are detailed in the following sections. In Section 4.9, *symbolic violence* and misrecognition are also discussed.

4.5 Field

Bourdieu uses the concept of *field* to define a social space of common ground with boundaries in which action takes place to structure human behaviour; entry into this field is determined by existing holders of power (Bourdieu, 1977; Mutch, 2006). The social space is a field of

struggles and forces, where agents engaged in the field impose their obligations whilst constantly positioning themselves to gain more power. Bourdieu and Wacquant (1992) describe this space as a sphere of conflict brought by competition among agents driven by their forms of capital and habitus. The field consists of a clear set of objectives, historical relations between positions anchored in certain forms of power (or capital), and a relational configuration which it imposes on all objects and agents which enter into it (Bourdieu & Wacquant, 1992:16-17).

For the field to function, there have to be actors prepared to play in the game, endowed with rules and laws (*doxa*), and forces exerted by the agents playing in it (Bourdieu, 1993; Grenfell & James, 1998). Within this field, agents are situated in certain positions that carry a certain status or disposition and have roles that need to be enacted. The power to influence or change rules of the field is determined by the amount of capital each individual possesses. The need to conserve or transform the *field* using one's capital could cause conflicts or consensus amongst players. Such dynamics or interactions are what Bourdieu termed 'power struggles', where actors modify boundaries of the field to try to increase their influence on other players, using different forms of capital.

4.5.1 Sub-fields

A field can consist of several other fields nested within it. Sub-fields have virtual boundaries defined by constraints, which constrain or enable the field, governing the possibility of agents to hold or maintain certain positions (Grenfell, 2008; Hanks, 2005). In this study, an HEI is a sub-field of the country, whilst the case study university is a sub-field of all HEIs in the country (see Figure 4.3). The agents in the field include lecturers, senior and middle management, students and ICT implementers. Constraints that govern lecturers are expectations to integrate technology into teaching. The sub-fields are interrelated and feed into each other in a hierarchical manner, whilst having similar goals and values such that, when viewed by external groups, they appear as one common field. The fields and sub-fields are homologous (Hanks, 2005). The homologous nature of the fields is attributed to:

- i. A reflection of commonalities between habitus and practice as they are transformed in different logics of certain fields;

- ii. A consequence of the dominant fields of power, to impose on weaker fields and structures what occurs within them (Jenkins, 2002).

4.5.2 Transformation of the field

The fields are not static; they evolve due to ongoing interactions between agents and other fields, forming new practices and habitus (Templeton, 2016). The dynamism of the field occurs when agents rearrange their positions during conflicts and resolution of conflicts as agents fight to maintain or gain more power to dominate in the field (Bourdieu, 1990b, 1993). The evolution of the field is not uniform, neither is it consistent across all sub-fields. This causes some sub-fields to transform at a faster pace than others, hence creating mismatches in objectives initially set by and for the game (Grenfell, 2008). At this stage, the field is prone to more conflicts and it becomes complex, since those already in dominating positions dictate the rules other agents are expected to follow, despite whether or not they use correct rules of the game. For instance, during implementation of ICTs in HEIs, some lecturers may quickly accept the technologies whilst others may take time. Those placed in positions of power may naturally force those lecturers lagging behind to quickly adapt or face consequences. Similarly with habitus, if a new lecturer wants to achieve a desirable position in a new field, transformation is required for the lecturer's extant habitus to fit into the structures of the new field (for example, new department or HEI);

'Not only can habitus be practically transformed by the effect of social trajectory leading to conditions of living different from the initial ones, it can also be controlled through awakening consciousness and socio- analysis' (Bourdieu, 1990a: 116).

Despite the transformation process being consciously driven by an individual, Bourdieu argues that a changed habitus will have to match the structures of the new field.

4.6 Habitus

Habitus originates from Latin to mean a habitual state or condition of the body, skills and character of an individual (Jenkins, 2002). It is one of Bourdieu's most influential concepts as it links practices to positions of agents in the field. It is defined as:

'The way society becomes deposited in persons in the form of lasting dispositions, or trained capacities and structured propensities to think, feel and act in determinant ways, which then guide them' (Wacquant, 2006: 316).

Habitus explains why agents act in the way they do in a social context. It captures personal history, preferences and dispositions in the context of the surrounding social reality and is internalised in the individual's mind (Bourdieu, 1977). Additionally, habitus signifies the way humans think and feel as well as their well-being (Grenfell, 2008). It determines how we carry forward our past to the present and the way we choose to behave in a certain manner and not the other. The process of building habitus is ongoing and active, mainly shaped by our surroundings and the fields we find ourselves in as we grow. The choices we make are influenced by our habitus, depending on the social class we belong to and what is presented to us. These experiences and choices are embodied in us as they build to formulate our identities, which define our positions in the future (Grenfell, 2008). Following this argument, Bourdieu asserts that habitus represent mental structures predisposed in the minds of individuals, enabling them to behave in a certain manner unconsciously thus habitus are:

Systems of durable, transposable dispositions, structured structures predisposed to function as structuring structures as principles which generate and organise practices and representation that can be objectively adapted to their outcomes without presupposing a conscious aiming at ends or an express mastery of the operations necessary to attain them (Bourdieu, 1990b: 53).

Further, Bourdieu postulates that habitus, capital and field engage with each other in a reciprocal manner, that is 'each shape as it is also shaped by the other' (Bourdieu, 1990b). The continued interaction results in practices also known as repeated actions or behaviours (Schultze & Boland Jr., 2000b). Therefore, habitus means underlying structures from the unconscious relationship between capital and field (see Figure 4.1).



Figure 4. 1: The relationship between habitus, capital and field (Bourdieu, 1984)

Each individual has a unique habitus influenced by their past and historical experiences, depending on the exposure they got as they grew up. People who experienced similar life experiences and backgrounds such as religion, beliefs, societal classes and schools attended, may have similar habitus (Belland, 2009; Jenkins, 2002). Habitus is incremental, but the rate

of assimilation of new experiences is dependent on the already existing habitus. As new knowledge comes, it attempts to dispose of the existing knowledge, hence causing clashes known as symbolic violence; this may prompt resistance behaviours if the individual is not receptive to build onto their habitus (Bourdieu, 1990b; Grenfell, 2008).

Jenkins (2002) postulates that there is a relationship between our bodies and the habitus. The relationship exists in the embodiment of dispositions of human agents. The embodiments of habitus are classified into three:

- Habitus within the mind of agents,
- Habitus formed when agents engage in practices during interaction with each other and with their surroundings,
- Habitus instilled by past and present experiences together with continual explicit and implicit learning by agents (Bourdieu, 1993).

There is a strong relationship between individual habitus and group/class habitus (Bourdieu, 1990b). Individual habitus is reflective of the group habitus into which individuals belong and have common conditionings. Individual habitus are acquired through personal historic experiences; they are adjusted accordingly when an agent is exposed to varying social experiences in life. The exposure of individual habitus to similar fields and similar 'logic of action' over an extended period, generates practices that are 'mutually intelligible', which quickly align to extant structures without direct coordination interaction among agents (Bourdieu, 1990b). This process of 'homogeneity of conditions of existence' gives birth to group habitus, which enables an objective synchronisation of practices without consciousness or any 'direct intervention or explicit coordination' (Bourdieu, 1990b: 58).

Bourdieu acknowledges that the concept of class habitus allows for individual differences. Individuals tend to move along a unique 'social trajectory' which formulates a 'unique integration of experiences common to members of the same class' (Bourdieu, 1990b: 60). While class habitus seem to override that of individuals, individual habitus play a conservative role to defend itself against the threat of intensive change; it does this by 'rejecting information that questions its accumulated information . . . and . . . by avoiding exposure to it' (Bourdieu, 1990b: 60). Thus, individual habitus favour exposure to experiences that are

likely to strengthen rather than diminish it. Through unconscious avoidance techniques, individual habitus provides itself with an ambiance to which it is pre-adjusted as much as possible and within which its disposable dispositions are reinforced (Bourdieu, 1990b; Grenfell, 2008).

The interactions between the habitus of a new lecturer and the HEI field are significant in shaping how a lecturer learns the 'rules of the game' through weighing costs and benefits of new activities implemented in the HEI. However, individuals do not only bring their pre-existing habitus into the HEI, but various forms of capital which, depending on each case, may not always match the requirements of the game (Mutch, 2006). External forces may cause some individuals to join a field without the appropriate habitus and capital for the field. It is advantageous for individuals who already have relevant forms of capital accrued consciously or unconsciously during habitual formation; such individuals attain lucrative positions, which makes them better players in the field. Capital from better players could be used to accrue more power and this may pose as a disadvantage to other agents who might find it difficult to enter, maintain or retain their positions in the same field (Grenfell & James, 1998).

When the disadvantaged individuals become aware of their capital restrictions, they may use procreative schemes embodied in their habitus to seek strategies to 'maximise and grow their capital' to ensure that they retain participation in the game. Consequently, the field may impose direct limitations on strategies an individual could use, leaving them with no or fewer options to defend their positions. However, the time and effort invested by agents to enter a field, albeit meeting its rules, could serve as a protection of the field against uprising conflicts during implementation of change (Bourdieu, 1993; Corradi et al., 2010). For instance, in HEIs, the case could be different for longest-serving academics since they would have gained more power in their positions to cushion them from any undesirable change to their status quo. Consequently, resistance behaviours are likely to manifest from such academics when undesired new technologies are implemented to change their work routines.

4.7 Capital

Capital is significant in developing an understanding of how Bourdieu's fields are structured, as well as to remind us on what motivates the actions of individual agents. Capital refers to materials or resources that enable agents to enter a field and occupy certain positions relative to other agents within the same field. Bourdieu perceives capital as amassed assets considered valuable in a certain field, be it social or cultural, thus,

'Capital is accumulated labour (in its materialised, incorporated or embodied form) which, when appropriated on a private exclusive basis by individual or groups of agents, enables them to appropriate social energy in the form of reified or living labour' (Bourdieu, 1986: 241).

Capital allows individuals or groups of agents to maintain and/or retain their positions of power in the field whenever necessary. The positions attained by agents differ in levels and those with more have more power to dictate or define the new 'authentic capital', which enables them to retain or upgrade their positions (Bourdieu, 1999). The hierarchical position of power of influence is often directly proportional to the amount of *capital* an agent or group of agents possess. For example, during LMS implementation in HEIs, the uptake of the technology may be dependent upon the amount of support from senior management plus the level of user-participation. The presence or lack of support from either side could influence users to adopt or resist the implemented technology.

4.7.1 Forms of capital

Bourdieu believes that what constitutes everyday practices is that agents are entangled in debates over primarily four forms of capital: social, cultural, economic and symbolic capital (Bourdieu, 1977, 1986). Bourdieu and Wacquant (1992) aver that the four forms of capital are interrelated; the interrelations allow for conversion of one form of capital to another when necessary. Depending on the social field and rules that govern it, capital form may be given different levels of value; agents in power positions may give more or less value to certain forms of capital as they deem fit (McCarthy, Paidi, Fitzgerald, & Adam, 2017). The social, cultural, economic and symbolic forms of capital are briefly described as follows: **social** (who we know), **cultural** (prestigious resources), **economic** (wealth) and **symbolic** (honour) (Bourdieu, 1986, 1991).

4.7.1.1 Social capital

Social capital is made up of an individual's actual or potential assets which have been acquired through one's collective strong network of social connections in the institution. An agent may gain social capital through mutual relationships or being a member of a group, which gains more collective/group capital, enough to entitle them to credit in the organisation. The relationships may exist only for that sole purpose of material exchanges, which help to maintain them. They may be socially instituted by use of a title of superiority, name of a noble family, a powerful tribe, a department, a faculty or a university committee. In certain conditions, social capital can be converted to economic capital.

4.7.1.2 Cultural capital

Cultural capital consists of resources of an individual that promote social flexibility in a diverse institution. It is connected habitus and field embodied in socially-related structures. There are three forms:

Institutionalised – consists of formal recognition of an individual's cultural competence attained by professional or educational qualifications. Institutionalised cultural capital is more significant in the job market where it can be measured qualitatively or quantitatively against other aspiring candidates (for example, Doctorate versus Masters holders). This capital can be converted into economic capital when a recognition is equated to the price of an individual with the cultural competence required by others.

Embodied– it is incorporated in an agent's long-term dispositions formulated from their mind and body through expertise and human knowledge. It is acquired over a long period, thus becomes embodied in one's habitus and way of thinking. It is non-transferrable as opposed to objectified capital.

Objectified– consists of an actor's personal goods and property (for example, scientific gadgets, books, artwork, etcetera), which give honour in owning such meaningful possessions. Objectified capital can be transferred into economic capital through the process of buying and selling if, and only if, the seller notifies the buyer of the symbolic meaning of the artefact, otherwise the cultural capital is rendered meaningless and becomes non-transferrable.

4.7.1.3 Economic capital

Economic capital refers to material assets which are 'immediately and directly convertible into money and may be institutionalised in the form of property rights' (Bourdieu, 1986: 242). It includes all types of material wealth (for example, finances, ownership of properties), which can be converted into monetary resources, or used to maintain better teaching and learning practices in HEIs. Other forms of capital can be derived from economic capital, for example, some goods and resources (cultural capital) can be accessed immediately in exchange for economic capital but, with social capital, an agent might need to wait for the right moment before they can utilise the acquired social connections. Therefore, conversion to durable sociability is long-term whilst that of cultural capital is short-term.

4.7.1.4 Symbolic capital

Symbolic capital comes in whatever form generated through the conversion of an agent's social, cultural and economic capital as and when they enter a field, through recognition of their achievements. The resources bring to the individual prestige and honour held highly in the community they serve (for example, Vice-Chancellor (VC), provincial governor, church bishop). It is derived from fulfilling social obligations for the prestigious role and can be converted into personal gains within a social space just as economic capital. However, it is restricted to the conditions from which it originated, after which an individual loses significance. For example, when a VC leaves office, their symbolic capital of that individual diminishes, as the next new VC takes the same prestige and honour that comes with the office. It is also acknowledged that social capital would normally function as symbolic capital.

It is important to note that when implementing ICT projects in the HEI field, Bourdieu's three forms of capital play a vital role in influencing uptake of the technology by academics. Lecturers with technology-related skills are likely to accept ICTs more quickly than their counterparts. Bourdieu stresses the need to analyse the effects of what cultural capital intends to achieve versus the habitus upon which it is activated (Bourdieu, 1986). He argues that the field and habitus highly influence the type of resources an agent considers valuable in the field, which in turn affects structures and power relations within the field. In other

words, a combination of an individual's habitus, field and capital generates their workplace practices and structures (see Figure 4.1) (Bourdieu, 1984; Schultze & Boland Jr., 2000b).

4.8 Practice

The relationship between field and habitus is mutually productive and, when they interact in a practical environment, they generate practices (Schultze & Boland Jr., 2000b). Practices are established when habitus yield a consensus among agents in the social field and there is creation of harmonised interests which, all agents agree, share and abide to (Bourdieu & Wacquant, 1992). Jenkins (2002) affirms that practices are established through an unconscious process of modifying the agent's habitus and extant practices to align with the rules and constraints of the field. However, the link between practice and habitus is neither deterministic nor automatic; agents are inclined to behave in a certain way because of their habitus. Therefore, habitus provide the basis for any emerging practices. Further, Bourdieu and Wacquant (1992) purports that practices are generated through interactions of agents' habitus and their personality, as well as expectations, constraints and opportunities existing in the agent's field.

4.8.1 The logic of practice

Practice is not only composed of fully coordinated conscious actions, nor is it only orchestrated by random events or actions, but it is a combination of both. Practice has some form of improvisation attached to it opposed to social life and events, which consists of sets of rules and regulations. Bourdieu refers to this state as practical logic (Bourdieu, 1990b). He defines practical logic as 'a practical mastery of the logic or the imminent necessity of a game; a mastery acquired by mastery of the game, and one which works outside conscious control and discourse' (Bourdieu, 1990b: 61). The logic of practice is not that of a logician; the practical logic idea is related to the location of practice, which is in space and time. Jenkins (2002) asserts that practice is a temporary phenomenon, which needs to be analysed in the past as well as the present, rather than only when it is established. It is difficult to make sense of practice by only analysing present conditions, which might seem to have generated it; nor analyse past conditions that might have produced the habitus from which it developed.

Rather, there should be a link between the past under which the habitus were generated and the present under which the practices are being implemented (Bourdieu, 1990b).

Bourdieu tries not to consider practice as something that can be pre-determined; rather he seeks to conceptualise it as a 'regulated improvisation' (Bourdieu, 1990b: 57). Bourdieu suggests that most agents do not initially choose to improvise their way of life; rather they have no other choice because such improvised actions answer to a connection between conditions in the field and habitus (Bourdieu & Wacquant, 1992). Thus, practices are produced dynamically using historical experiences, present conditions, and the expectations of the upcoming consequences of such events and actions. Agents' perceptions are that practices are not always identified clearly and obviously; rather, they are embodied in behaviours and attitudes during interaction with tactics whose implementation constitutes practice (Grenfell & James, 1998). Bourdieu (1990b) asserts that it is of no use to ask for more logic from practice than what it can already give, since there are no coherences enforced upon it, nor are there inconsistencies to be extracted from it.

4.8.2 Transformation and re-creation of the field through capital distribution

Bourdieu postulates that habitus result from planned actions, meaning they almost take the form of a structure, which is a habitual state or way of being and a predisposition or preference (Bourdieu, 1977). Habitus produce a sequence of transactions that are empirically designed as strategies but which do not generate genuine strategic outcomes (Bourdieu, 1977). Even though some strategies generated by habitus (to cater for unanticipated and evolving events) appear to provide solutions, they can correctly determine the future only when it becomes the present (Bourdieu, 1977; Grenfell & James, 1998). Accordingly, because strategies are planned objectively, they cater for both the regeneration of the objective structure of the field that created them as well as the accumulation of required capital for its agents (Bourdieu & Wacquant, 1992). Such interactions illustrates the causal loop principle of the theory of practice where habitus produce practices and practices generate internal structures which are internalised in the agent's habitus (see Figure 4.2) (Ellway & Walsham, 2015; Schultze & Boland Jr., 2000b).

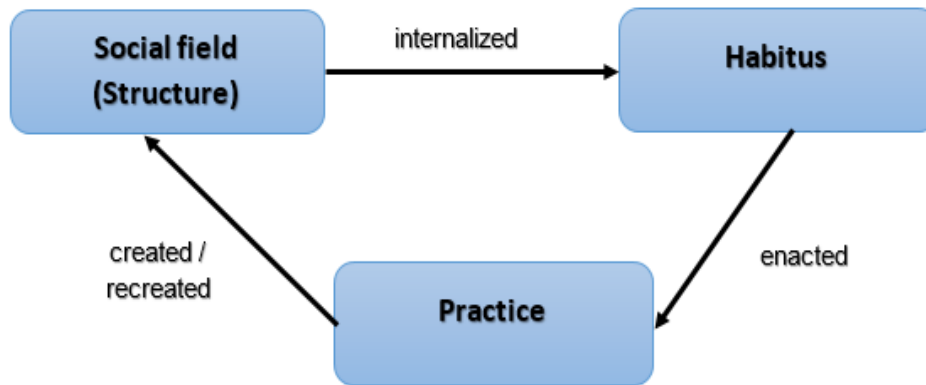


Figure 4. 2: Conceptual model for Bourdieu's Theory of Practice (Ellway & Walsham, 2015)

It is in this repeated causal loop of creation and recreation that agents begin to internalise and adopt the structure of a field as its habitus. Similarly, habitus begin to produce and enact more practices, which continue to reproduce and strengthen the structure of the social field.

4.9 Symbolic violence and misrecognition

Symbolic violence is a concept which implies that a 'specific effect of domination' is informative (Bourdieu, 2001). There are two kinds of domination: symbolic violence and misrecognition. Misrecognition is embedded within symbolic violence. With symbolic violence, power structures are 'wielded essentially through purely symbolic channels' which actors are not conscious of (Wacquant, 2006). It is that soft force, invisible, untraceable and hidden to its victims, that shapes the social field through communication without the affected actors even realising it; it may equally deceive both the dominant and the dominated (Bourdieu, 2001).

Symbolic violence involves the subtle imposition of systems that legitimise and solidify structures of inequality through recognition, misrecognition or sentiment, simultaneously pointing to the social situations under which these power hierarchies can be challenged, altered, but not overturned (Wacquant, 2006). It reveals conditions enforced through traditional rules, beliefs and practices, which contradict actors with limited capabilities to respond (Bourdieu, 1990b). Bourdieu regards such actions as violent acts, regardless of whether the actions were performed consciously or unconsciously.

Misrecognition is domination associated with cultural capital; it is the uncertainty of values and principles in the symbolic social space (Grenfell, 2008), where the dominant cling to personal authority without official declaration and institutionally guaranteed delegation (Bourdieu, 1990b). Actors with significant cultural capital sustain personal authority by reaffirming their authority through 'compliance with values recognised by the group' (Bourdieu, 1990b: 129). Meanwhile, their domination continues to be created and recreated whilst set rules and regulations for the institutions are disregarded.

For instance, pedagogic action becomes symbolic violence when practices correspond to 'objective interests (for example, material, symbolic or pedagogic) of the dominant group' (Bourdieu & Passeron, 1977: 7). In HEIs, the objective interests manifest in the form of students or academics revolting against the university systems. Bourdieu (2001) posits that misrecognition takes place when actors are victims of symbolic violence according to their own choice. In this case, the victim perceives this type of violence as normal and legitimate (Bourdieu & Wacquant, 1992). For example, women may stay in abusive relationships because of the notion that love is for better or for worse, allowing men to take advantage of that symbolic power to instil symbolic violence and misrecognition. Men impose their perceived meanings and symbols of love on the unions which weakens the responses and actions of the women (Jenkins, 2002; Wacquant & Akçaoğlu, 2017).

When misrecognition affects an organisation, some managers' behaviours present double-meaning strategies by claiming that they have the field's interests at heart, whilst they simply want to advance their hidden agendas of enforcing their own values in the field (Geiger, 2009). Ultimately, symbolic domination is the fight to acquire more capital in the social field (Bourdieu, 2001). The agents can speculate about the forms and amounts of capital that they are likely to gain just by looking at their current positions in the field. Their positions come through educational qualifications, social networks etcetera. Consequently, actors with less capital speculate to gain less capital in the field (Bourdieu, 2001). Table 4.2 summarises Bourdieu's TOP concepts, their theoretical definitions and empirical descriptions.

Table 4. 2: A summary of TOP concepts and empirical examples

Concept	Theoretical definition	Empirical descriptions
Habitus	A set of mental dispositions that, once activated by certain events, generates and shapes practices of agents (Bourdieu, 1977).	Identities of technology users shaped by history, beliefs or values, positive or negative reactions
Field	A 'game' or boundary governed by rules in which agents unite or divide when they have common interests or conflict when otherwise (Bourdieu, 1977).	HEIs, developing countries, faculties and academic departments
Capital	Resources considered valuable in a field and determine an individual's position in the social space. Symbolic capital includes the other three forms of capital (social, cultural, economic) (Bourdieu, 1986).	Cultural -Skills, qualifications (professors vs. junior lecturers) Social – lecturers' links vs. their influence – relations with management) Economic – funding, research grants Symbolic – recognition, honour (VC)
Practice	Patterned actions or structured behaviours in which agents are engaged within some social field: what people do every day at workplaces (Schultze & Boland Jr., 2000b).	LMS implementation, technology resistance, technology acceptance
Symbolic Violence	The subtle imposition of systems of meaning that legitimise and solidify structures of inequality through recognition and misrecognition (Wacquant, 2006: 3).	HEI managers with more capital may abuse power by imposing on subordinates their values, which are misaligned to university regulations.
Misrecognition	Disregarding rules of the field where the dominant cling to personal authority without official declaration and institutionally-guaranteed delegation (Bourdieu, 1990b).	Technology users are victims of symbolic violence when they perceive actions of their abusers (system advocates) as normal and legitimate.

During LMS implementation in HEIs, users with more capital can afford to resist the technology and not face consequences, which may not be the case for users with less capital who may lose their jobs.

4.10 Studies in ICT4E that have used Bourdieu's practice theory

The last decade has seen an increase in ICT4E research that employed Bourdieu's TOP as a theoretical lens to explain technology implementation (Beckman, Bennett, & Lockyer, 2014; Belland, 2009; Seale, Georgeson, Mamas, & Swain, 2015). Most studies have employed TOP to assess uptake and integration of technology in academic institutions (see Table 4.3).

Table 4. 3: Selected studies that applied Bourdieu`s TOP on ICT uptake in education

Author	Title of study	Area of focus
Beckman et al., (2014)	Understanding students' use and value of technology for learning	Students' practices and perceptions during technology use
Belland (2009)	Using the theory of habitus to move beyond the study of barriers to technology integration	Pre-service teacher`s experience barring technology uptake and use
Petit-Dit-Dariel et al., (2014)	Using Bourdieu's theory of practice to understand ICT use amongst nurse educators	Organisational factors influence responses to ICT uptake in HEIs
Aleksic-Maslac & Magzan (2012)	ICT as a tool for building social capital in higher education	ICTs building academic social capital and human capacity in HEIs
Czerniewicz & Brown (2013)	The habitus of digital 'strangers' in higher education	Student practices and technology in HEIs through digital mediation.
Nachmias et al., (2010)	ICT use in education: different uptake and practice in Hebrew-speaking and Arabic-speaking schools in Israel	Bridging the gap of challenges for ICT-based practices between Arabic and Hebrew teachers.
Ignatow & Robinson (2017)	Pierre Bourdieu: Organising the digital	Impact of Bourdieu in Social Science research and internet
Maton & Carrington (2011)	Understanding the complexity of technology acceptance by higher education students	Adoption of digital technologies by university students for learning
Seale et al., (2015)	Not the right kind of 'digital capital'? An examination of complex relationships between disabled students, their technologies and HEIs	Disabled students in HEIs using technology to support their learning
Czerniewicz & Brown (2014)	The habitus and technological practices of rural students: A case study of South Africa	Habitus and technology practices of rural students at university.

Studies in Table 4.3 used one or more of Bourdieu`s TOP key concepts (for example, habitus, capital, practice, field) to evaluate ICT4E research focusing on technology implementation, uptake and integration into curricula; more emphasis is placed on the uptake of ICTs in teaching and learning (Albert & Kleinman, 2011). Nevertheless, there is still a paucity of studies that have applied Bourdieu`s TOP to evaluate the manifestation of lecturer resistance during implementation of LMS in HEIs in developing settings.

Implementation of technology into a field of education (for example, schools, universities), means that the habitus of agents has to be adjusted to align with work practices that come with the new technology (Czerniewicz & Brown, 2014). Individuals` past experiences influence the rate of technology uptake, which may vary even across the same groups or departments (Grenfell & James, 1998). Agents weigh the benefits of altering their habitus against retention of the status quo before deciding to accept or resist the new technology.

4.11 Critiques and limitations of Bourdieu`s practice theory

Although applicable to many disciplines and flexible to explain varied social contexts, Bourdieu`s TOP has been criticised for the following summarised limitations:

1. At inception, readers find Bourdieu`s TOP complex and verbose, thus needing extra attention when trying to understand it.
2. Bourdieu`s TOP is too functionalist; reference of actors is mainly towards their roles and positions rather than their unique personalities and individuality.
3. It is difficult to demarcate the exact boundaries and constraints of a field under investigation, as each field is embedded in another field, internally and/or externally.
4. In ICT studies, TOP appears scant; Bourdieu rarely talks about technology in his works therefore it needs supplementation with other theories when studying ICT artefacts.

In detail, the first limitation of Bourdieu`s TOP refers to its density and complexity at inception – understanding its meaning poses difficulties when attempting to particularise it for empirical analysis; it needs extra careful conceptualisation before applying it (Mutch, 2006). To address this critique, it is helpful to create visual diagrams which illustrate relationships between TOP concepts to be used. This, however, might reduce the ‘authentic voices’ and ‘rich descriptions’ so important in qualitative research, whereby the diagrams are considered too static. For instance, an individual`s interview can be reduced to just a dot position on the diagram, thus diminishing all the emotions an actor may have displayed. To avoid over-reduction of data, it is important to support the illustrations with evidence from empirical sources (for example, documents, transcripts, filed notes) (Mutch, 2006; Shusterman, 1999). Mutch (2006) also proposed to represent text by simulation of moving images using three-dimensional technology.

The second critique is that TOP reduces actors to their roles and positions rather than their unique personalities (Bohman, 1999). The argument is that TOP portrays the authentic voices of individuals as coming from a position, rather than from a living human being. The position of an actor is determined and labelled as they enter a particular field and reference is then made against that position. There is little or no consideration that those agents are real people with a much more complicated life than just the dot position they occupy on the

diagram or in the social field (Mutch, 2006). Similarly, Butler (1999) affirms that TOP favours the social field in such a way that it fails to appreciate an individual's social evolution. However, while Mutch (2006) acknowledges this limitation in TOP; it can be reduced by more awareness and caution when explaining and portraying complex interactions of actors in the social field.

The third critique posits that when analysing the field theory from TOP, it is difficult to present empirically the exact boundaries of a field and constraints of actors or groups under investigation, as each field is intertwined in other fields, internally and/or externally (recall Figure 4.3). To address this, diagrams can display the most significant forces on a matrix or axis rather than use of single lines. Furthermore, it is clearer to split and reduce the number of fields under investigation and analyse one field at a time (Mutch, 2006). Although TOP appears dense, it is deemed more appropriate to better explain complexities of social realities (Grenfell, 2008).

Bourdieu's TOP is considered incomplete to apply in technology studies (Sterne, 2003). Although Bourdieu rarely talks about technology directly in his studies, TOP has a lot to offer to technology-related studies. TOP's distinctive methods to social analysis are vital in assisting technology researchers to resolve some of their socio-theoretical problems prevailing during the implementation and integration of new technologies (Kloot, 2009; Sterne, 2003). While Bourdieu's sense of technology was not on the IT artefact, he wrote something on photography and referred to it as technology. Bourdieu argued that technology is not just a thing that fills a pre-set social role; it is something socially shaped together with its meaning, roles, scope and usage. Therefore, technology cannot exist just to fill a pre-determined purpose, since the purpose itself is co-produced together with the technology by its users and developers.

This study supplemented Bourdieu's TOP with MRITI, a conceptual model on resistance from the IS discipline, to assist in identification of different forms of lecturer resistance behaviours that manifest during LMS implementation in HEIs. TOP concepts of habitus, capital and field assist in explaining how and why different forms of resistance manifested by lecturers

occurred in the way they did. It is from this combination that this study derived an integrated conceptual framework and vocabulary (see Figure 4.4).

4.12 Particularisation of Bourdieu`s TOP in LMS implementation

Agents engage in activities within social and historical structures characterised by overlapping and nested fields of practice which may divide or unite agents (Levina & Vaast, 2005). Conflict arises when agents try to conserve or transform the habitus and social structures with respect to their positions in the field (Bourdieu, 1990b). Unresolved conflicts may result in implementation failure of ICT projects in HEIs as stakeholders try to maintain or upgrade their positions in the field.

Lecturers join HEIs with preconceived habitus such as prior knowledge, identity, mannerisms and beliefs shaped by experiences they had been exposed to. HEIs fields are governed by common rules that individuals are expected to follow when they join and work in the institution. Based on expertise, lecturers occupy positions in the HEI field by belonging to a certain department under a faculty. Similarly, all HEIs in Zimbabwe are governed by rules from higher authorities such as the MHE, whilst the implementation of ICTs in HEIs align with universal ICT policies from the Ministry of ICTs (MoICT) (see Figure 4.3). However, an economy`s political and socio-economic factors ultimately affect the *habitus* of everyone in that country and impact on their work practices.

Figure 4. 3 illustrates the intertwined relationship of multiple fields in a social reality. For instance, from a developing country context, there exists an HEI, Omega University, comprised of faculties, which have academic departments, which house lecturers and other agents. For simplicity, the study classifies the cohorts as outer, middle and inner fields. The *inner field* shows lecturers, with their own *habitus*, albeit different, but with more or less the same level of influence or power induced from their positions; despite having different forms of *capital*, they are bound by a collective subculture. The *middle field* shows the university system surrounded by external fields, MHE and MoICT. While the middle field is influenced by external forces, it still impacts on the practices of individuals in the inner field. The *outer field*, in the form of socio-political-economic factors, exerts overall external influence on both

the middle and inner fields. Finally, the habitus (H) and capital (C) of lecturers are built from the effects of both the middle and outer fields.

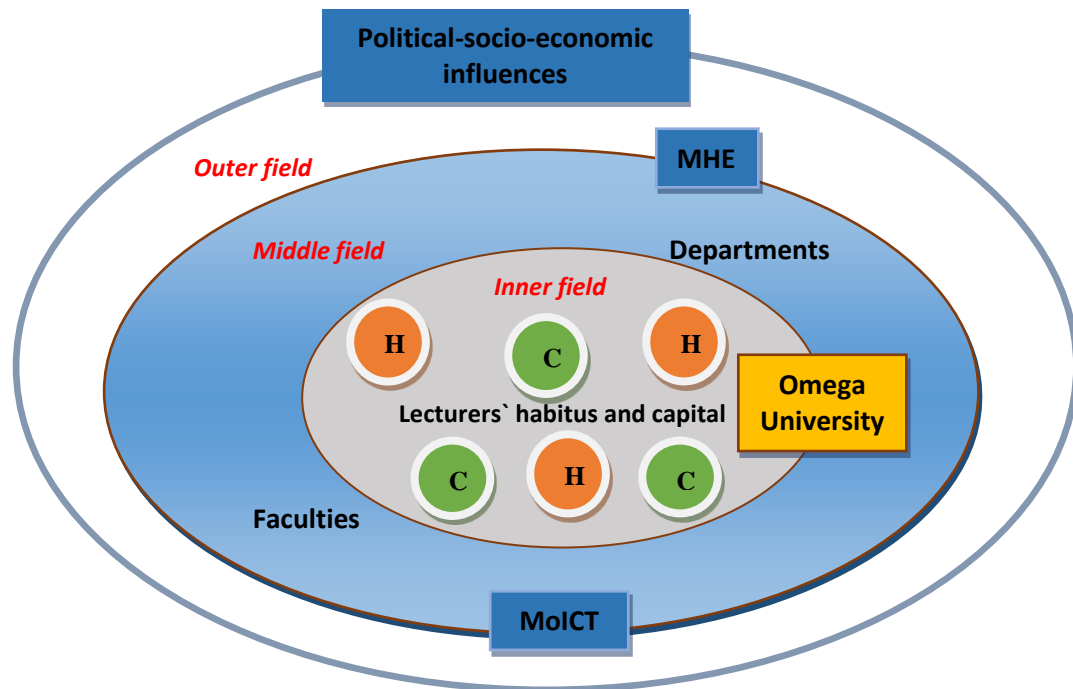


Figure 4. 3: Habitus and capital distribution of lecturers in the Omega field

TOP informs this study's fourth objective which examines how contextual factors such as habitus and capital influence the practices of lecturers, management and ICT implementers during LMS implementation in HEIs. In particular, the study analyses how various forms of capital and habitus influenced the manifestation of different forms of lecturer resistance practices during LMS implementation. Further, the study investigates how habitus and capital of project implementers influenced their responses and strategies when managing lecturer resistance.

4.13 Conceptual framework and vocabulary for the study

The study employed Bourdieu's TOP concepts together with themes from MRITI to explain the manifestation process of lecturer resistance behaviours during LMS implementation at Omega University in Zimbabwe. The combined concepts deductively guided data collection and data analysis to avoid analysing too much data outside the scope of the study. However, the researcher was not too rigid to prevent emerging concepts that answered research

questions. Table 4.4 presents key elements and vocabulary of the proposed integrated conceptual framework.

Table 4. 4: The envisioned conceptual interactions in the area of study

RESISTANCE TO TECHNOLOGY THEMES	BOURDIEUSIAN THEORY OF PRACTICE CONCEPTS				
	Field	Habitus	Capital	Symbolic Violence	Practice
Initial conditions	X	X	X		X
Objects of resistance		X	X	X	
Perceived threats	X			X	
Resistance behaviours		X	X	X	X
Subjects of resistance		X	X	X	
Triggers	X				X

The envisioned study area illustrates interaction between TOP and MRITI, showing how resistance practices manifest in the Omega field in Zimbabwe.

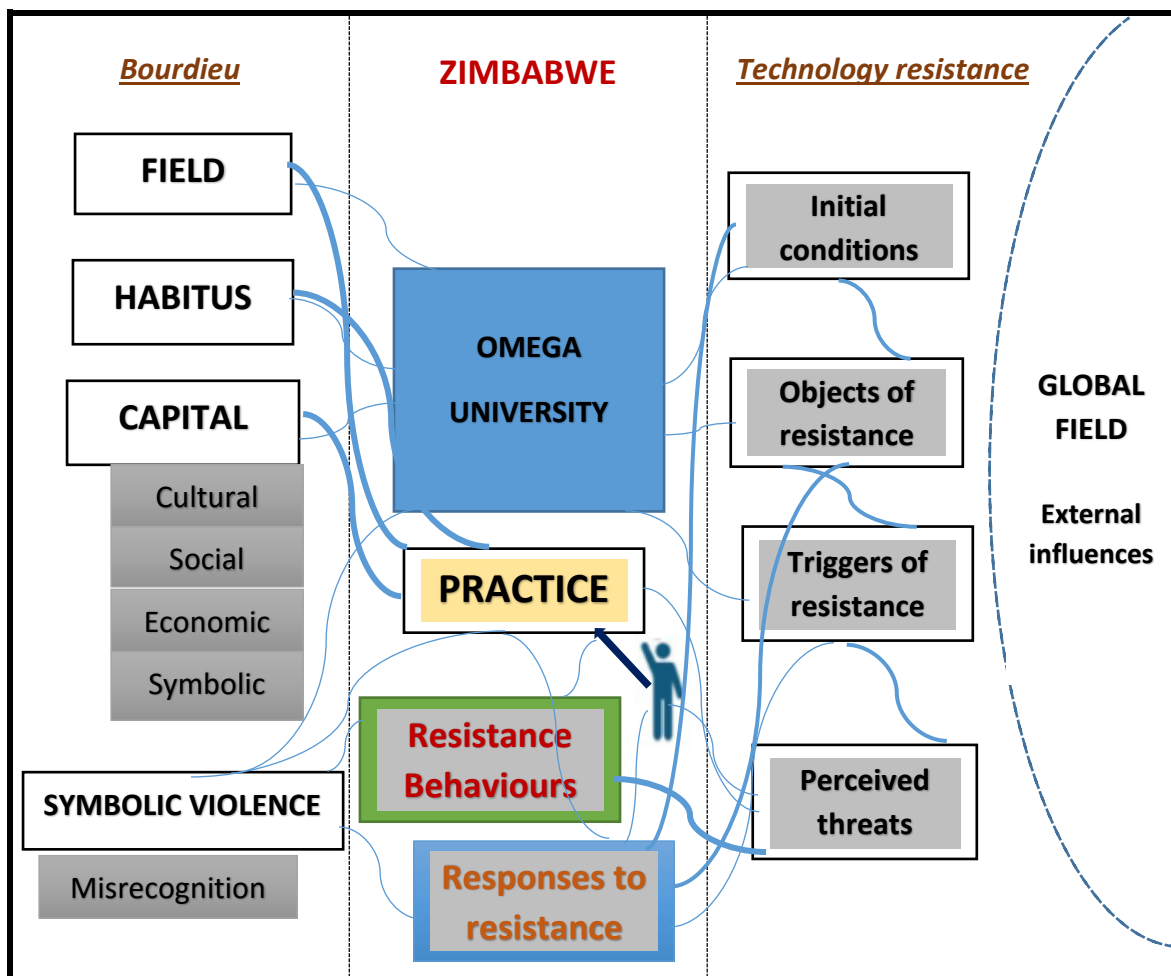


Figure 4. 4: Integrated conceptual framework for the study

The lines within the Omega field represent connections, interactions and interrelationships of the concepts which formulate the integrated conceptual framework between TOP and MRITI. Numerous causal loops result in various practices of lecturers, management and ICT implementers during LMS implementation. The concepts put in the middle column represent the main themes to be achieved by the objectives of the study hence bolder.

4.14 Summary of chapter

The chapter provided the rationale for using Bourdieu's practice theory as an appropriate theory for this study, to better explain how and why user resistance manifests in the way it does, as well as why technology implementers respond in the way they do towards user resistance. While MRITI outlines the manifestation process of different forms of resistance behaviours, it is limited to providing in-depth explanations on how and why contextual factors such as habitus and capital influence the manifestation of such resistance practices within HEIs of developing country settings. Bourdieu's TOP concepts were detailed and particularised to empirical sources. Finally, a critique of Bourdieu's TOP was presented together with possible ways to overcome the limitations.

CHAPTER FIVE

RESEARCH METHODOLOGY

Research is formalised curiosity. It is poking and prying with a purpose.
∞ Zora Neale Hurston, Anthropologist

5.0 Introduction

This chapter describes the philosophical approach, research methodology and methods employed in this study. An explanatory approach was used to understand behaviour of the phenomenon of resistance. Interpretivism/constructivism was employed to understand how knowledge of resistance was socially constructed. A qualitative methodology was appropriate to explain the unique, sensitive and complex phenomenon of resistance.

5.1 Philosophical foundations of the study

The nature of research objectives and form of inquiry reflect the philosophy of science herein referred to as the research paradigm (Hallebone & Priest, 2009). A paradigm is a connection of logically-related assumptions, concepts or propositions that situate research and thinking (Mack, 2010). Guba and Lincoln (1994) identify three philosophical foundations: ontology, epistemology and methodology.

1. Ontology is the study of being and existence (Crotty, 1998), whereas ontological assumptions constitute the nature and form of reality where researchers perceive how what is, how things are and how things really work (Scotland, 2012).
2. Epistemology is the form and nature of knowledge (Cohen, Manion, & Morrison, 2007), whilst epistemological assumptions refer to what it means to know, how knowledge is acquired, produced and transferred (Scotland, 2012), thus linking the researcher and the researched (Guba & Lincoln, 1994).
3. Methodology is the strategy behind the choice and use of specific methods, therefore methodological assumptions are the inquiry of what, when, where and how data is collected and analysed (Crotty, 1998; Scotland, 2012). Thus, the researcher seeks to find out more about the researched (Guba & Lincoln, 1994).

Methods are methodology techniques used to collect and analyse both quantitative and qualitative data. All paradigms can employ either qualitative or quantitative data or a mixed approach.

Methods can be used to trace a study through methodology, epistemology and back to its ontological foundations. It is good practice to first define ontological positions before embarking on a research (Grix, 2010). A clear definition of what one thinks can be researched (ontology), connected to what is already known about it (epistemology), and the strategies of how to acquire it (methodology), shows how ontological assumptions can drive the research process (Grix, 2010). Thus, ontology informs epistemology, which in turn inform methodology and all these three inform the methods to be used for data collection and analysis (Mack, 2010). A subjective ontology, an interpretivist epistemology, a qualitative methodology, and a case study method are considered adequate to inform the research problem for this study.

5.1.1 Subjective ontology

Research ontology is the initial point of all researches (Grix, 2010); it is concerned with the researcher's view of nature and form of reality. There are two main perceptions on the nature of reality:

Objectivity: This asserts that social entities exist in a reality that is detached from the social actors; hence, unbiased observation of reality must be conducted in the absence of any influences or biases on the part of the researcher (an independent reality from the researcher).

Subjectivity: This collapses the boundary that separates the researcher and the researched. It proposes that the researcher should understand the details of a research situation to understand reality. Thus, reality is a result of social interactions and the meanings that people assign to it (Tuli, 2010).

In this study, subjectivity offers an ontological stance that presents the perceptions of reality based on social constructionism, where the social phenomena of a research situation is within the influence of the researcher (Bryman, Bell, Mills, & Yue, 2015). The researcher defines the boundaries of the fields of HEIs and developing country contexts by first conceptualising their nature and composition, trying to understand what goes in and around them. Technology implementation in HEIs is a subjective reality on its own, whilst its concepts and resistance behaviours can be perceived as having a subjective reality (Orlikowski & Baroudi, 1991). The preconceptions of LMS implementation and user resistance behaviours are available to the

researcher who, based on subjective assumptions, interacts with human subjects in HEIs to change the perceptions of the researcher and the researched. The researcher articulates the contextual factors around LMS implementation and the manifestation of user resistance, by using subjective research instruments such as semi-structured interviews, documents and participant observations (Becker & Niehaves, 2007).

5.1.2 Interpretive epistemology

The two fundamental epistemological frameworks common in IS research are positivism and interpretivism/constructivism (Saunders, Lewis, & Thornhill, 2015). This study adopted interpretivism in IS research. Interpretivists differ from positivists in that interpretivism asserts that knowledge of reality is a social construction by human actors (Walsham, 2006). The researcher is guided by own presumptions to investigate, interpret and describe the social realities, rather than attempt to test and confirm reality as asserted by positivists (Tuli, 2010). Interpretive research seeks to understand and gain insight rather than to predict or prescribe (Walsham, 2006). The perspective is more aligned to qualitative methodology such as interviews, with findings interpreted and written in the form of words rather than numbers (Myers & Newman, 2007). Indeed, on one hand this study sought to understand the manifestation of lecturer resistance towards LMS implementation in HEIs of a developing country, whilst, on the other hand, it uncovered how technology implementers used certain responses and strategies to manage lecturer resistance behaviours. The study also explored how contextual factors such as habitus and capital influenced the manifestation of lecturer resistance. This process conforms to the philosophical stance of constructivism.

Alternatively, positivists argue that the world conforms to fixed laws of causation and effect where complexity can be solved by manipulation, reductionism and determinism thus putting emphasis on measurement, objectivity and repetition (Fitzgerald & Howcroft, 1991; Guba & Lincoln, 1994). Positivism is more concerned with confirmatory research that seeks to predict, prescribe and endorse predefined factual relationships regarding concepts (Tuli, 2010). It uses quantitative methods such as surveys to discover reality and present findings in numbers. Positivists disregard the importance of researchers as important variables and separate them from what they are researching (Lincoln, Lynham, & Guba, 2011). However, the realities under

investigation such as lecturers' resistance manifesting during LMS implementation seem to fall within the bracket of social rather than natural sciences (Bryman & Bell, 2015). Thus, qualitative methods are useful for in-depth research of the envisioned suppositions.

In interpretive research, knowledge is created during interactions of the researcher and the researched removing manipulation and determination bias; data is reliably collected and analysed. Reductionism and repetition are excluded, as the researcher remains closely attached, subjective and open-minded to emerging concepts and new truths during interactions with the researched. Positivism, however, observes a social reality through quantification, hence it contradicted individual constructionism and interpretation (Bryman et al., 2015), which is key to this study's research question. Consequently, this study suggested theoretical propositions to explain social reality. This maintained dependency between the researcher and the researched, considered important in any scientific inquiry within interpretivism.

Technology implementation and its discourse in organisations has increasingly become important in IS research (Orlikowski & Baroudi, 1991). The interpretive methodologies can assist to understand how information is used and interpreted during technology implementation (Myers, 2004), as well as the impact exerted on organisations (Chowdhury, 2014; Myers, 1994, 2004). This research used a methodology that supported first-hand interaction with respondents and participant observations, as well as secondary data, to explain social meanings of user resistance during LMS implementation, which has contributed to low uptake of ICT projects in HEIs of most developing countries.

The methodology for this study was relevant and consistent with related studies on the taken-for-granted phenomenon such as resistance, to expand its conceptualisation and knowledge on the subject matter (Laumer et al., 2016; Samhan, 2018). Moreover, the interpretive qualitative methodology was well tailored to explore the structures and cultures of university organisations in HEIs (Yanow & Ybema, 2009). It further attempts to understand the influence of university structures and cultures on technology uptake, as well as examines strategies used by system advocates to manage user resistance behaviours (Jackson, 2011).

5.1.3 Principles for conducting interpretive research in information systems

The study adopted a set of principles for conducting and evaluating interpretive research in IS by Klein and Myers (1999). This was done to allow consistency and capturing of homogeneous features that complement most interpretive studies in IS. Although Klein and Myers' principles guided the study's research design, the researcher was flexible and cautious throughout the research process to avoid rigidity. Klein and Myers (1999) subsequently developed principles that guide critical research in IS, based on the interpretive principles. However, critical research added two more aspects: (1) to liberate the consciousness of individuals from restrictive expectations and theories, and (2) to emancipate individuals from their restraining surroundings and to bring wanted change (Myers & Klein, 2011). Table 5.1 summarises the set of principles for conducting and evaluating interpretive studies in IS.

In summary, this study drew on TOP concepts of habitus, field and capital, as well as concepts from the MRITI model: initial conditions, perceived threats, objects and triggers of resistance. The integrated conceptual framework informed the conceptualisation of user resistance by guiding the design of research questions, interview guides and data analysis. As highlighted earlier, resistance compared to adoption of technology is often taken for granted by many managers in organisations; hence, the researcher was cautious to reveal such preconceived assumptions when investigating manifestation of lecturer resistance during LMS implementation at Omega University. The researcher guarded against potential conflicts and distortions which might have created new meanings; social meanings were explained using primary data from respondents, secondary data and research context (Klein & Myers, 1999; Walsham, 2006).

Table 5. 1: A set of principles for conducting interpretive research in IS (Klein & Myers, 1999)

Principle	Theoretical description	Empirical definition
The vital hermeneutic circle	This is the most important of all the principles. It asserts that all human and social understanding is achieved by reiterating between separate parts and combined parts. To understand a phenomenon better, the researcher should split it into sub-parts and explain them separately. Meanings of separate parts are later joined to express the full meaning of the phenomenon.	<i>To understand resistance to LMS implementation in HEIs in a developing country, the researcher examined lecturer resistance, the manifestation process of lecturer resistance and the influence of responses/strategies from ICT implementers and management on lecturer resistance.</i>
Interaction between researchers and participants	Researchers should be critical, allow clear interaction with the respondents, and perhaps alter their presumptions towards research data. The researcher should not only confirm or reject theories, but also be open to emerging concepts and question preconceived theories.	<i>The researcher identified various forms of lecturer resistance behaviours based on responses from several participants and guided extant literature, TOP and MRITI.</i>
Research context	Researchers should critically reflect upon the research context and surrounding settings to enable readers to see how a phenomenon under investigation manifested.	<i>The researcher explained the context of the case study, its structure and culture. University settings could influence manifestation of lecturer resistance during LMS implementation.</i>
Multiple interpretations	Researchers should be sensitive to different definitions and perceptions of concepts from respondents and avoid enforcing meanings on behalf of participants using own presumptions. Similar situations can be contradicting since participants may perceive the same situation from different viewpoints.	<i>The researcher did member checking with respondents when there was need to clarify information. Each participant was treated independently; TOP asserts that agents have unique individual habitus first before conforming to group habitus.</i>
Suspicion	The researcher should be aware and sensitive to potential distortions and biases from participants when they are narrating their stories or events.	<i>As a participant observer in this study, it was easier for the researcher to identify any misrepresentation of truths. However, to avoid own research bias, the researcher remained sensitive to multiple meanings from respondents.</i>
Dialogical reasoning	After immersion into data and conducting numerous revisions of it, the researcher should be open to possible falsifications of their preconceived theories when expected findings contradict actual findings; the researcher should inform the audience the correct results from the data.	<i>While the study employed deductive reasoning through TOP and MRITI, the researcher remained open-minded to concepts emerging from the data.</i>
Generalisation and abstraction	Based on the research context as well as the hermeneutic cycle, findings should be interpreted using predefined theories to explain the nature of social events, actions and human understanding revealed by the data.	<i>The study findings should be generalisable to similar contexts as well as add knowledge to settings employing similar theories; findings from this study should be trustworthy, reliable and transferrable to similar studies on user resistance in HEIs of developing countries using similar theories.</i>

5.1.4 An overview of the ontological and epistemological assumptions for the study

The assumptions of subjective ontology and interpretive epistemology compelled the researcher to apply a qualitative methodology in the understanding of social realities (Bryman & Bell, 2015), behind manifestation of user resistance during LMS implementation in HEIs. Since the world does not exist independently of our knowledge of it (Grix, 2010), individuals construct social realities and there are as many realities as there are individuals (Scotland, 2012). Reality, therefore, materialises when consciousness interacts with objects, which are already pregnant with meaning (Crotty, 1998). Table 5.2 presents an overview of the ontological and epistemological positions in this research.

Table 5. 2: Ontological and epistemological assumptions of the study (Grix, 2010)

Ontology	Epistemology
<ul style="list-style-type: none"> • Reality is subjective; it is constructed indirectly based on individual interpretations. • People interpret and create their own meaning of events. • Events are different and cannot be generalised. • One event can be interpreted from multiple perspectives. • Causality is determined by interpreted meanings and symbols. 	<ul style="list-style-type: none"> • Knowledge is gained through a strategy that respects the difference between people and the objects of natural sciences, therefore requires the social scientist to grasp the subjective meaning of social action. • Knowledge is gained inductively to create a theory. • Knowledge comes from events and is not reduced to simplify meaning. • Knowledge is gained through personal experiences.

Interpretivism assisted this research to achieve a saturated understanding based on a variety of *rich descriptions* from respondents, documents and field notes found in HEIs of a developing setting (Guba & Lincoln, 1994).

5.1.5 Comparison of alternative research paradigms

Although other philosophical underpinnings in IS research did not guide this research, it is essential to give a synopsis of their axioms to justify subjective and interpretive choices guiding this thesis. Table 5.3 presents a summary of essential values and beliefs of alternative research paradigms (Hallebone & Priest, 2009; Lincoln et al., 2011; Saunders et al., 2015).

Table 5. 3: An overview of alternative research paradigms

FUNDAMENTAL BELIEF	RESEARCH PARADIGMS			
	Positivism (Naïve Realism)	Postpositivism (Critical Realism)	Interpretivism (Constructivism)	Pragmatism
Ontology: describes the position on the nature of reality	Objective, external and independent of social actors	Objective, independent of human thoughts, interpreted through social conditioning	Subjective, socially constructed reality, multiple realities, alterable	External, multiple realities, focus on best choice to answer a research problem
Epistemology: describes the view of acceptable knowledge	Observable phenomena, facts, focus on causality, law-like generalisations	Observable phenomena, facts. Focus on explaining within context(s)	Subjective meanings, social phenomena, focus on situation details and its reality, motivating actions	Either observable or subjective. Practical, applied research integrating views to assist in data interpretation
Axiology: constitutes role of values and the researcher's views	Objective, Value-free, etic research, researcher is independent from data	Value-laden & etic research, researcher is influenced by past experiences and culture	Value-bond and emic research; subjective; researcher cannot be separated from what is being researched	Value bond and etic plus emic; both subjective and objective; Value plays role in data interpretation
Methodology: Methods/models used in the research process	Quantitative	Qualitative or Quantitative	Qualitative	Mixed-methods (Qualitative and Quantitative)

While there are differences in these philosophical assumptions, in practice the differences are not very clear (Myers, 1997). Researchers have presented inconsistencies regarding differences of the philosophical foundations, with some arguing whether the foundations are certainly conflicting or they could all be used to inform a single study (Myers, 1997).

5.2 Research methodology

The philosophical foundations guided the choice of the research paradigm and the research methodology, which in turn informed research methods for this study. A methodology is a strategy that informs the decision to employ a specific set of research methods (Crotty, 1998). It is driven with the inquiries of the what, when, why, where from and the how of data collection, collation and analysis. Methodology is concerned with the techniques used during data collection (Guba & Lincoln, 1994). In principle, the research methodology informs the choice of the research design/method. Research design is the blueprint, which defines the techniques of data collection, collation and analysis. Research design is a logical systematic

procedure of conducting empirical investigations to answer research questions and solve the research problem (Creswell, 2003).

There are two common research methodologies: qualitative and quantitative. The two can be used either separately or in combination (mixed-methods). A quantitative approach is mostly applied to large-scale research based on large samples. The data obtained from a quantitative method is usually descriptive, 'speaking for itself', and presenting data frequencies (Kaplan & Duchon, 2014). Most quantitative research is employed in the positivism paradigm, which seeks to generate hypotheses about an observable phenomenon; data is collected from the real world for rigorous statistical analysis to either confirm, falsify or reject hypotheses (Bellamy, 2011). The mixed-methods approach is commonly used in the pragmatist paradigm where characteristics of the subjective and objective realities are combined to provide an inference to the better explanation and/or solution to the research problem (Kaplan & Duchon, 2014).

This study adopted the qualitative research methodology to explain realities of the social phenomenon of resistance and to identify its subjective meanings, whilst determining the contextual influences behind its manifestation during LMS implementation in HEIs of a developing country. Qualitative methodology aimed at providing new meanings to knowledge as well as contributing to existing theory. A deductive logic of reasoning was employed to test the theories (Bellamy, 2011).

5.2.1 Qualitative research methodology

A qualitative methodology is based on methods of data collection which are flexible and bounded to the social context from which the data is produced (Kaplan & Maxwell, 1994). The nature of reality in qualitative research is determined by the engagement between the researcher and the researched phenomena in the study. The emphasis during data collection, collating and analysis is interpretation, often in words, narrations, expressions or explanations, opposed to quantification and discrete entities (Kaplan & Maxwell, 2005). The qualitative methodology is often employed in interpretivism due to its subjectivity and recognition of the importance of information and meanings of the phenomena and/or their

context. The continuum of methods used to collect qualitative data includes unstructured and semi-structured interviews, participant and direct observations, field notes, documentation, as well as the researcher's reactions and expressions (Myers, 2013).

The study employed the qualitative methodology to gather in-depth understanding and explanations of user resistance towards LMS implementation in HEIs leading to low uptake of ICTs in developing countries (Yin, 2011). Similarly, qualitative research plays a fundamental role in constructivism, where it employs empirical techniques, which are epistemologically congruent with, for example, case studies and interviews used for data collection. It is also capable of generating theoretical propositions to explain a social phenomenon and to identify causal relationships between concepts in the study (Yin, 2013). The strength of qualitative methodology lies in its ability to understand social meanings and contexts of the researched phenomena in real-life and to explore processes and events embedded in the researched phenomena over time (Kaplan & Maxwell, 2005). A qualitative inquiry does not just assist in identifying causal-effect processes; it provides in-depth insights behind the causal-effect processes.

In this study, the aim of the qualitative research methodology is to expose what is happening, how and why it happens in that manner (Kaplan & Maxwell, 2005). Factors influencing implementation of ICTs in HEIs in developing countries (recall Sections 2.4 to 2.6), can be evaluated better using qualitative methods. Similarly, qualitative methods can evaluate better the relationships between low uptake of ICTs in HEIs and the implementation processes that lead to the manifestation of various user resistance behaviours. Further, project implementers obtain real-time practical implications for implementation of ICT projects in HEIs, through recommendations of strategies to manage user resistance as soon as it manifests, rather than wait to deal with its effects. Furthermore, the analysis of social realities can be explained and retained better using qualitative methods to guard against losing their contextual and emotional meanings; this is not guaranteed when textual data is analysed quantitatively (Kaplan & Duchon, 2014). Finally, use of qualitative methods complements the use of a theory and its logic of reasoning; it can further assist to guide in the observation of a social phenomenon during the research process (Blaikie, 2007).

5.2.2 Theoretical approach

There are four main theoretical approaches when applying logic of reasoning to a study: inductive, deductive, abductive and retroductive.

1. The *inductive* logic of reasoning describes the patterns of actions and/or characteristics of the phenomena. The researcher first observes, collects and analyses the data, which would then be used to generate the hypothesis of the study in line with research questions (Blaikie, 2009; Matavire & Brown, 2011).
2. The *abductive* approach is applied to explain causal mechanisms of observed events. A new theory is developed from the interactions in natural settings using simple language that the research participants have with a predefined model (Blaikie, 2007).
3. The *retroductive* reasoning strategy is more suitable to understand underlying mechanisms of events or actions of an observed phenomenon. Blaikie (2009) reiterates that the observed events are documented to generate a model or theory that is then used to describe the possible mechanisms and the research context causing such events.
4. The *deductive* theoretical approach begins with hypothesis formulation, after which data is collected and analysed to test the hypothesis for either confirmation or falsification with regard to the research phenomena.

This study adopted a deductive approach to theory. When applying the deductive strategy, the identified theory is used to generate research questions, which further guides the data collection process. The data is then analysed to explain the phenomenon of interest (Blaikie, 2009; Byrne & Tasso, 1999). An objective of this study requires the researcher to test selected theoretical frameworks to assist in understanding the causes of lecturer resistance behaviours during LMS implementation contributing to low uptake of ICT projects in the context of HEIs of developing settings. The theories could explain how contextual factors and processes influence the manifestation of certain lecturer resistance behaviours and why. The deductive strategy allows the study to draw on the concepts and ideas of field, habitus and capital from TOP as well as objects, threats and triggers from MRITI.

The theory constructs were useful in case selection, development of interview guides as well as in sampling of respondents, making the theoretical frameworks most appropriate for data collection of the study (Gregor, 2006). The same constructs helped to identify forms of resistance behaviours that manifested from lecturers during LMS implementation, whilst investigating why such forms of lecturer resistance manifested from certain individuals or groups. Further, the analytical views of habitus and capital were useful to analyse the interactions and relationships (Blaikie, 2009), between lecturers and project implementers in the HEI social field which led to power struggles as each tried to increase their capital to maintain or upgrade their positions in the field.

5.3 Research design

Research design is the overall structure of an inquiry; it is the logical process of conducting research to ensure effective answering of the research questions. Research design can be referred to as the blueprint for data collection, data analysis and interpretation of results (Trochim, 2001; Yin, 2013). The research problem determines the type of research design to be used; any research design can use any type of research methodology (Bellamy, 2011; Creswell, 2003). There are different types of research designs: case-study design, action-research design, experimental design, mixed-method design etc. This section outlines the research design for this study and justifies use of a single case study. The section also presents the study's units of analysis as well as case selection/sampling techniques.

5.3.1 Case study design

The study adopted a case study design as a research strategy to collect and analyse data. Case study design is the most common qualitative method used in IS research (Orlikowski & Baroudi, 1991). The method is more appropriate in IS because it investigates information systems implemented in organisations (Myers, 1997). Additionally, interest in IS research has generally shifted from technical to organisational issues (Benbasat, 1987). To employ a case-study strategy, the researcher needs a real-life social phenomenon where the researcher has little or no control over the contemporary events in the research context (Yin, 2009).

A case study ‘consists of detailed investigation, often with data collected over a period of time, of one or more organisations, or groups within organisations with a view to providing an analysis of the context and processes in the phenomenon under study’ (Hartley, 1994: 208-209). The definition affirms the suitability of a case-study design as an inquiry framework for in-depth and holistic understanding of a complex social phenomenon within its context. Yin (2009) identified five components important in conducting case study research: (1) study’s research questions, (2) study’s propositions or theory, (3) unit (s) of analysis, (4) the logic link of data to its propositions, and (5) criteria for interpreting research findings.

Several studies confirm that a case-study design is different from other Social Science research designs thus it is most preferred in certain situations (Baxter & Jack, 2008; Grünbaum, 2007; Myers, 2013; Patton, 2002; Walsham, 1995; Yin, 2009). Table 5.4 presents common characteristics to case studies and examples from empirical observations.

Table 5. 4: Generic characteristics of case studies and empirical examples (Yin, 2009)

Characteristics of case study design	Empirical description
<i>It is ideal when the researcher seeks to answer the ‘why’ and ‘how’ research questions.</i>	The primary research question is mostly a ‘how’ question. The researcher’s perspective is holistic when trying to understand how and why lecturer resistance behaviours manifest during LMS implementation in HEIs in a developing country context.
<i>It explains a contemporary phenomenon within its real-life context thus excluding historical studies.</i>	During implementation of ICTs in HEIs, the researcher needs an in-depth understanding of the lecturers, resistance behaviours, management, ICT implementers and the LMS itself. Investigation should be done within the HEI and developing country context from which lecturer resistance is currently manifesting and use of current information from relevant stakeholders.
<i>It allows multiple data collection methods and sources in search insights (triangulation).</i>	This study used semi-structured interviews, participant observations (field notes) and documents to provide social and historical contexts of the HEI, which implemented the LMS.
<i>It unravels complex factors, processes and relationships in a research context to give rich and contextual descriptions.</i>	Resistance is a complex and taken-for-granted phenomenon that requires exploration from within the contextual settings it manifests, to generate rich explanations.
<i>The researcher has little or no control over critical events evolving in the research context.</i>	The researcher has little or no control on the behaviours of the participants, actions or events in the research context opposed to experiment designs.
<i>The study object is related to people; interpretation or meaning of a social phenomenon is taken from actors’ perceptions.</i>	The subjective realities of user resistance are generated from the viewpoints and explanations of lecturers and project implementers involved in the implementation of the LMS.
<i>It is primarily qualitative; the research contribution can be descriptive, explanatory or exploratory, that is, they can generate or refine theory.</i>	This study is explanatory and qualitative and it tests theories (deductive reasoning) to improve existing theories.

To uncover different meanings or interpretations, case-study researchers should align their selection of data sources with their epistemological foundations (Keutel, Michalik, & Richter, 2014). There were 327 published case-studies in the six leading journals in IS in the Senior Scholar`s Basket between 2004-2014; about half employed the positivist epistemology whilst the rest employed either interpretivist or critical philosophies. While positivist case studies often dominate most case-study researches, interpretive case studies have been increasing steadily (Orlikowski & Baroudi, 1991). This study joins several interpretive case studies, that are recommended to be cautious when designing and conducting case study research (Keutel et al., 2014).

Case studies can be intrinsic or instrumental (Stake, 1995). An intrinsic case study, which often does not culminate in theory development, is focused on the uniqueness of a particular case meaning, that the researcher`s main interest is to obtain knowledge and understanding of the case setting itself only because of its uniqueness and particularity (Locke, 2001). On the other hand, an instrumental case study inquires about a particular case because of its potential to provide more insight into the research problem as well as to improve an existing theory. The case is utilised as a facilitator to gain some overall understanding of a phenomena (Grünbaum, 2007). In this research, an instrumental single case study design was employed to explain the research problem of low uptake of ICT projects in HEIs of developing countries, as well as to gain more insight on manifestation of lecturer resistance during LMS implementation in the HEIs. Furthermore, the study used this instrumental case strategy to assist in the generation of the study propositions.

A case study design can have single or multiple cases with several layers of data sources (Yin, 1989). Eisenhardt (1989) asserts that a case study is flexible because it can achieve several objectives at once such as providing rich descriptions as well as testing and generation of theory. However, a number of authors argue that the case-study method provides little or no basis for scientific generalisation because of their small 'samples', citing that they can only generate hypothesis rather than test hypothesis or build theories (George & Bennett, 2004; Majchrzak, Rice, Malhotra, King, & Ba, 2000; Yin, 1989). Despite the misunderstandings and

shortcomings pertaining to case-study research (Flyvbjerg, 2006), the method continues to be widely used in organisational studies within the IS discipline (Lee & Baskerville, 2003).

5.3.2 Rationale for single case study selection

The study adopted a single case study design. A single case is suitable when the researcher seeks to holistically gain rich insights of the unique phenomenon or events within the dynamics of a single setting; the single case represents a rigorous test to existing theory (Walsham, 2006; Yin, 1994). Single cases often apply to extreme cases such as 'resistance' and, to determine the uniqueness of each case, emphasis is placed on defining the unit(s) of analysis. A single case can be divided into several sub-units (or parts), examined separately to gather more details of the whole case. The process applies the fundamental principle of the hermeneutic cycle in interpretive research. Data emerging from the sub-units can be analysed between or across the sub-units to achieve quality findings (Baxter & Jack, 2008). The HEI single case for this study has overlapping and nested sub-units in the form of academic departments and faculties (see Figure 4.3). Although some studies argue that generalisation cannot be based on a single case (Eisenhardt & Graebner, 2007; Majchrzak et al., 2000), the theoretical findings from a single case study can be transferred and generalised to other similar research contexts (Flyvbjerg, 2006; Lee & Baskerville, 2003).

Flyvbjerg (2006) tried to correct the five misunderstandings researchers make about case studies. He argued that a single case could often be used to generalise to theory; it is the relevance of a case and not necessarily the number of cases that is central to scientific development. Walsham (1995) further identifies four types of generalisations that can be drawn from a single case study when a researcher conducts in-depth case descriptions: (1) development of concepts, (2) generation of theory, (3) drawing of specific implications, and (4) contribution of rich insights. The four examples include generalisation of empirical observations to theoretical statements (that is, to concepts, theory, implications and insights). This study adopted the position of generalisation to theory, using a single case study based on arguments presented by Lee and Baskerville (2003) and Walsham (1995).

Single cases can also provide in-depth inquiry of theorisation to test, discover or refine the hypothesis on factors influencing manifestation of resistance (Ruddin, 2006). This in-depth contextual analysis of complex organisational work is essential in interpretivism to test and confirm the developed theory (Kelliher, 2005). Yin (1994) posits that to confirm, advance or falsify a theory, there is need for a single case that meets all the conditions for testing that theory. Thus, using a single case is an optimal way to generate explanatory theories that match empirical observations as closely as possible, while building comprehensive context-bound explanations of the social phenomenon (Baxter & Jack, 2008).

5.3.3 Case selection

The case for the study was a single public university in Zimbabwe. It was selected mostly because it had the potential to discover richer information from a variety of actors in the case than could be expected from a typical case (Flyvbjerg, 2006). Zimbabwe represented the case of a developing country context because of its interesting characteristics, which enable it to continue to endure severe economic and political challenges for over two decades. Most sectors in the country have encouraged the implementation of ICT projects with the hope of solving most of its socio-economic and political problems. The selected university anonymised 'Omega University' was chosen because it represented a unique case, which distinguished itself from others by possessing heterogeneous and elevated levels of the phenomenon of interest (Robinson, 2014). This case's characteristics tally with the instrumental choice of case-study design selected for this study.

Interestingly, despite the country operating under extreme political, socio-economic crises, Zimbabwe has a professional and educated human resource force, which continues to put resilient effort to develop most sectors of the country. Consequently, the Zimbabwean ICT ministry has a Presidential Programme that spearheads several projects towards education through donations of computer equipment and implementation of ICT projects in public entities such as primary and secondary schools as well as HEIs (Zimbabwe MICT, 2010). A commitment to implement ICT projects in the country began in 2005. An ICT policy framework was formulated to drive the ICT sector and service other ministries (Zimbabwe MICT, 2005). Despite such commitment, the national ICT policy still lacked a comprehensive strategic plan

directed towards implementation of ICTs in HEIs (Zimbabwe MICT, 2005). Therefore, HEIs devised their own ICT policies pertaining to acquisition, implementation and use of ICTs in their settings. This separation posed challenges for HEIs who had to appeal for funding from the government or donors in their quest to invest in the much-needed ICT projects. Increased investments in ICT projects by HEIs would assist to accomplish economic objectives in line with United Nations set targets to achieve SDG 9 and others by year 2030 (Sibanda, 2016).

Zimbabwe had 16 universities (ten public, six private) at the time of data collection (has increased now to 19 universities) (Zimbabwe MICT, 2016). By 2015, only seven out of 16 universities had implemented LMS projects in teaching and learning (Sakala & Chigona, 2017). Of the seven universities, the researcher had full access to one such university in which she had considerable and preliminary knowledge of the case and had performed a pilot study after discovering rich samples about the research phenomenon guided by the research questions and theoretical frameworks. Since the researcher was employed in the unit of inquiry during the time of data collection, it was easier to play the role of a participant observer; she jotted down relevant field notes during the LMS implementation process. Omega University implemented the LMS during the mid-year of 2012, trying to improve the teaching and learning practices through technology integration. Despite a level of high advocacy from management and ICT project implementers, the uptake of the LMS remained low in the years that followed. While contextual factors, internal and external, to Omega could have contributed to low uptake, the manifestation of resistance behaviours from lecturers towards the LMS played a significant role in reducing uptake.

The rationale for choosing Omega presents an information-rich social phenomenon in the field of HEIs in a marginalised developing country context, fundamental to the contribution of insights still limited in IS research (Walsham, 1995). Thus, the selected context and case offered a potential to generate data for theoretical generalisations to both typical and untypical cases (Parker & Northcott, 2016). The in-depth focus on a single case study produced rich data that uncovered the nature and state of the ICT projects in HEIs in developing countries, as well as the complexity of relationships between technology stakeholders in HEIs. Consequently, the researcher employed multiple data collection

methods to untangle such complexities and support multiple realities of the phenomenon of resistance from respondents. The context of study and case description are discussed further in Chapter 6 – Zimbabwe as a developing country context and Omega as the selected HEI.

5.3.4 Unit of analysis

It is important to define the unit of analysis in any study to facilitate the process of formulating the study purpose. There is an ambiguity between the theoretical relationship and definition of a ‘case’ and a ‘unit of analysis’ (Grünbaum, 2007). The main concern in selecting and deciding about the appropriateness of a unit of analysis is *‘to decide what it is that you want to be able to say something about at the end of the study’* (Patton, 2002: 229). Hence, the case and the unit of analysis are considered identical. Similarly, Stake (1995) posits that ‘the case is, in effect, the unit of analysis.’ However, Berg (2001:231) asserts that *‘the unit of analysis defines what the case study is focusing on (what the case is), such as an individual, a group, an organisation, a city, etcetera.’* Therefore, a case and a unit of analysis are not the same. Additionally, a unit analysis is the *‘what’* of the study, for example, the *‘object, entity, process, phenomenon, event or action’ that is being investigated’* (Mouton & Babbie, 2001: 84).

Since this study adopted an instrumental single case study, it is the case which is facilitating the researcher to understand an object (for example, Moodle). Thus there is a clear conceptual distinction between the *‘case’* and the *‘what’* that the researcher wants to understand (Mouton & Babbie, 2001). Morgan and Smircich (1980) argue that interpretivists are likely to formulate their research purpose based on study objects that are closely linked to their beliefs. So, to avoid contradicting with their system beliefs, constructivists would likely choose a ‘congenital’ or an ‘embedded’ case study design (Grünbaum, 2007; Yin, 2003). A congenital case design or a typical case consists of a single holistic case, one unit of analysis where the case and the unit of analysis are the same (for example, HEI case – HEI unit of analysis). An embedded case design consists of a single case with embedded units of analysis, which are context-dependent with the case and the unit of analysis being different (for example, HEI or individuals or practices). The embedded case offers a focused and extensive

analysis compared to a typical case (Grünbaum, 2007). This study adopted an embedded-case-design strategy.

This research adopted the definition of a unit of analysis based on Mouton and Babbie (2001). It is within this unit of analysis that the nature or detail of the phenomenon under investigation needs to be identified (unit of observation). The units of observation and analysis are both embedded in the case, referred to as the unit of inquiry. The embedded unit of analysis is ‘resistance to LMS implementation by lecturers at Omega University’. However, the main unit of analysis of the study is ‘resistance to LMS implementation’, upon which all activities are happening and upon what the researcher wants to be able to conclude on, or say, at the end of the study (Patton, 2002). ‘Lecturers’ is the secondary unit of analysis of the study (see Table 5.5).

Table 5. 5: Units of inquiry, analysis and observation

	Groups level	Individuals level	HEI practices
Unit of inquiry	Zimbabwean HEIs	Lecturers, managers, ICT implementers	ICTs/LMS implementation, teaching and learning
Unit (s) of analysis	Omega University	Lecturers	Resistance to LMS implementation
Unit (s) of observation	Faculties, Departments	Lecturers, HODs, Deans, senior management, ICT implementers	Factors and/or processes influencing lecturers` resistance or adoption practices.

Resistance practices at Omega were triggered because the LMS had the potential to alter the previously established comfortable work routines of lecturers. Hence, the study examines resistance to LMS implementation by analysing the context and its influence on lecturer resistance practices. Moodle LMS exists only in a larger context, which might, or might not, make it feasible, enabling or conducive for lecturers to change their work practices through either acceptance or resistance (Lee, 2004). Therefore, changes in the organisation should begin at institutional or group levels before, or simultaneously with, changes at individual levels, to prepare for any changes in the context that might influence adoption or resistance practices in intended technology recipients. Consequently, technology implementers should address changes in the context surrounding the new technology before anticipating intended users to either accept or reject the technology itself.

5.4 Sampling techniques

Sampling is the selection of a representative unit of observations from an uncontrollably large research population (Mouton & Babbie, 2001). There are two main sampling methods, depending on the type of research population. These are probability and non-probability sampling methods. Probability sampling/representative techniques involve selection from a research population, respondents whose number and identities are known to and accessible to the researcher (Yilmaz, 2013). This method is used to make relatively fewer observations, which are used to generalise to a much wider population. Examples of probability methods are stratified and random sampling. With random techniques, respondents are equally likely to be selected from a population of interest, whilst stratified sampling classifies respondents according to important characteristics, such as by gender or education levels (Marshall, 1996). Since the total number of elements that make up research populations of all technology stakeholders in Zimbabwean HEIs is unknown, neither can it be found in one fixed location, hence the probability-sampling techniques were considered inappropriate for this study.

On the other hand, non-probability/non-representative sampling techniques involve the selection of the not so readily identifiable respondents from a recognised research population according to pre-determined motives (Seddon & Scheepers, 2012). Therefore, participants are selected by use of non-probability techniques based on the judgement of the researcher (Saunders et al., 2015). There are a number of non-probability sampling techniques, such as convenience, purposive and quota sampling. This study mainly used purposive sampling.

5.4.1 Purposive sampling technique

The purposive sampling technique was used through the researcher's judgement and in line with the study purpose to select respondents that were representative of the population of interest. It was implemented to precisely pick information-rich cases about the phenomena based on the theoretical framework and research questions (Miles & Huberman, 1994). This technique is often used when the researcher has clear characteristics of required participants expected to yield trustworthy descriptions and/or explanations. Such characteristics are used to identify a smaller representative subset that would enable a realistic element of generalisation about the target population (Saunders et al., 2015). Also, since ethical

implications are important in research, they should be considered during sampling (Miles & Huberman, 1994).

The research population for this research included lecturers, ICT implementers and management at Omega University in Zimbabwe. However, the researcher employed additional stratification during selection of lecturers to have at least a representative from each faculty. A weakness, related to the purposive sampling technique, is that it requires the researcher to have considerable preliminary knowledge of the research population before making an informed selection of case samples (Marshall, 1996). This weakness was, however, not a limiting factor for this study because the researcher had previously worked in the case study university and had the prerequisite practical experience with the institutional settings relevant to the study.

5.4.2 Sample size of participants

An ideal standard of a qualitative sample size is one which allows interviewing of respondents until there is no more redundancy of concepts – a scenario of saturation with no new concepts emerging (Robinson, 2014). Since most of the selection strategies in the study were hinged on purposive sampling, the researcher employed stakeholder sampling in the planning stage, to strategically decide whom to interview to generate rich data and for triangulation (Myers & Newman, 2007). Stakeholder sampling is useful in research assessment because it identifies all stakeholders involved in the activities affected or related to the research phenomenon. The researcher selected participants who had information relevant to the implementation of technology for teaching and learning and those affected by the technology. The researcher was cautious to select participants with assorted backgrounds who played different roles during the implementation of the LMS, to enrich the analytical generalities that could potentially emerge from the sample.

The researcher got permission to interview technology stakeholders who accepted participation in the research. The stakeholders were lecturers, HODs (lower managers), deans of faculties (middle managers), ICT experts and other senior managers. The researcher conducted random sampling to select lecturers from different departments and was careful

to diversify the sample. The selection process involved varying the sample using diversified background characteristics of lecturers from different faculties, departments, age groups, qualifications, gender, employment status, academic titles and period of employment. Thus, the sample had temporary and permanent lecturers, junior and senior lecturers, younger and older lecturers, MSc and PhD holders, male and female, regular and HOD lecturers, Associate and full Professors. Table 5.6 presents the study sample with relevant key participants.

Table 5. 6: Sample of key informants for the study

Faculties (5)	Academic departments (23)	Lecturers /HODs (25)	Middle Manager (5)	ICT/LMS implementers (4)	Senior Managers (4)
Faculty A	6	5 + (1 HOD) = 6	1 Dean	Open Distance Learning Director (ODL), ICT Director, e-Learning analyst, Operations manager	Deputy Vice-Chancellor (DVC), Deputy Registrar Academic (DRA), Librarian, Bursar
Faculty B	4	3 + (1 HOD) = 4	1 Dean		
Faculty C	4	4 + (1 HOD) = 5	1 Dean		
Faculty D	6	5 + (1 HOD) = 6	1 Dean		
Faculty E	3	3 + (1 HOD) = 4	1 Dean		

The researcher conducted 38 one-to-one interviews with the following participants: 25 lecturers including HODs, five deans, four senior managers and four ICT implementers. All respondents had a Masters degree and several had Doctorates. The age groups ranged between 30 and 70 years; 13 male and 12 female lecturers were interviewed. Eleven of the 25 lecturers had PhDs and four were professors. The study adopted the generic term 'lecturers' to refer to positions or ranks of all academic staff. While the lecturer sample was gender-balanced, more males than females occupied management posts, hence there was gender imbalance in top positions. For instance, all deans of faculties were male; only one female was in senior management while one female was a Director in the field of technology. Table 5.7 presents a summary of respondents who participated in the one-to-one interviews.

Table 5. 7: A summary of respondents in one-to-one semi-structured interviews

ID No.	Respondents	Group	Focus of the interview
Lecturer-1	Lecturer 1	Department 1	Uptake of LMS
HOD-1	Lecturer 21	Lower manager	Monitor lecturers' LMS uptake
Dean-2	Dean of Faculty B	Middle manager	Monitor departments' LMS uptake
Implementer-1	ODL Director	ODL Department	Implement, monitor, evaluate LMS
Implementer-2	ICT Director	ICT Department	Implement, monitor, evaluate LMS
Implementer-3	e-Learning analyst	ODL/ICT Departments	Implement, monitor, evaluate LMS
Implementer-4	Operations manager	ICT Department	Implement, monitor, evaluate LMS
Manager-1	DVC	Senior manager	Implement, monitor, evaluate LMS
Manager-2	DRA	Senior manager	Implement, administrate, evaluate LMS
Manager-3	Librarian	Senior manager	Implement, administrate, evaluate LMS
Manager-4	Bursar	Senior manager	Funding and budgets evaluation of LMS

The ICT Committee was a strategic body of the university that controlled the acquisition, development and implementation of all ICT-related projects. Some lecturers represented their various faculties in the ICT Committee and acted as feedback links between academic departments and the strategic committee. All senior managers were members of the ICT Committee and assisted in implementing ICT projects. HODs and deans monitored and enforced uptake of the implemented ICT projects within their departments.

5.5 Data collection

Data collection methods included semi-structured interviews, secondary data analysis, participant observations, informal conversations and field notes. Data was collected between mid-2015 and mid-2016. The constructs that informed data collection were formulated deductively, using the integrated conceptual model (recall Figure 4.4). Multiple techniques were used in data collection to ensure a rich data set that could confirm or reject study propositions. In addition, multiple sources guaranteed triangulation of data and validity of study. The techniques are detailed in the subsequent subsections.

5.5.1 Semi-structured interviews

A semi-structured interview is a *'hybrid type of interview which lies in between a structured interviews and an in-depth interviews'* (Wahyuni, 2012: 74). It uses predetermined themes and questions similar to a structured interview, whilst flexible enough for interviewees to also talk freely about other issues. Semi-structured interviews were appropriate for this study because they provided a better platform for instant feedback and follow-up of questions and answers during the interaction between the researcher and respondents (Myers & Newman, 2007). The following procedures are recommended when preparing and steering the research instrument: (1) design interview questions and develop interview guides, (2) conduct the interview process (Wahyuni, 2012).

5.5.1.1 Research instrument

Design and development of interview guides and questions

The interview questions were designed using the conceptual framework, TOP and MRITI, to cover all concepts essential to an interpretivist evaluation. The researcher adopted a

responsive method of interviewing, proposed by Rubin & Rubin (2011); and an in-depth qualitative interviewing model, heavily underpinned in interpretive research. The responsive in-depth interviewing strategy was used to obtain a deeper understanding, rather than a breadth of the topic under inquiry (Rubin & Rubin, 2011). The interview guide was designed with open-ended main questions, follow-up questions and then probes.

Firstly, *main questions* were carefully developed, guided by research questions and problems. Each theme from the conceptual framework was separated to include its own interview questions (Neuman, 2013; Rubin & Rubin, 2011). Similarly, the conceptual framework guided the interviews and assisted focus to remain on the study's objectives, whilst simultaneously generating relevant in-depth information. The reason for an interview guide was to facilitate participants to share their experiences, perspectives and stories on the phenomenon of interest (Creswell, 2012; Wahyuni, 2012). The participants passed on their knowledge to the researcher through the conversations engaged in during the interview process.

Secondly, *follow-up questions* were designed to further explore specific concepts, ideas and unexpected views provided by the respondents. The strategy maintained flexibility of the research design and questions by facilitating emergence of new information and adapting to unexpected directions (Neuman, 2013). This process allowed the researcher to solicit examples and further explanations from respondents about the phenomena to gain deeper insights of issues under discussion, as well as to appreciate how participants interpreted their world through their reflections, opinions and detailed answers (Myers & Newman, 2007). It was, therefore, at the researcher's discretion to decide relevant and important issues to talk about concerning the topic of interest, whilst giving interviewees room to express themselves properly (Rubin & Rubin, 2011).

Lastly, *probes* were prepared to maintain the flow of the conversation, as well as to clarify some discussion points when inquiring for more details or examples pertaining to the research topic. After preparing the interview guide, it was checked by a senior researcher with experience in conducting interviews, to modify any leading questions. Prior to the formal interview, the researcher conducted some *pilot interviews* with peers to fine-tune the

interview guide and adjust any omissions. Some words and expressions were modified to make some questions clearer. The interview instrument was then submitted for ethics clearance together with the approved research proposal.

Conducting the interview process

The researcher applied and obtained ethics clearance from the research ethics committee in Cape Town, South Africa. The ethics clearance was used to apply for permission from Zimbabwe's MHE, seeking to conduct the study in selected HEIs. The researcher obtained authorisation to conduct this research in Zimbabwe (see Appendix C), which was used to apply for permission to conduct the study at Omega University'. Permission was granted from Omega's ethics committee and the Human Resources directorate.

The researcher was previously employed as a junior lecturer at Omega before moving to Cape Town to commence PhD studies. This previous relationship, and being Zimbabwean, made it easier for the researcher to speak the local language where necessary when soliciting and administering interviews with members of staff; the respondents felt at ease, trusted the researcher, and had no difficulties expressing themselves freely. All interviews were conducted in person and some follow-up questions were posted by email. Due to time constraints, the researcher, however, failed to interview one key participant of the research, despite efforts to facilitate an interview even through email. This participant was the ICT Committee chairperson as well as the VC at Omega University. Nonetheless, the researcher managed to interview the DVC, also the Deputy Chair of the ICT Committee. Since the ICT Director was also a key participant always servicing the ICT Committee, he provided important information about all ICT-related issues at the university.

The researcher gave a small briefing and subsequently a debriefing, before and after each interview with a respondent. The researcher followed Brinkmann and Kvale (2005)'s essential steps at the beginning of each interview:

1. She presented an introductory letter to the respondent if they had not previously received one. She gave a brief description of the purpose of the interview to emphasise voluntary, anonymity and confidentiality of the research.

2. The researcher presented the respondent with permission letters to carry out study, given by University of Cape Town (UCT), Omega University and MHE in Zimbabwe.
3. The researcher asked the interviewee to sign the consent form, retained by the researcher. Each interview was recorded with the participant`s consent.
4. The researcher explained in detail the aims of the study as well as indicating the importance of the interviewee`s responses.

In addition to recording the interviews, the researcher took notes during and soon after each interview to record non-verbal expressions and additional information in the form of notes or research memos (Wahyuni, 2012). All the interviews were conducted in English except in some cases, where some respondents mixed English with Shona (a local language) whenever they wanted to express themselves clearly. It was easier to translate Shona to English since the researcher was articulate in both English and Shona. Each interview ranged between 35 and 90 minutes. The researcher gave respondents an opportunity to ask questions after the interview and make any additional comments on any issues related to the study. The interviews took place in each of the interviewee`s offices at work premises. During interviews, the researcher used steps detailed in the responsive qualitative model of in-depth interviewing (see Section 5.5.1.1). The researcher asked for relevant documents from relevant participants, such as strategic plans, policies and reports. The documents assisted to answer research questions and to triangulate research findings. Most interviews were conducted during semester breaks and vacations during minimal operations of the university and when lecturers were not swamped with teaching and other duties.

5.5.2 Secondary data review

Secondary data included internal publications availed to the researcher by relevant participants, or externally archived data publicly available and relevant to the research. To enhance robustness of findings when answering research questions, the researcher obtained secondary data. Secondary data was reviewed to triangulate findings, to add more comprehensive data and to cross-check consistency of the research (Patton, 2002). The documents` review process assisted in understanding the LMS implementation process and its constraints, as well as to uncover context factors and processes influencing uptake of the LMS. The study used ICT strategic plans, ICT policy and framework documents, as well as

selected minutes of meetings obtained directly from relevant technology implementers in the HEI. National ICT documents were downloaded from the MoICT website. Table 5.8 presents a summary of documents that assisted in the development of study propositions and acted as a theoretical base for the study.

Table 5. 8: A summary of documents analysed for the study

Document type	Source	Focus area
Omega ICT policy (2004-amended 2012)	ICT Committee	Protect integrity of ICTs and ensure equitable access by stakeholders
Omega ICT strategic plan (2014-2018)	ICT Committee	ICTs in HEIs for teaching, learning, research and administration.
Minutes of meetings on LMS (2012- 2015)	ICT Committee [10 relevant sets]	LMS implementation issues
LMS functionality module (2015)	Open Distance Learning Department	LMS features and functionalities
National ICT policy framework (2005)	MoICT website	Implementation of ICTs in HEIs
National ICT policy (2016-2020)	MoICT website	Implementation of ICTs in HEIs

Minutes of meetings, ICT strategic plans and policies from the ICT Committee did not only include LMS implementation issues but all technology-related issues at Omega. The study reviewed ten sets of minutes that highlighted all issues to do with LMS implementation and uptake. Similarly, the national ICT policies provided a background for any issues to do with acquisition, implementation and uptake of ICTs in the education sector.

Document analysis was conducted, mainly to gain a deeper understanding on issues to do with implementation of ICT projects in HEIs in Zimbabwe. This analysis assisted to narrow the focus of study to contextual factors that influenced low uptake of LMS in HEIs. Apart from verifying findings and substantiating evidence from interviews, document analysis also reinforced and strengthened the researcher`s interpretation of the respondent`s subjective realities. More document analysis was done in cases where interviews contradicted rather than confirmed documentation evidence. Therefore, through legitimisation of events or actions, document review increased neutrality when interpreting interview data (Ahmed, 2015).

5.5.3 Participant observation, informal conversations and field notes

Participant observation presents an insider`s perspective of the inquiry, since the researcher becomes a member of the group under observation (Mouton & Babbie, 2001). This intensity

in observation is necessary when sensitive and emotional determinants of behaviours are observed that cannot be fully understood through other forms of external observation. The researcher employed participant observation in the following:

1. In the ICT Committee, where the researcher was a member by virtue of being an HOD of an ICT-related department during the acquisition and implementation of the LMS;
2. In the academic departments, where the researcher was a member of an ICT-related department, which was expected to use the LMS more and teach struggling departments to successfully use the LMS;
3. In the academic departments, where the researcher was an HOD expected to monitor and evaluate lecturers' usage of the LMS and report rate of department usage to the faculty dean.

Informal conversations were recorded during participant observations during LMS implementation. The researcher informally talked to other lecturer colleagues and listened to peer-to-peer informal conversations before and/or after the interviews, to gather more information on the topic of interest (Deneen & Boud, 2013). With informal conversations, respondents were freer to express their complaints or disgruntlements concerning the LMS outside the confines of research formalities. Some conversations or expressions revealed views that the respondents may have otherwise consciously or unconsciously omitted during the formal interview; more so, some participants contradicted themselves outside formal interviews. However, the researcher noted such contradictions and probed for more explanation where necessary with regard to the newer and/or contrary views.

The researcher wrote field notes at all times. The field notes assisted with data analysis and, at the same time, served as reminders to some particular situations. Observations, conversations and field notes yielded some valuable insights on elements that generated some behaviours, events and actions pertaining to LMs implementation and uptake. Although the researcher was a member of Omega University and a participant observer during LMS implementation, she remained neutral, kept an open mind to emerging themes to avoid research bias, and preconceived ideas during the data analysis process.

5.6 Data analysis

There are no clearly-agreed procedures in analysing qualitative data; the researcher's accounts and preferences as well as research questions and objectives motivate the selection of a certain analytical approach (Patton, 2002). Qualitative researchers often choose from the following analytical approaches: discourse analysis, narrative analysis, ethnographic analysis, grounded theory, conversation analysis, content analysis or thematic analysis (Spencer, Ritchie, & O'Connor, 2003). This study used thematic analysis to guide the principle of hermeneutics and to analyse method for this study's qualitative data.

Thematic analysis is conducted through identification of patterns and themes within qualitative data (Braun & Clarke, 2006). Data analysis involves storing of data, transcription of recorded interviews, typing of field notes and cleaning of the data set (Wahyuni, 2012). In this study, all empirical data was stored in a single repository provided in a software package for analysing qualitative data (Atlas.ti 7). Atlas.ti was also used to support transcription of the recorded interviews. The data cleaning process was done to maintain anonymity and confidentiality of participants, in line with ethics and to reduce data redundancy. Since the researcher was articulate in English, it was easier to translate the few transcripts into English that had mixed language.

The data analysis process was guided by the hermeneutics principle, which suggests a way to interpret and understand textual data through assigning meaning to it (Vieira & Queiroz, 2017). The fundamental hermeneutic principle allows understanding of whole textual data and interpretation of its parts from which explanations are driven by expected definitions and descriptions. Hermeneutics enabled the researcher to make sense of the data, and relationships between the university, the LMS and the stakeholders. As highlighted earlier, resistance is often taken at face value as a negative factor, so many participants would rather neutralise than explicitly confirm by displaying resistance behaviours (Ford & Ford, 2010). Similarly, in the same organisation, participants may present vague, incomplete and contradictory narratives on same issues. It is in such scenarios that hermeneutics becomes necessary to decipher and unfold levels of hidden and implied meanings from the textual data

to achieve literal meanings (Myers, 2004). Therefore, the researcher was careful not to label concepts using preconceived or already defined meanings (Schutt & Chambliss, 2013).

Thematic analysis and pattern-matching techniques based on the conceptual framework were employed throughout the analysis as well as coding of data, which was done in a highly integrated and iterative manner (Braun & Clarke, 2006). A summary analysis table is presented in Appendix F. In addition, The researcher employed investigator/analysis triangulation through 'peer debriefing' to help test the reliability of coded codes (Patton, 2002). The researcher received assistance from a senior researcher with experience in thematic analysis to code, compare and discuss emerging concepts from a section of textual data. The recommendations from peer debriefing were used to refine the developed codebooks as well as to later draw useful research conclusions. The systematic thematic analysis was divided into three phases:

- **Phase 1** – Thematic analysis through MRITI, to understand the manifestation process of various forms of lecturer resistance behaviours during LMS implementation.
- **Phase 2** – Thematic analysis from extant literature to identify responses and/or strategies used by management and ICT implementers towards lecturer resistance behaviours.
- **Phase 3** – Thematic analysis through TOP, to understand how contextual factors influenced manifestation of lecture resistance practices as well as responses or strategies from technology implementers towards lecturer resistance.

In all the three phases, the data analysis process closely followed the sequence of six stages proposed by Braun and Clarke (2006): familiarisation with data, generation of initial codes, searching for themes, reviewing of themes, defining and naming themes and, finally, producing the report.

5.6.1 Phase 1: Analysis to identify and understand the manifestation of resistance forms

Phase 1 employed an abductive logic analysis, which begins with induction then deduction in an iterative manner. Firstly, the researcher conducted the general inductive approach using empirical evidence and theories from literature to extract data related to forms of resistance.

Secondly, the researcher used a deductive approach based on MRITI to interpret different forms of resistance, as well as to explain the manifestation process of the resistance behaviours.

The researcher started by identifying behaviours of lecturers that had characteristics of resistance and then tried to understand how such behaviours manifested during the LMS implementation process. A systematic approach was used to identify forms of lecturer resistance and reliability of research findings. The study proposed a preliminary definition of the word 'resistance'. This ensured consistency on classifications. As highlighted earlier, resistance is the intentional force against the introduction of a new technology; it can be the opposite of technology acceptance. The researcher was open to other definitions or synonyms of resistance and these assisted to generate data-driven codes that guided the analysis process to identify different forms of resistance behaviours.

MRITI guided the study to interpret how lecturer resistance behaviours manifested. The researcher familiarised herself with the transcripts by reading the documents numerous times before open-coding; the researcher was 'open to data' (Patton, 2002). Desired initial codes were generated by naming, categorising and describing the phenomena (Fereday & Muir-Cochrane, 2008). The researcher sensitised the codes and their sub-categories by searching for visible patterns of relationships evolving from respondents (Klein & Myers, 1999). Further, coding categories were selected after modifying and combining initial codes, followed by a refinement of coded materials and text. The coding helped with the identification of themes into their respective categories, namely, initial conditions, perceived threats, objects and triggers of resistance. The categories then guided the conceptualisation of the manifestation process of resistance behaviours.

5.6.2 Phase 2: Analysis to identify responses and strategies towards lecturer resistance

Phase 2 of the analysis employed the general inductive approach for data analysis with the purpose of identifying and describing the types of responses and/or strategies used by management and ICT project implementers to manage lecturer resistance behaviours. In this phase, results from the qualitative data analysis of Phases 1 and 2 and prior knowledge from

theories in literature were used to interpret specific strategies employed by change managers after resistance and related behaviours manifested, as well as examining the potential effects such responses had on lecturers' behaviours (Brett et al., 2016).

The analysis process further employed hermeneutics reasoning to identify necessary underlying conditions that triggered particular responses (Myers, 2004), and several theories were employed to conjecture how certain responses towards behaviours during ICT projects implementation are produced. Here, some responses and approaches were deduced from the document analysis in the form of ICT strategic plans and ICT policies, which enlisted certain expectations from ICT change implementers, and strategies used to effect those expectations. Similarly, complaints and/or suggestions regarding uptake of ICT projects came from user departments and faculties to the ICT Committee forum through representative committee members (see Table 5.7), in the form of verbal reports and/or formal minutes of meetings. Responses and feedback from the Committee were relayed back through the same channels and these were minuted. Some complaints and situations received immediate direct responses either in the form of solutions or rejections, whilst others were postponed until a befitting strategy was found. The researcher, who was also a participant observer in the ICT Committee, analysed such responses and minutes as well as the reasons behind offering certain type of strategies, concerning low or non-usage behaviours, emanating from lecturers towards the LMS. This was analysed inductively to develop new concepts.

Informal conversations amongst either users or implementers of the LMS, field notes and memos obtained during participant observations were also analysed, using the same approach to reveal any more responses and strategies used to manage or overcome lecturer resistance behaviours at Omega University. Using Atlas.ti, initial codes were generated through open coding, after which the codes were reviewed, refined and categorised into themes. Emerging themes were further categorised and sub-categorised into either new or already developed concepts.

5.6.3 Phase 3: Analysis to understand contextual factors influencing resistance and responses

Through Bourdieu's TOP, Phase 3 focused on understanding the contextual factors at Omega that led to the manifestation of lecturer resistance behaviours, as well as responses from project implementers. The study proposed preliminary definitions for each of Bourdieu's concepts in a codebook to facilitate easier identification from the data (see Table 4.3). Despite using a codebook to guide the analysis, the definition of concepts was kept flexible to allow room for further emergence of rich interpretations from the data (Boyatzis, 1998). Additionally, the analysis utilised findings from Phase 1 and Phase 2 to provide explanations of certain forms of lecturer resistance and implementers' responses towards resistance. The focused coding process began with identification of specific themes around the main concepts, as defined in the codebook (Braun & Clarke, 2006).

TOP concepts are mutually related and are not packaged neatly to be readily mapped onto data. The concepts are 'polymorphic, supple and adaptive, rather than defined calibrated and used rigidly' (Bourdieu & Wacquant, 1992: 23). Therefore, the actual starting point is the empirical inquiry of the relevant social practices, their positions within certain fields and the relational characteristics of capital (Schultze & Boland Jr., 2000b). As the concepts have been earlier discussed (see Figure 4.2 and 4.3), the researcher did not identify them in total isolation of each other; they were considered, together with the context/fields from which they occurred. For instance, to determine lecturers' practices, the researcher considered their habitus, which generated their practices. Likewise, to understand their internalised habitus, there was need to verify the correct positions of the lecturer, manager or ICT implementer in the field and their respective forms of capital; the internalised habitus recreated the stakeholder' practices. This cyclical process required deep reflexivity and several iterations from the researcher until there were no more practices to be defined and/or refined.

The analysis continued with the identification of contextual factors in the organisation that could have influenced any form of resistance behaviours, responses or strategies. The contextual factors classified earlier in literature (see Section 2.4) were used to identify conditions under which resistance behaviours or responses manifested. By considering

contextual factors towards work practices at Omega, the researcher investigated whether symbolic violence and misrecognition occurred during manifestation of, and responses towards, resistance behaviours. Similarly, external contextual factors were also identified from document analysis (for example, national ICT policy and its framework) as well as from literature on ICTs implementation in Zimbabwe (see Chapter 6).

Further, analysis examined how the different forms of capital such as symbolic, cultural, social and economic capital, could have influenced lecturer resistance manifestation as well as responses or strategies from project implementers. Since all the concepts were identified in Phase 1 and 2, Phase 3 only focused on the interpretation of the empirical findings from Phase 1 and 2. This interpretation required the researcher to be more attentive and use high reflection on the empirical data.

5.7 Validity and reliability of qualitative research

Qualitative research seeks to produce rigour and trustworthy knowledge of interpretations and understandings of organisational processes, whilst putting more emphasis on uniqueness and context (Sinkovics, Penz, & Ghauri, 2008). Similarly, the interpretive paradigm focuses on gathering in-depth understanding of the social phenomena, anticipating to generalise the findings to similar settings (Kelliher, 2005). Validity and reliability were both considered and applied during the research design, data collection and data analysis to ensure credibility of research findings (Moret, Reuzel, Wilt, & Grin, 2007). Ensuring validity of the study was not only important to assess the trustworthiness of research findings, but also to examine the purpose of using certain research methods (Moret et al., 2007). Validity is context-bound, thus it depends on the method and context in which the research method is applied (Yanow & Ybema, 2009). It is well known that methods to investigate, for example, health-related issues in developed countries, are not valid in many developing or low-income countries (Mkoka, Vaughan, Wylie, Yelland, & Jelsma, 2002).

Validity and reliability techniques employed in this study are discussed in the following subsections. For **validity** the researcher used triangulation through *multiple sources, peer debriefing, member checking, the researcher's reflections* and *rich descriptions*. For **reliability**

the researcher used triangulation through *detailing the research process and the research instruments, peer debriefing, an inquiry audit and member checking* (Creswell & Miller, 2000).

5.7.1 Validity of the study

Internal validity of the study, also known as *credibility*, is concerned with data accuracy to reflect from the observed social phenomenon, making sure that the study is testing what is intended (Guba & Lincoln, 1994). The careful selection of case studies reflects the first practical step towards internal validity in case-study research (Bryman et al., 2015). Data triangulation, method triangulation and investigator triangulation are the three approaches of triangulation that a researcher can use to enhance internal validity of research findings (Wahyuni, 2012). *External validity*, also known as *transferability* or *generalisability*, deals with the applicability of findings to similar settings. The rich descriptions from research findings have the potential to be transferred to other studies, with some careful adjustments to the settings (Lee & Baskerville, 2003; Walsham, 1995).

This study employed triangulation as a tool for validation of the study. Examples of validation techniques which the researcher used includes *multiple sources, peer debriefing, member checking, researcher's reflections* and *rich descriptions* (Creswell & Miller, 2000). All these were applied to the research design (method triangulation), data collection (data triangulation) and data analysis (investigator triangulation) phases.

In both the data collection and data analysis phases, the researcher used multiple methods and sources of data to enrich and confirm the research findings (Sinkovics et al., 2008). Interviews, documentation, participant observation, informal conversations and field notes were the multiple sources. In addition, the researcher used *member checking* to incorporate feedback in the form of interpretations and varied perspectives from relevant expert researchers in (IT, IS, academic, management, etc.), during blind review and oral presentation of a research article in a *reputable conference*. The paper explained how resistance manifested from lecturers in HEIs (see published paper), and the feedback made it easier for this study to answer the first and second research questions as well as to confirm rigour of the study.

Peer debriefing was applied with the help of a senior scholar experienced in qualitative analysis, who coded and analysed a few transcripts and recommended useful insights, which the researcher crosschecked and confirmed based on the research corpus. Field notes from informal conversations and participant observations provided *rich descriptions* of the study context, which emerged from the data analysis process. The researcher applied iterative reflexivity on data collection and data analysis to question personal realities, biases and beliefs, which could otherwise have influenced the research process and findings (Wahyuni, 2012).

5.7.2 Reliability of study

Reliability, which corresponds to the notion of *dependability* in qualitative research, seeks to ensure consistency, repeatability and replicability of research findings (Guba & Lincoln, 1994; Parker & Northcott, 2016). Consistency can be achieved by detailing the research design and procedures to enable other researchers to follow a similar research guideline with minimal errors or research bias (Huberman & Miles, 1994). The study outlined a step-by-step account of the research process, as well as provided the main research instruments used to gather empirical evidence, for example, a list of interview guides (see Appendix E). Reliability in qualitative research is also known as *confirmability* of findings – the extent to which other researchers can confirm the same findings to ensure that they reflect the experiences and interpretations of research participants, rather than the researcher's preferred perceptions (Kelliher, 2005).

This study also employed triangulation to ensure reliability of the study. Reliability techniques used were *describing the research process, outlining research instruments, peer debriefing, inquiry auditing* and *member checking* (Creswell & Miller, 2000). Again, these were applied to research design, data collection and data analysis phases.

Member checking was used to confirm the quality of the research topic and to ensure its relevance to practice during the early stages of the research. The researcher discussed the research topic multiple times on various occasions and obtained feedback from a number of

ICT4D, ICT4E and IS experts within the IS discipline who visited UCT from different reputable institutions. Some of these experts are recognised editors of reputable journals, whilst the others are renowned authors in their fields. Their feedback ensured that the study focus was reliable by fulfilling the fundamental elements of consistency and confirmation. The feedback included confirmation of relevance of topic of study, suitability of methodology adopted as well as scientific writing skills. Table 5.9 presents a profile of experts used for member checking.

Table 5. 9: Profiles of experts used for member checking

Location	Experts designation	Institution, Country	Research interests
Visiting UCT, SA	Professor / Editor of Journal for ICTs in Developing Countries	University of Hong Kong, China	ICT4D researcher
Visiting UCT, SA	Professor	University of Southampton, United Kingdom	Software systems, Computer Science
Visiting UCT, SA	Professor	University of New Zealand, New Zealand	Implementation of IS projects
Visiting UCT, SA	Professor	University of New Zealand, New Zealand	Grounded Theory in IS, Inductive logic to reasoning
Zimbabwe Open University, Zimbabwe	Professor and DVC Research	Zimbabwe Open University, Zimbabwe	Management Information Systems

To further enhance reliability, the researcher applied *peer debriefing* in the same way it had been applied to test the validity of the study (Wahyuni, 2012). The researcher also did an *'inquiry audit'* to test confirmability of the study (Guba & Lincoln, 1994: 317). An inquiry audit is keeping a research record that contains documentation of data, progress of the research process, constraints and lessons learned; it is in the form of provisional research summaries and memos. This record provides an 'audit trail', which enables an inquiry of both the research design and findings of what happened throughout the research stages. The researcher documented all procedures throughout the study to circumvent bias and errors (Patton, 2002), for example, the *'design and development of interview questions'* and the *'interview process'* for the study (see Section 5.5.1.1).

5.8 Ethics and confidentiality implications

Resistance is almost always taken at face value as a negative concept, which many would rather not associate with, let alone affirm that they resist any change (Ferneley & Sobreperéz, 2006). With this understanding in mind, the researcher sought written permission from all

participants and relevant stakeholders before carrying out the research. In the process, most participants and the research organisation requested anonymity and confidentiality to ensure that their privacy was protected.

Permission to conduct this study was first sought from the following institutions:

1. For ethics approval, the study passed through a systematic review process by the research ethics committee at UCT (see Appendix A);
2. For permission to carry out the research in any of their HEIs, the Zimbabwean MHE granted its approval (see Appendix C);
3. For permission to carry out research at Omega University, the researcher obtained authority from the ethics committee and the Human Resources directorate.

The UCT research ethics committee authorised this study; the committee used an application form, a summary of the proposed study and participant consent letters. The researcher was careful to ensure that the data collected for this study remained strictly for the purpose of this study alone. The research participants, organisation and their views were kept anonymous and confidential. Moreover, participant consent forms were given to respondents to read, understand, agree to and sign before handing them back to the researcher (see Appendix D). All participants were asked if their interview could be recorded, to which they consented. Documents were cleaned to remove any identification of names, places and organisations. The study used a pseudonym – Omega for the HEI. When presenting findings, lecturers, HODs, deans, implementers and managers were anonymised as Lecturer1, HOD1, Dean1, Implementer1 and Manager1 in a chronological manner respectively.

5.9 Summary of the research design

This chapter outlined methodological approach of the study. The key philosophical assumptions drew on subjective ontology and interpretive epistemology to guide the scientific inquiry and ensure research quality and rigour. The research design was driven by research questions and objectives. Table 5.10 presents a summary of the research design for this study.

Table 5. 10: Summary of the research design

Research domain	Resistance to LMS implementation in HEIs in a developing country
Research contribution	Explanatory

Approach to theory	Deductive (theory-testing)
Ontology	Subjective
Epistemology	Interpretive
Frameworks	Theory of Practice and Multilevel model of resistance to IT implementation
Research design	Case study
Unit of observation	Omega University
Units of analysis	LMS implementation, lecturers
Methodology	Qualitative
Data collection methods	Semi-structured interviews, documents, participant observations, informal conversations and field notes
Data analysis methods	Thematic analysis and pattern-matching (hermeneutical)
Generalisation	Theoretical propositions and statements to empirical observations

In summary, the study employed a qualitative methodology to understand lecturer resistance towards the implementation of an LMS in an HEI in a developing country. The study used an interpretive approach to investigate the manifestation of taken-for-granted resistance practices during technology implementation, which has contributed to low uptake of LMS in HEIs in developing countries. Qualitative data, collected mainly from semi-structured interviews and documents, was used for the study. Thematic analysis using hermeneutics principles and pattern-matching guided data analysis. Data, methods and investigator triangulation ensured validity and reliability of research findings. Before and throughout the research process, ethics procedures were followed carefully to maintain confidentiality of research participants and organisations.

CHAPTER SIX

CONTEXT OF THE STUDY AND CASE DESCRIPTION

Nothing is particularly hard if you divide it into small jobs.
∞ Henry Ford

6.0 Introduction

This chapter presents the context and case description of the study. Zimbabwe was used as an empirical setting of a developing country to understand the theoretical context of the research. Omega University was used as the HEI case study situated in a developing country context. The chapter begins by situating Zimbabwe as a developing country before presenting trends of ICT implementation as well as ICT governance of the country and its HEIs. A description of Omega University is detailed, followed by the implementation process of Moodle, the LMS.

6.1 The profile of Zimbabwe in a developing country context

Zimbabwe is a landlocked developing country in sub-Saharan Africa, geographically positioned in Southern Africa region; it occupies 390,757 square kilometres. It borders South Africa to the south, Botswana to the west, Zambia to the north and Mozambique to the east.

6.1.1 Economic status of Zimbabwe

Zimbabwe is an Agro-based economy; agriculture is the main sector contributor to the Gross Domestic Product (GDP) (Musiyandaka et al., 2011; Shizha & Kariwo, 2011; World Bank, 2017). In 2017, the World Bank forecast Zimbabwe's GDP at USD17.85 billion; in contrast to its neighbours, Zambia with USD 25.81 billion and South Africa USD 349.42 billion (World Bank, 2016). Thus, the country is rated a low-income developing economy despite once being named the 'Jewel of Africa' and the 'breadbasket of Africa' due to its prosperity (Rusvingo, 2014; World Fact Book, 2018).

Zimbabwe's update on economic development highlights extreme inequalities; current statistics of national average poverty headcount rate is a meagre USD 1.90 per day (World Bank Group, 2018). The acute economic and political crises between 2000 and 2008 reduced the country's GDP by almost half, the sharpest contraction of its kind in an economy without war (ZIMSTATS, 2016). This pushed poverty rates to over 72%, leaving one fifth of the

country's population in extreme poverty (Fukuda-Parr & Greenstein, 2011). Basic services such as education, health and others, which were once regional models, have largely collapsed and the Human Development Index (HDI) in 2011 was 173 out of 187 countries (World Bank Group, 2018). Zimbabwe's HDI has, however, since improved to 154 in 2016; social services have recovered, due to donor funding and resurgent public spending in a dollarised economy. Though Zimbabwe's poverty rates could reflect the experiences of other sub-Saharan African countries, 72.3% is quite high compared to similar neighbours in the same period, Mozambique (46.1% in 2015) and Zambia (57.5% in 2015) (World Fact Book, 2018).

Owing to large investments in education since independence, Zimbabwe has recorded the highest adult literacy rate in Africa, 90.7% in 2013 (ZIMSTATS, 2013). Previously, the country had even higher literacy rates of 97% and 92% in 2002 and 2010 respectively (UNESCO Institute for Statistics, 2006; ZIMSTATS, 2013). The economic crisis has triggered a movement of professionals and tertiary students in key expert areas such as engineering, medicine, science and education to other countries in search for greener pastures (Edmond & Elizabeth, 2015). By 2014, the Zimbabwean economy had shrunk significantly, resulting in widespread poverty and an unemployment rate of over 90% (Rusvingo, 2014).

6.1.2 Social status of the country

The population of Zimbabwe is currently approximated to be over 16.5 million persons, of whom about 70% stay in rural areas (World Fact Book, 2018). Owing to a long period of isolation from the international community, Zimbabwe experienced restricted national aid flows, which resulted in increased arrears to bilateral and multilateral partners (Rusvingo, 2014). The country has constantly committed to clear some of its arrears with the international financial institutions to restore the lost relationships. On a brighter note, the country reduced HIV prevalence to almost 15% since 2014, from over 40% in 1998 (World Bank, 2015). Although Zimbabwe has struggled to achieve most of its MDG targets, significant positives have been realised. Maternal mortality fell from 960 to 651 deaths per 100,000 live births in 2011 and 2015 respectively while life expectancy improved from 43.1 to 49.6 years in 2003 and 2018 respectively (World Bank, 2015; World Fact Book, 2018).

A new administration, which came into effect in November 2017, has given new hope to the nation by promising economic growth and engagement with all previously isolated countries and institutions (World Bank Group, 2018). Zimbabwe is taking positive steps to realise this goal and has begun to amend rigid policies to attract foreign direct investment inflows and greater domestic investment. The country has great potential to achieve these goals considering that it has comparatively well-skilled human resources as well as vast natural resources. The success of such efforts has a great potential of improving the much-needed ICT infrastructure and investments that could increase ICT penetration into the country and consequently into HEIs.

6.1.3 Political status of the country

Zimbabwe attained independence in 1980 from the British to become a republic with a parliamentary system government led by Robert Mugabe (Shizha & Kariwo, 2011). The country has a centralised government, divided into ten provinces. Mugabe dominantly ruled the country since independence for 37 years, until his unwilling resignation in November 2017 (World Bank Group, 2018). Since the rejection of a constitutional referendum in 2000, there was a paradigm shift of politics in Zimbabwe. Democratic elections, judiciary independence, freedom of speech and the rule of law were violated. Elections were marked with intimidation and political violence, along with politicisation of the military and judiciary (United States Institute of Peace, 2002). After Mugabe's ousting, a new government was formed, albeit termed the new dispensation; it is working hard to re-engage international partners to help improve the economy. This requires correct fiscal policies, re-stabilisation of the monetary system, investment reforms and renewing capacity of the public sector (World Bank Group, 2018).

6.1.4 Summary representation of the statistics of Zimbabwe

Despite the severe political, economic and social crises, the country has invested vastly in its education sector and enjoys a steady literacy rate of 86.5% (World Economic Forum, 2015). Table 6.1 presents a synopsis of the Zimbabwean situation (Broadband Commission, 2017; ITU, 2017b; World Fact Book, 2018; Zimbabwe MICT, 2016).

Table 6. 1: A snapshot representation of statistics for Zimbabwe

Index		Estimated value	
Population	Male	8 216 225 Million	16,663,677 Million
	Female	8 444 225 Million	
Urban population		32.2%	
Adult literacy rate (>=15)		86.5%	
Labour force	Agriculture	66%	
	Industry & Services	34%	
Unemployment rate		95%	
Life expectancy	Male	49.4 years	49.6 years
	Female	49.3 years	
GDP		USD 17.85 Billion	
Population below poverty datum line		72.3%	
Internet users		23.1%	
Broadband users		38.1%	
Mobile cellular users		95.4%	
Telephone fixed lines		2.6%	

Investment in ICTs and technology-related components is increasing in Zimbabwe; over 77% of Zimbabweans now have access to mobile phones (ITU, 2017a). Under suitable economic conditions, exploitation of vast mineral deposits and utilisation of its professionally skilled populace, the country has potential to grow and achieve most of its SDG targets by 2030.

6.2 Governance of ICTs in Zimbabwe

The accountability for management of ICTs in Zimbabwe was not structured prior to 2005. The whole ICT ministry has been part of a state department, before restructuring by the World Bank; it was then named Ministry of ICTs in 2005 (Zimbabwe MICT, 2005). The name later changed to Ministry of ICTs and Cyber Security (MICTCS) in 2016, when the national ICT was reviewed (Zimbabwe MICT, 2016). MICTCS through its departments governs the development, implementation, monitoring and evaluation of ICT projects and related activities in the country:

1. **Policy coordination and e-Government:** Develops policies, regulatory frameworks and strategies to enhance availability of ICTs, cyber security, postal and courier services as well as to establish enabling infrastructure across the country.
2. **Infrastructure development and management:** Develops, manages and maintains ICT infrastructure and support communications infrastructure to ensure equitable access to ICTs by all citizens including the rural populace and disadvantaged groups.

3. **ICT services:** Coordinates and monitors all ICT activities in the civil service and government departments and promotes projects such as the Presidential e-Learning Programmes in schools across the country.
4. **Cyber security:** New department introduced in 2016 is still developing a regulatory framework to govern cyber security and monitor national cyber security threats.
5. **Research, development, monitoring and evaluation:** Monitors and evaluates impact of ICTs, cyber security, postal and courier services on socio-economic development, with the aim of offering and improving quality of service.

MICTCS has several policy frameworks and strategic plans to enable translation of the ICT policy into practice. The policies also guide the implementation of ICTs in Education.

6.2.1 Zimbabwe National ICT Policy of 2005-2016

The first Zimbabwe National ICT Policy framework was published in December 2005 with the aid of key partners: Government of Zimbabwe, National Economic Consultative Forum (NECF), United Nations Development Programme (UNDP) and National University of Science and Technology (NUST) (Zimbabwe MICT, 2005). Since independence in 1980, Zimbabwe has made significant progress in the implementation of ICTs in most of its economic sectors. However, benefits from this investment were minimal due to lack of co-ordination and implementation at policy, programme and project levels. Therefore, government embarked on developing a comprehensive National ICT Policy and strategy to harness ICTs for sustainable development. The policy development process was participatory and designed to yield a document that envisioned transformation of Zimbabwe into a *'knowledge-based society by 2020'* with a mission to *'accelerate development and application of ICTs in support of sustainable socio-economic growth and development in Zimbabwe'* (Zimbabwe MICT, 2005: 13).

The current national ICT policy (2016-2020) is a culminated series of updates of the original 2005 framework. Evaluations of the framework showed significant progress in most economic sectors despite socio-political challenges. The following section presents an evaluation of outcomes against the original vision and mission.

6.2.2 ICT policy outcomes in Zimbabwe

Zimbabwe liberalised the telecommunications sector in 2000, which had been monopolised within the Postal and Telecommunications Corporations (PTC) sector. The freedom enabled three companies: Netone, Econet and Telecel, to succeed PTC in operating telecommunication licences. The 2005 policy framework supported a basis for growth in the telecommunication sector (see Table 6.2).

Table 6. 2: A summary of ICT policy outcomes (Zimbabwe MICT, 2005, 2016)

Element	ICT policy outcomes
Mobile cellular and fixed telephone subscribers	Significant growth was realised by two private mobile companies (Econet, Telecel), while public entities (Netone, Telone) had little growth. The public sector was affected mostly by low funding, corporate governance principles and the need to commercialise. In 2015, private mobile penetration was 95.4% compared to 2.6% for fixed lines.
Internet subscribers	Liberalisation of telecoms increased the number of internet users in the country. By the end of 2015, active internet subscriptions reached over 6 million subscribers against a populace of 13 million; mobile internet had over 95% of the total subscriptions.
Mobile Internet subscribers	A sharp increase in mobile cellular subscriptions in 2009 led to a surge in internet subscriptions. Econet, which owns three-quarters of mobile data usage, began to offer these services to its subscribers, followed by Telecel in 2010 and, lastly, Netone in 2011. By the end of 2015, Zimbabwe recorded a 6.7% growth per annum in the mobile market.
Incoming and outgoing international bandwidth	Incoming and outgoing internet bandwidth increased from 21% in 2014 to 26.9% in 2015. The growth was from more Synchronous Transport Modules (STM1-1) installed by Liquid and Telone when demand for internet increased.
Licensed communication providers	By 2015, Zimbabwe register had 11 Internet Access Providers, two Public Data Service Providers, one Postal Service General Operator, four Mobile Cellular Communications Operators, one Fixed Telephony Operator and 40 Private Network License holders. There is one national television broadcaster, five national radio broadcasters and 28 unlicensed community radio initiatives.

The previous outcomes are now running as a foundation of the updated mission of MICTCS to *'exploit the potential of ICTs for soci-economic development in Zimbabwe'* (Zimbabwe MICT, 2016: 11).

6.2.3 Challenges of the ICT sector in Zimbabwe

The degree to which all sectors can integrate ICTs is determined by the ICT sector's capability to provide services sustainably and cost-effectively. Despite notable achievements in Section 6.2.2, Zimbabwe's ICT sector has experienced quite a number of challenges (see Table 6.3).

Table 6. 3: ICT sector challenges in Zimbabwe (Zimbabwe MICT, 2016)

Element	Challenges
Low digital literacy level	The previous education curriculum up to 2017 did not include ICTs, hence digital literacy at grassroots level is low; not enough to stimulate ICT uptake and usage, more so in rural areas.
Inadequate ICT skills	There is inadequate ICT skilled workforce to implement ICT projects. The shortage affects ICT uptake and literacy across the country. There is need to integrate ICTs in the education curricula commencing from <i>early childhood education</i> level as well as to promote ICTs uptake within communities.
Inadequate communications infrastructure	There has been a significant implementation of communication infrastructure with 2G exceeding 75% population coverage. However, a non-holistic approach to services has robbed most remote areas of high-speed broadband coverage. Coverage is mostly in affluent urban areas. Without equitable access, the urban-rural digital divide continues to widen.
Inadequate commercial electricity	Electricity is distributed scantily across urban areas; many use alternative and expensive power sources. Those on the national power grid still experience erratic power supply. This shortage has adversely effected implementation and use of ICTs across the country.
Limited local ICT innovation	There is no framework for research and development to stimulate innovation and harness the potential of ICTs in promoting entrepreneurship.
Fragmented institutional arrangements	Integration of ICT networks has resulted in multiple services offered on a single platform. This has reduced the number of institutions that oversee development of telecommunications in the country.
Inadequate investment capital	The country is a high risk, hence attracts higher lending rates for foreign borrowings. The liquidity crunch made it almost impossible to secure long-term domestic funding for ICT projects; where available, interest rates are exorbitant. This has affected infrastructure development and growth of the ICT sector.
Absence of cyber-security framework	There are no cyber-security tools to protect the cyber-environment and related assets. The assets include computers, personnel, infrastructure, applications, services and transmission or storage of information in the cyber environment. The objective of security is to ensure availability, integrity and confidentiality of data in the cyberspace.
Outdated licencing regime	The existing service-specific, licencing framework is misaligned to ICT developments. It is restrictive and does not allow operators to take full advantage of economies of scale and scope available in an integrated licencing framework that can enhance an information society.

Zimbabwe is working towards a vibrant ICT sector that provides adequate and efficient internet connectivity, telecommunications, postal and courier as well as broadcasting services, that assist in mitigating the highlighted challenges.

6.2.4 Assessment of Millennium Development Goals for ICTs (2008-2015)

By the 2015 deadline, had Zimbabwe managed to achieve targets on the following three out of eight MDGs (Sibanda, 2016):

- **MDG 2:** offering universal primary education,
- **MDG 3:** promoting gender equality and empowering women and
- **MDG 6:** combating HIV/AIDS, malaria and other diseases.

Set targets were also achieved towards MDG 8: creation of a global partnership to develop economic sectors such as the ICT sector. Mobile-cellular uptake and subscriptions grew from 2.1% in 2000 to over 80% in 2014 (see Figure 6.1).

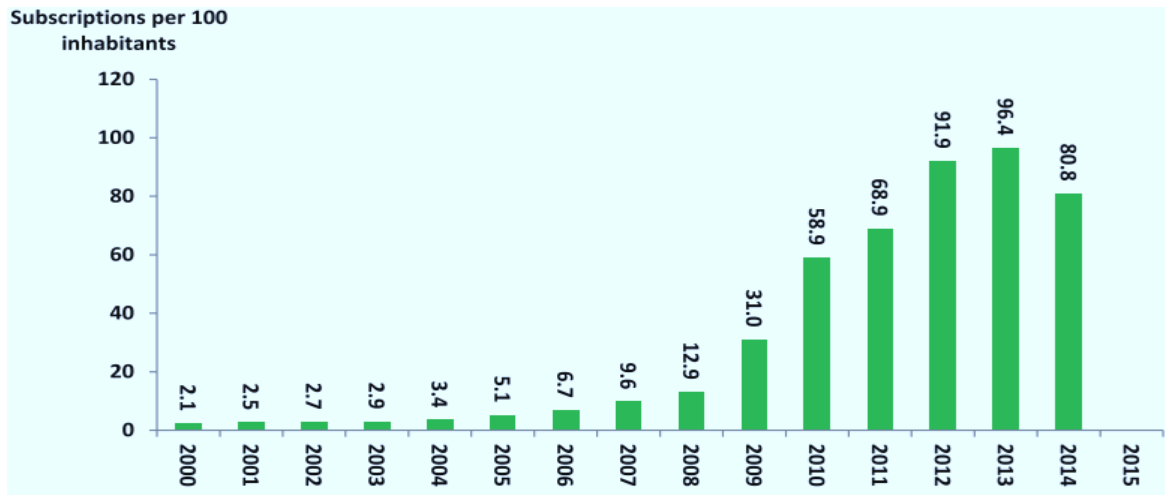


Figure 6. 1: Trend of mobile-cellular subscriptions in Zimbabwe
Source: ITU (2015)

Such growth showed that mobile technology and internet user penetration had increased 40 times since 2000. However, network infrastructure is still inadequate and underutilised, cost of internet connectivity is high, cyber laws are lacking and there is a digital divide of the same services between urban and rural areas (United Nations Zimbabwe, 2015; Zimbabwe MICT, 2016). Overall, Zimbabwe`s ICTs sector experienced notable growth in the given period: communities and organisations had access to information, Internet and broadband at workplaces, residences and schools. Likewise, internet user penetration increased from 0.4% in 2000 to 20% users per 100 inhabitants in 2014 (see Figure 6.2).

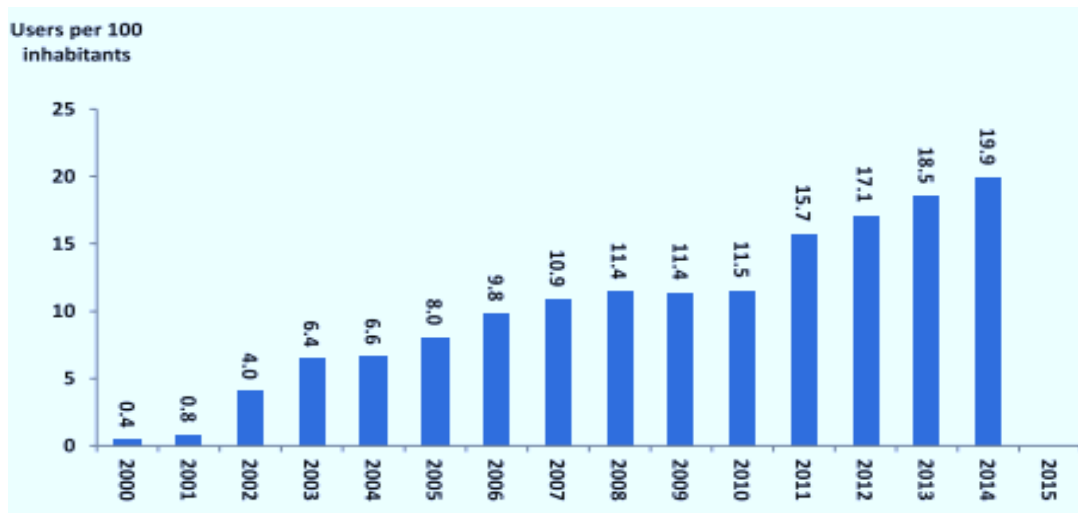


Figure 6. 2: Penetration of Internet use in Zimbabwe
Source: ITU (2015)

Reflecting on the highlighted challenges in the Zimbabwean ICT sector, the current national ICT policy emphasises the following objectives: universal access and service, infrastructure development and management, research, innovation and industry development, capacity building and content development, national ICTs and impact on regional integration, policy streamlining, regulatory framework and institutional mechanisms (Zimbabwe MICT, 2016: 15). These objectives coincided with the introduction of 17 SDGs in 2016 that replaced the MDGs. Therefore, Zimbabwe intends to implement all the 17 SDGs by 2030. However, based on evaluations from the previous implementation of MDGs, priority is on ten SDGs.

SDG 9 is one of the ten prioritised SDGs; its aim is to *'build resilient infrastructure, stimulate industrialisation and foster innovation through technology'* (United Nations, 2017). Already, implementation of ICTs has increased in organisations as well as improved speed and access to internet use and broadband. Additionally, governance issues of ICTs have improved to cement public-private sector partnerships (PPPs). PPPs now complement each other to attain economic growth through achieving SDG 9 targets (Sibanda, 2016; United Nations Zimbabwe, 2015). However, fiscal space remains the greatest challenge to achieving universal internet connection and building of resilient infrastructure by 2030; the bulk of fiscal revenue is gobbled up by recurrent expenditures (Zimbabwe National Review, 2017). Nevertheless, formation of more PPPs could assist in the achievement of set targets of prioritised SDGs.

6.2.5 Strategy for implementation of ICTs in the education sector

The current Zimbabwe National ICT Policy does not directly or adequately address implementation of ICTs in Education, let alone HEIs (Zimbabwe MICT, 2016). The issue is highlighted in a small section under the main heading of e-Government, lumped with sectors such as *Health, Home Affairs* and *Public finance management systems*. The overall objective of e-Government is to prepare and implement a strategy to coordinate all projects in the four sectors. The scope of work includes implementation strategies as well as innovation and entrepreneurship hubs in the four sectors.

6.2.5.1 Innovation and entrepreneurship hubs

The key driver for ICTs is innovation to transform lives and grow economies. The major objective is to lead Zimbabwe into a regional ICT innovation hub modelled around the success models from India, Malaysia and other technologically-advanced friendly states. To achieve success, the four sectors need to implement a uniform blueprint strategy as follows:

1. Set up an institutional framework for a national program to successfully implement innovation and entrepreneurship programs.
2. Define a comprehensive blueprint for the program.
3. Secure seed infrastructure, tools and facilities required to kick-start the program and coordinate or facilitate the initial launch.
4. Offer citizenship to investors who make defined and significant investments into Zimbabwe`s ICT industry. This strategy is to position Zimbabwe as a regional ICT hub that achieves a knowledge-based economy in the 21st Century.
5. Software, content and ICT services comprise `weightless` economic items with little or no trade cost. The ICT services industry will prominently feature in Zimbabwe`s future economic development, which this policy seeks to recognise.
6. Use High Computing Performance, a key technology for many technically advanced countries to promote investments in ICTs and related infrastructure.

6.2.5.2 Implementation strategies

Firstly, create a programme that includes all citizens. An ICT Start-up Europe Partnership (SEP) monitor is critical in providing commercial services and infrastructure for innovation. The ICT SEP would use some of the innovation outputs as services. The strategies include:

1. Partnerships with countries leading in ICTs such as India, China, Russia and Malaysia;
2. Partnerships with leading organisations in ICTs such as ITU, Silicon Valley and Global Systems for Mobile Communication;
3. Partnerships with Foundations and Non-Governmental Organisations (NGOs) to actively promote and fund ITs;
4. Offer citizenships to ICT experts, offer PhD research benefits, for example, funds towards business start-ups upon graduation;
5. Launch regional ICT innovation and entrepreneurship projects, done by teams or partnerships, to create critical skills, share ideas and increase innovation levels. Southern African Development Community (SADC) projects may be a starting point;
6. Acquire buildings that will be set as hub centres;
7. Use broadband connectivity to provide access to all stakeholders;
8. Work with education ministries to introduce ICT courses into the curricula.

In line with e-Government strategies, several HEIs have implemented educational technologies to ease work routines, as well as to achieve objectives outlined in the national ICT policy. In particular, Omega University has also managed to align with e-Government strategies to implement LMS in teaching and learning. Accordingly, MoICT has begun to promote innovative programmes such as hackathon competitions where students from various universities develop a working ICT product within a given space of time. The purpose of hackathon competitions is to encourage innovation and entrepreneurship in HEIs through provision of funding for further development of winning ICT products. These competitions have seen many HEIs in Zimbabwe dedicate effort into ICTs and technology-related projects.

6.3 Case description of the HEI under investigation

6.3.1 Omega University case

This study adopted a pseudonym Omega University to represent the HEI case study. Omega University is a growing public institution in Zimbabwe; it has a small number of faculties and academic departments. The faculties are physically located on more than one campus due to limited space in the university. In 1995, the government set up a collegiate of Science Education owing to the shortage of science teachers in Zimbabwe. Omega College was established in 1996 as an affiliation of the University of Zimbabwe. A committee was set up to transform the college into a university within a period of five years. In 2000, Omega College was awarded university status. Therefore, the management model of Omega changed from collegiate to a bureaucratic university (recall Section 2.6). Table 6.4 presents a synopsis of Omega's situation at the time of data collection.

Table 6. 4: A snapshot of Omega University

Year founded as a collegiate	1996
Year founded as a university	2000
Current number of students	~ 6000
Current number of lecturers	~ 200
No. of faculties	5
No. of academic departments	23

Omega implemented various ICT projects to enhance work practices in administration, teaching, learning and research. Due to brain drain, the country was experiencing an acute shortage of teachers in science education. Therefore, in 2010, Omega launched a programme called Open Distance Learning (ODL) to support the mandate of the university in training science educators. In particular, the university targeted a rural populace market who could not afford to physically go to attend school at Omega campus. The ODL programme was based on a door-to-door approach to enable enrolled students to bypass costs and study in the comfort of their homes or at selected centres close to their places of residence away from Omega campuses (Mhishi, Bhukuvhani, & Sana, 2012).

6.3.2 The Open Distance Learning programme

Owing to the introduction of the ODL programme, lecturers left Omega campus during holidays and semester breaks to go and reside at selected centres for a period of almost one month. Due to various financial constraints faced by most of the rural populace, potential

students from disadvantaged areas converged with lecturers at universal centres close to their homes. The students did not need to physically visit Omega campus even during normal semester periods until they graduated. Since the university had established a centre in each of the country's provinces, there was likely to be a shortage of academic staff to teach. The university hired extra part-time lecturers to teach the students in all the provinces.

Centre coordinators were chosen by the university to head the centres, facilitate student enrolment and their registration for the courses of their choice. The number of students enrolling to be trained as science education teachers both at diploma and degree levels increased significantly. Intensive face-to-face teaching and learning would go on for a one-month duration at the centres. After a month, both students and lecturers went back to their respective original places and continued to interact before meeting again for writing of examinations. Lecturers and students went back to their previous centres in the subsequent holiday to conduct and write examinations respectively.

With time, however, the operational side of the ODL programme became too expensive for the university. Omega catered for daily expenses of all permanent lecturers who went out each holiday, in addition to their normal monthly salary. Similar expenses were also given to part-time lecturers. Interaction between students and lecturers was difficult and expensive after leaving the centres; often some students travelled to Omega campus to either submit or collect assignments from their respective lecturers, as well as to write any supplementary work omitted or failed during the intensive program. Owing to such challenges, the university management through the ODL and ICT Departments decided to acquire and implement an online system that supported electronic distance teaching and learning – hence, the introduction of Moodle LMS.

The university culminated the ODL programme by halting further enrolment of students and closing all provincial centres. The closure was not agreed to by students in-stream as they were immensely affected. Eventually, some students managed to join others at Omega campus on separate but similar block programmes, in an effort to finish their studies and

graduate. However, other students took more years to finish their studies due to financial constraints.

6.3.3 The ICT Committee at Omega

The mandate of the ICT Committee at Omega was to make informed strategic decisions through deliberations among stakeholders representing various departments. The committee aimed to service all departments in the institution by providing them with adequate ICT infrastructure, skills and equipment to ensure smooth operations of digital processes in various departments. Table 6.5 presents a list of key members in the ICT Committee and their roles.

Table 6.5: Representation of the ICT Committee at Omega

Membership	Roles
Vice-Chancellor	Chairman/senior manager
Deputy Vice-Chancellor	Deputy Chairman/senior manager
Deputy Registrar Academic	Committee member/senior manager
ICT Director	Servicing the committee
ODL Director	ODL representative
Operations Manager	ICT Department representative
Research Director	Researchers` representative
Dean of faculty	Representative for faculty deans
Dean of students	Students` representative
Bursar	Budgets and funding/senior manager
Librarian	Committee member/senior manager
Registrar	Committee member/senior manager
Five lecturers	Faculty and department representatives

The VC was the chairperson of the ICT Committee at Omega. As CEO, the VC`s perceptions regarding ICTs in the university were in line with the overall vision and mission of Omega University. However, the ICT Director played a critical role of servicing the committee; every issue pertaining to ICTs, big or small, passed through the ICT Director for pre-assessment. Therefore, despite the ODL Department`s capability to find an online system, the ICT committee tasked both the ICT and ODL Departments to work together to find a suitable e-learning system. After several deliberations, Moodle was chosen as the most appropriate.

6.4 Learning Management System implementation process

6.4.1 Rationale for Moodle implementation

Omega began to implement Moodle in 2012, two years after ODL was introduced. The main objective of Moodle was to support the ODL programme, whose operational costs were increasing and becoming unsustainable. Moodle supported teaching and learning activities away from campus between distance-learners and lecturers. The LMS provided the e-learning aspect to blended learning, which came in both online and face-to-face interactions between lectures and students (Nawaz & Kundi, 2011). Distance learners stood to benefit more from Moodle through constant interaction and synchronised feedback with lecturers compared to full-time students. The other objective of Moodle realised later on which immediately became the main and remaining objective, was the long overdue need to integrate technology in teaching and learning at Omega University. A strong advocacy arose from management to extend Moodle into the full-time programmes.

6.4.2 Planning phase of Moodle

The planning phase involved the deliberations to find a suitable LMS. As tasked by the ICT Committee, the ICT and ODL Departments spearheaded stakeholder consultations, which led to the selection of Moodle as the appropriate LMS. Prior to Moodle's selection, several meetings were held with the ICT Committee between 2011 and 2012 to deliberate on the progress of acquiring an LMS for the institution. The minutes and agenda of the meetings formulated part of the secondary data that was analysed in this study for triangulation and validation purposes. The minutes documented progress reports and feedback from relevant stakeholders who were consulted. Some of the stakeholders included the Computer Science Department.

However, the majority of intended users of the system such as lecturers and students were not directly consulted. The few lecturers who represented their faculties in the ICT Committee were expected to relay deliberations from meetings to their respective constituencies. Most of the senior managers wanted Moodle to be implemented as quickly as possible in line with part of the globalisation agenda to integrate ICTs into curricula (Clegg, Hudson, & Steel, 2003). During a feasibility and consultation process in 2011, some senior managers and ICT

implementers attended the 6th eLearning Africa Conference on ICT for Development, Education and Training in Tanzania to learn more about implementation of e-learning in HEIs.

6.4.3 Initiation and selection of Moodle

The Computer Science Department had previously developed its own version of an LMS; they had a working prototype, Claroline, which only catered for their department's needs. Although the prototype was working well, it only serviced one department and so further development of the LMS was needed to include all academic departments. The Computer Science Department was incapacitated to further develop Claroline for the whole university because of their primary duties as lecturers. The ICT Director highlighted that his team weighed the advantages of further developing Claroline against customising another open-source LMS:

We first looked in-house in Computer Science since they used Claroline. We compared its advantages with Moodle, Blackboard and other LMS. We saw that Moodle had a wider usage, more functionalities, and was user friendly. We then recommended the university to adopt Moodle [Implementer-2].

Eventually, Moodle was selected for implementation. Thereafter, the university employed an e-learning analyst to assist with Moodle issues: installation, customisation, management and training of lecturers. The ODL Director, an expert in instructional design and LMS, with the assistance of the analyst, configured and customised Moodle in line with Omega's teaching and learning model.

6.4.4 Execution phase of Moodle

Due to inadequate ICT resources at Omega University at the time, a private Indian firm was contracted to host Moodle in India on behalf of Omega. Foreign hosting was cheaper compared to local service providers. Later, in 2015, Omega resumed the rights to host Moodle since its ICT resources had improved. Moodle began operating with the ODL programme in 2012. Immediately, management proposed that Moodle be extended to full-time programmes. It became compulsory for lecturers and students, despite mode of learning, to integrate ICTs in teaching and learning through use of Moodle and other ICT tools. However, there were clashes on the ideas of implementation between management and LMS

implementers. Management wanted to rush implementation of the LMS and begin enjoying the benefits of technology rather than lag behind other institutions.

The issue is technology is at a centre stage and assimilation of technology is quite high. Look at the number of mobile phones people have today – that is how much technology adoption there is. We train educators here and, as they go out to teach, they should be the ones to introduce technology to students, so we need to implement educational technologies as soon as yesterday [Manager-1].

I think that is where we did not really do it right, but because the administrators had their own perceptions of where the university should be going and how slow we were in trying to drive the whole process. They wanted as early as yesterday to put things online, so we ended up rushing to implement the system [Implementer-1].

While senior management advocated for the university to quickly align with the globalisation agenda, the implementation and uptake of Moodle without necessary resources posed many challenges. The ICT implementers highlighted that the implementation process was poor and rushed; it was difficult get most of the lecturers to begin using Moodle. The implementation was overwhelming for the two LMS experts who literally attended to everything concerning Moodle. The ICT Department personnel only helped with logistics and were not directly involved in the technical side of Moodle`s implementation.

Lecturers were asked by the LMS experts to assist them with training of other lecturers on a train-the-trainer programme. One lecturer from each department was selected to train as an e-learning coordinator, after which they would train fellow lecturers in their respective departments. Only a few coordinators went for training and those who did mostly came from technology-related departments. Others gave various excuses for missing training such as work overload and not knowing about Moodle`s existence. Consequently, the execution of Moodle was marred by a number of challenges. The poor implementation process influenced the manifestation of resistance towards Moodle from some lecturers and students. There was no program in place to directly train students on Moodle. It was assumed that when lecturers received training, they would then pass on the knowledge to their respective students.

In the end, the uptake of Moodle across the university was low and remained as such even long after Moodle`s inception. With poor training sessions, LMS experts uploaded a guide on

the platform for lecturers on how to get started with Moodle, outlining its features and functionalities (see Appendix G). However, evident from interviews and informal conversations, very few lecturers knew about the existence of the Moodle guide. This ignorance could only mean fewer lecturers attempted to login onto the Moodle platform.

6.4.5 Monitoring, evaluation and training of Moodle

HODs, deans, ICT implementers and management monitored and evaluated Moodle. The processes were meant to uncover any issues pertaining to Moodle during implementation and use. Poor network infrastructure and sporadic electricity caused poor internet connectivity in all campuses, adversely affecting Moodle uptake. Failing to access Moodle affected all stakeholders: lecturers, students and LMS implementers. Hence, possibly more than three-quarters of lecturers and students were not using Moodle amid the challenges. Additionally, the university did not provide adequate tools such as computers or laptops to assist lecturers and students in using the e-learning platform. This caused some lecturers to reject Moodle, citing that they could not subsidise the university by using their personal laptops to do university business. Similarly, most students did not have laptops, smartphones or internet at home to enable uninterrupted online usage or interaction.

Technical issues also contributed to low uptake of Moodle by lecturers and students as only a few LMS experts were expected to train the whole university on Moodle usage. Training became overwhelming for the few experts, resulting in inadequate and ineffective training sessions, which were constantly affected by connectivity and electricity outages. More challenges on Moodle are detailed in findings section.

6.4.6 Closing phase of Moodle

The Moodle implementation process was officially closed at the end of 2013, even though, at the time of data collection, some users indicated that Moodle was still in the process of being implemented. The Moodle project implementers posited that the implementation process of Moodle had closed. Most users only knew about Moodle late when it was being rolled out and during training, otherwise, prior to that, product awareness and user participation were

minimal or next to none. Table 6.6 summarises the chronology of key episodes and timelines in the implementation process of Moodle that led to the research outcomes observed.

Table 6. 6: A summary of key episodes of Moodle implementation

Period	Moodle implementation phases
2010-mid 2011	Problem identification and feasibility assessment
Mid 2011- mid 2012	Planning phase and product selection
Mid 2012- mid 2013	Project execution: Indian firm initially hosts Moodle
Mid 2012	Training of trainers and user awareness
End of 2012-ongoing	Training of lecturers
End of 2013	Project closure
Mid 2012-ongoing	Monitoring and evaluation
2015	Omega resumes hosting of Moodle

The researcher tried to arrange the phases chronologically for readability purposes; however, the implementation process of Moodle was not systematic, as supported by numerous narratives from stakeholders (see Chapter 7).

6.5 Summary of chapter

This chapter described socio-economic and political situations of Zimbabwe as a developing country context and Omega University as the HEI case study, which implemented Moodle to improve teaching and learning. The Moodle implementation process was implemented in stages. Despite implementation of Moodle at Omega, uptake remained low in lecturers and students even long after the introduction of Moodle. A myriad of factors caused low uptake of Moodle; poor ICT infrastructure, poor and rushed implementation process, limited user participation and awareness, limited technical expertise, stakeholder perceptions towards technology and rejection of the new system. All these factors contributed to user resistance behaviours that further influenced the low uptake of Moodle.

CHAPTER SEVEN

THE MANIFESTATION OF LECTURER RESISTANCE BEHAVIOURS

Research is to see what everybody else has seen, and to think what nobody else has thought.
 ∞ Albert Szent-Gyorgyi, Physiologist

7.0 Introduction

This chapter presents empirical findings, based on MRITI, to identify different forms of lecturer resistance behaviours, as well as to understand the manifestation process of the resistance behaviours during Moodle implementation. Additionally, the chapter examines how responses and/or strategies from management and ICT project implementers influenced further lecturer resistance. Section 7.1 presents a synopsis of comments by lecturers who participated in the study. Section 7.2 answers the first research question by outlining different forms of resistance behaviours that manifested from lecturers during Moodle implementation. Sections 7.3 to 7.6 answers the second research question by detailing the stages involved in the manifestation process of lecturer resistance: initial conditions, perceived threats, objects and triggers of lecturer resistance. Lastly, Section 7.8 presents the nature and effects of responses or strategies towards lecturer resistance from management and ICT implementers.

7.1 Demographic characteristics of lecturers

Omega University had more male employees than females. However, the researcher tried to balance the sample of lecturers for the study. Twenty-five lecturers including HODs were interviewed. Table 7.1 presents background characteristics of the lecturers.

Table 7. 1: Background characteristics of lecturers

Characteristics	Respondents (25)	Characteristics	Respondents (25)
Gender: Male	13	Employment status: Temporary	3
Female	12	Permanent	22
Age: <=35	7	Positions: HODs	5
36-45	8	Lecturers	13
46-55	6	Senior lecturers	7
>=56	4		
Academic title: Mr	7	Faculty: Agriculture & environment	5
Ms	9	Arts and humanities	4
Dr	7	Commerce	6
Prof	2	Education	4
		Science	6
Qualification: MSc	16	Employment dates: Before Moodle	21
PhD	9	After Moodle	4

The sample was dominated by lecturers who were 45 years or younger. Only 36% of lecturers had a PhD in their field. Most lecturers were employed on a permanent basis; 84% were employed before Moodle implementation. All PhD holders were addressed as Doctors; promoted Doctors attained either Associate or Full Professorship. At the time of data collection, Moodle was presumably in its fourth year of operation. However, most lecturers displayed ignorance of Moodle or disregarded its existence in teaching while others hinted that implementation of Moodle was on-going, and that they were yet to be trained or learn more about it.

Only a few lecturers, albeit from the Computer Science Department, confirmed that they had tried to use Moodle since its inception. The rest of the users said they occasionally used Moodle for at least three months or more after it was introduced. Half of the lecturers employed after Moodle preferred alternative online platforms to teach. Only a few lecturers and HODs were allocated university computers; the rest used personal laptops to teach and to learn Moodle.

7.2 Forms of resistance behaviours from lecturers

Various forms of resistance behaviours from lecturers characterised the implementation of Moodle from inception. The behaviours that emerged after data analysis culminated into the following eight themes:

- a) Disinterest in technology
- b) Under-use of Moodle
- c) Delegation of Moodle responsibilities
- d) Avoidance of Moodle use
- e) Prioritisation of other duties
- f) Refusal to use Moodle
- g) Withdrawal from using Moodle
- h) Pessimism of Moodle implementation.

Further, the themes were categorised into four episodes of resistance: apathy, and passive, covert and active resistance (see Table 7.2).

Table 7. 2: Forms of lecturer resistance behaviours

Resistance episodes	Forms of resistance behaviours
Apathy	Disinterest
	Prioritisation
Passive resistance	Under-use/minimal use
Covert resistance	Delegation
	Pessimism
Active resistance	Avoidance
	Withdrawal
	Refusal to use

The study did not find any aggressive-resistance episodes from the lecturers at Omega. Most resistance behaviours were apathetic, passive or covert. In Zimbabwe, it is uncommon to express aggressive behaviours during grievances. Due to the continual political instability in the country, which mostly oppresses opposition voices, people fear to protest violently against unfavourable policies in various institutions across the country. One of the lecturers highlighted that:

Zimbabweans generally are passive, they are not stupid but they avoid getting injured at all costs just like snakes. They bite and leave – aggressive but in a diligent way. Politicians take advantage of us thinking we are docile because we adapt to situations. It happens here too; lecturers do things just to appease the bosses [Lecturer-9].

The country's unstable political environment influenced lecturers' actions during Moodle implementation. The Zimbabwean culture to protest passively impacts on the behaviours of people across the country, including in HEIs. The passive culture consequently influenced lecturer resistance behaviours that were less violent and non-aggressive. Additionally, lecturers knew that their university employed a bureaucratic management model, which followed protocol of committees and boards in airing of grievances and solving of problems. Therefore, there was no need to protest or resist change in a violent manner; passive protests displayed some of professionalism that neither disrupted teaching and learning nor halted work routines in the university.

7.2.1 Apathy

7.2.1.1 Disinterest in technology

Disinterest is a resistance behaviour, in which lecturers lacked interest or initiative towards use of Moodle. Lecturers who were not interested in using Moodle justified their behaviours by giving reasons pertaining to their indifferent behaviours.

It's an issue of interest. Generally, you need to have high levels of interest in ICTs to use Moodle; but not many have that kind of interest here. I'm not saying I'm apathetic. At the back of my mind, I know there is Moodle, but I don't use it because I don't have time [Lecturer-2].

Similarly, ICT implementers felt that lecturers lacked interest in technology, so much so that implementers initiated most ICT-related projects on behalf of lecturers. The ODL Director highlighted that '*lecturers never demanded anything that had to do with technology, let alone Moodle*'. This meant that the ICT Department received no formal requests from lecturers regarding Moodle to support their teaching and learning. Generally, disinterest resistance behaviours towards Moodle seemed to depend on one's level of interest in technologies. In addition, one's working conditions, for example, work overloads, seemed to impact negatively on one's likelihood to concern themselves with Moodle. If lecturers lacked initiative, then the resultant behaviours were disinterest, not only in Moodle but also in teaching using any technologies.

7.2.1.2 Prioritisation of other duties

Prioritisation behaviours manifested when some lecturers arranged their work routines in order of relative importance for example, Moodle usage (being the least important), community engagement, research, teaching or having a social life. Very few lecturers prioritised teaching with Moodle despite making sure that their teaching duties were up-to-date using traditional methods; they prioritised teaching but not Moodle. Most lecturers complained that they did not have time to learn or use Moodle due to heavy workloads and tight schedules in other duties, which were more important than using Moodle:

Lecturers may sabotage Moodle because of many deadlines. There is a lot of teaching to be done so someone ends up prioritising the teaching aspect rather than Moodle [Lecturer-6].

Some lecturers argued that Moodle did not play an important role in achieving required pass rates so Moodle became a liability instead of an enabler:

The important issue is to achieve a pass rate of 90% or more. For students to pass, we need to drill them and that doesn't happen through Moodle. So, we will stick to what make us achieve required pass rates. Moodle just becomes an extra liability [Lecturer-15].

Lecturers revealed that the process to achieve higher pass rates for students required an intensive method. They felt that using Moodle to teach was not significant towards pass rates; rather it stalled the process. Therefore, lecturers prioritised students' performance to Moodle. Similarly, most senior lecturers valued research over teaching and, since Moodle was part of the teaching process, lecturers regarded it as an activity that wasted their time:

This is an institution of higher learning and we are expected to produce research. I value research more because it allows me to grow career-wise whereas, with teaching, anyone can teach [Lecturer-9].

Lecturers cited that they needed more time to do research, which they considered more important in their career than teaching. They perceived threats of losing focus on valuable career goals, necessary in the academic field. Despite heavy teaching loads, management still expected lecturers to balance research, teaching with Moodle, and community services; it was evident that management was not addressing lecturer's grievances. This inaction response from management frustrated lecturers further so they continued prioritising other duties over Moodle. Therefore, lecturers continued to express more resistance behaviours through prioritisation of other duties. Instead of directing resistance towards Moodle itself, lecturers shifted resistance and redirected it towards poor management's responses and strategies.

7.2.2 Passive resistance

7.2.2.1 Under-use of Moodle

Under-use is also known as minimal or limited use of Moodle. Lecturers expressed minimal use by choosing only to do certain compulsory tasks on Moodle such as uploading of updated course outlines. In as much as Moodle had several modules and functionalities (see Appendix G), none of the lecturers confirmed exhaustive usage of all the modules.

Lecturers are beginning to appreciate what Moodle can do but, even then, they are using less than 5% of what it can achieve. The way lecturers inducted themselves into Moodle was more of 'I want you to teach me how to put this thing online' and they wanted nothing else beyond that [Implementer-2].

Lecturers under-used Moodle through only uploading mandatory course materials. They literally chose modules they wanted to be trained in and ignored other modules. HODs enforced and monitored using a checklist; course outlines and notes were expected online at

the beginning of each semester. However, some lecturers still found a way around the checklist *'If I'm clever enough I just make sure that I do the minimum expected, because I don't have time to explore'*. Additionally, one lecturer justified minimal usage of Moodle citing they were *'not well versed with some of the modules; I use what I know and leave what I don't'* [Lecturer-10]. This showed that lecturers were incapable of using Moodle exhaustively because they did not want training outside the HOD's checklist. Therefore, they only used Moodle to appease their immediate superiors. On the other hand, lecturers claimed that they did not have time to explore Moodle, hence minimal usage. However, under-use prejudiced lecturers from realising the full benefits that Moodle could offer.

7.2.3 Covert resistance

7.2.3.1 Delegation of Moodle responsibilities

Some lecturers resisted Moodle through delegation, that is, assignment of responsibilities to a fellow lecturer, a technician or an ICT expert to do the required work on their behalf, *'When I want something on Moodle I just shout to my friend, come do this for me'* [Lecturer-19]. This was more common in senior and older lecturers who complained that Moodle was complex hence they needed more time to master it. Two lecturers from Faculty E mentioned that they delegated their Moodle duties because they did not have *'prior knowledge to ICTs like those from Computer Science'* [Lecturer-20], hence it was difficult for them to use Moodle. Additionally, part-time and new lecturers complained that they did not receive any induction to Moodle. They posited that they were not offered any training, despite being expected, just like everyone else, to use Moodle in teaching. Eventually, they delegated their roles to fellow experienced lecturers in their department.

ICT Implementers and some technical assistants helped some lecturers who were stuck; failure to assist would reflect negatively on the experts and trainers. The e-learning analyst confirmed that such lecturers were content with someone doing things for them such that gave up using Moodle on their own.

They are so comfortable with us doing things for them. They dump everything on technicians citing they are not really into ICTs. Most often, I capture marks for some lecturers who come here and say they don't know how it is done [Implementer-2].

Since it was a policy issue for lecturers to use Moodle, ICT implementers felt obliged to assist those lecturers who faced challenges in uploading required content. However, instead of the lecturers asking for further training, they rather delegated and forgot about it until the next time when they again sought help. Delegation became a repetitive process. After delegation, HODs could not tell that someone else had uploaded content on their platform on behalf of the actual lecturer. This showed that these lecturers covered up resistance behaviours behind delegation; they expressed covert resistance. Unfortunately, HODs and deans used the misrepresented statistics to evaluate uptake of Moodle, yet some lecturers who delegated their roles never really used the system.

7.2.3.2 Pessimism towards Moodle implementation

Pessimism comprised incidents of doubt, sarcasm, distrust and storytelling by lecturers towards Moodle and its advocates. Most lecturers asserted that there was nothing wrong with traditional methods of teaching that needed fixing using Moodle. They insisted using Moodle should be a necessary choice. One lecturer sarcastically disregarded use of emails as a way to call for Moodle training.

I was not aware that the ODL Director called for training through my work-mail . . . everyone has my Gmail . . . who uses Omega`s mailing system anyway? Anyone who interacts with me or cares about me, I mean who knows I exist [laughs], contacts me through my Gmail not work email [Lecturer-6].

Lecturers were sceptical, pessimistic and did not trust the university system and methods of work. They felt cheated by the institution that did not provide an enabling environment for effective implementation and use of Moodle. Therefore, lecturers expressed and justified resistance behaviours towards management and the university system.

7.2.4 Active resistance

7.2.4.1 Avoidance of Moodle use

Avoidance was the act of keeping away or dodging use of Moodle by lecturers for one reason or another. Lecturers justified non-use of Moodle in many ways. Deans and HODs reiterated that some reasons given by lecturers were '*genuine reasons*'. However, the ICT implementers and senior management felt that the lecturers were simply avoiding Moodle no matter the reasons. One reason for avoiding Moodle was absence of computers. Lecturers complained

that they resorted to using personal equipment because the university did not have enough computers.

Some reasons are emotional. We haven't been given the tools to use and they expect us to use our own laptops. If I buy a laptop, it's my private property. When I come to work, I expect a computer to use [Lecturer-8].

Similarly, one of the HODs corroborated the same views:

So, you expect me to do all this with my own laptop, not contributing a single cent. That is not fair. They are buying each other vehicles out there, which they later sell to each other at nibble value. At least both parties would have contributed to that vehicle. What about my personal laptop? [HOD-2].

The HOD pointed at inequality between lecturers and management. The implementation of Moodle uncovered inequalities at Omega, which influenced the manifestation of lecturer resistance behaviours. Lecturers were disgruntled about unequal opportunities posed by Moodle advocates who prioritised vehicles over teaching equipment. However, one of the Deans stressed that lecturers should not expect computers from the university; rather, it was mandatory for every lecturer to possess a personal laptop as a toolkit for the job:

Everybody has a laptop. People will always find good excuses for not doing things. There is no way the university can provide everything, particularly a laptop. We know people have their personal laptops. A lecturer is expected to have a laptop to ease their work whether they purchase it on their own, not to say I will not use it for university work, that is an unreasonable excuse [Dean-1].

In contrast, another dean supported the lecturers by highlighting that the university should provide computers for staff. Therefore, there were discrepancies on the issue of laptops, even among the middle managers. While, lecturers in Faculty D managed to use 'no laptops' as a justification for not using Moodle with the full support of their superiors, it was compulsory for lecturers in Faculty A to own a laptop and use it for university business. This again showed Moodle uncovered uneven application of rules across university faculties. Consequently, lecturers used alternative tactics to avoid training and Moodle use. Some lecturers used students as leverage to avoid Moodle:

Often students come to my office asking for notes even after I have uploaded all the notes on Moodle. They complain that they cannot access Moodle since they don't have internet, laptops or smartphones. For the sake of students, we stop using Moodle and prefer emails or memory sticks [Lecturer-6].

However, ICT implementers disregarded lecturers' justifications to avoid Moodle. The e-learning analyst posited that 'lecturers had negative attitudes towards Moodle and

technology in general'. ICT implementers believed that it was easier for lecturers to adopt Moodle or any other technology if they had positive attitudes.

7.2.4.2 Refusal to use Moodle

Refusal to use Moodle involved denial or failure to accept use of Moodle in teaching and learning. Some lecturers entirely refused to use Moodle; they opted for alternative LMS and social media. The lecturers argued it was using technologies in teaching that mattered and not necessarily Moodle. They also posited that since there were no consequences for non-use, they did not need to worry about not using Moodle:

We have Moodle, which I don't even use. I have never used it. If we ask people to use Moodle and they don't use Moodle, then why do we have Moodle? Where did it come from? I use alternative platforms so I do not quite bother about Moodle; I use Eliademy and Google Drive [Lecturer-5].

There are no consequences for not using Moodle. As long as I am not rewarded for using or punished for not using it, and there is no penalty for boycotting training, then why worry myself? [Lecturer-10].

Most lecturers from Faculty D had more academic freedom compared to lecturers from the other four faculties. The lecturers explicitly showed their resistance behaviours of refusing to use Moodle. The Dean of Faculty D argued that uploading of notes on Moodle caused students to boycott lectures, because they felt no need when they had all the course materials.

7.2.4.3 Withdrawal from using Moodle

Withdrawal refers to lecturers' cessation to use Moodle after initially adopting it for a certain period without success. Some lecturers, especially from Education and technology-related departments, asserted that they were initially interested in integrating Moodle into their teaching to ease their work. However, they got frustrated, tired and gave up when the implementation of Moodle was disrupted by poor internet connection and lack of technical support.

The ICT people always post that our systems are not working; they are down. So people have just given up trying and have reverted to alternate ways of accomplishing their tasks [Lecturer-7].

They called us for training and when we went there, we waited for more than one hour. Nothing was happening. No one came and that leads to frustration. The few training sessions I attended, I didn't gain much due to connectivity issues; it's as good as not going [Lecturer-2].

Technical support and ICT infrastructure at Omega did not meet the lecturers' (who had been initially interested in Moodle) expectations. The poor resources led to time-wasting on the

part of lecturers who later withdrew from Moodle. One aspect or another literally was blamed on Moodle. Most lecturers gave up on using Moodle due to its unreliability and unavailability to assist work practices.

7.3 Initial conditions at Omega University

This section discusses previously established structures, also known as initial conditions, at Omega University at the time of Moodle implementation. These are the *management model*, *ICT structure* and *ICT culture* of Omega. Initial conditions can also include established work routines, power relations or culture familiar and comfortable to stakeholders, in an organisation before the introduction of change or a new technology. Stakeholders' choices to reject or accept change as well as strategies employed towards such behaviours are based on initial conditions.

7.3.1 Omega University model of management

Omega University is a bureaucratic university based on a bureaucratic management model or organisational culture (recall Section 2.6.2). The university relied on various committees and boards to run day-to-day business and make strategic decisions equivalent to a hierarchical management structure. The issues discussed in committees come from the base level, where intensive stakeholder consultations happened. In particular, the ICT Committee at Omega deliberated on all technology-related issues and recommended to higher boards, such as University Senate, to approve or reject the proposed ideas and/or policies. The ICT Committee was seen as a communication link between technology users and technology implementers; it was well represented by all constituencies (see Table 6.5). However, the ICT Committee made decisions based on occasional reports and minutes of meetings from other lower boards, as opposed to getting comprehensive explanations of problems directly from technology users.

In meetings, departments discussed all in-house issues including Moodle concerns before forwarding them for further discussion in faculty meetings. In faculty meetings, the faculty representative to the ICT Committee created a summarised report of all the issues from departments. In the ICT Committee, the faculty representative presented the faculty report

for further deliberation and solutions. Similarly, the ICT Committee were to relay back feedback to the system users through the same protocol. However, this arrangement was not smooth, due to the time it took for user grievances to reach the ICT Committee as well as the time taken to return feedback. The ICT Committee sat only occasionally, resulting in communication breakdowns and grievances not attended to timeously. Lecturers felt that management was deliberately ignoring or partially addressing their concerns. Many lecturers complained that the communication channels were only active on paper and were not practical. Lecturers argued that their views were not taken into consideration and that there was no coordination between the top and the bottom:

The problem with the system here is that when you air views, that is the end of it . . . We don't get feedback downwards. It's always bottom-up when airing complaints but no top-bottom to solve problems. Top-down does not feed into bottom-up; things come down as directives [Lecturer-3].

The lecturers acknowledged communication protocols at Omega through which they aired their concerns regarding Moodle. However, the lecturers were worried about poor feedback, inaction and no rectification of problems. Since Omega had inadequate ICT resources, it was difficult to address most of the concerns from lecturers. Therefore, management delayed responding as they tried to find solutions. The delay was meant to buy time and avoid a shutdown of the technologies, hoping that resources would be made available with time.

Lecturers highlighted that most of the information they finally got from top management was in the form of commands, without a chance to deliberate over issues. Most lecturers wanted to debate and agree on issues concerning Moodle to gain a sense of ownership of the system rather than being given a finished product.

There is a top-down approach here. We have policymakers like senior managers, deans, directors who enforce implementations on us. However, I feel that lecturers, as the users of the applications, are not being involved at all. We just get the final product and there is no ownership of these LMS [Lecturer-2].

There were limited user consultations and participation during Moodle implementation; lecturers' views were overlooked. Lecturers expected proper dialogue during implementation of Moodle. The librarian confirmed that there was lack of coordination within the university: *'we don't coordinate, it could be this one doing that or that one doing this, we just need to be more coordinated.'* There was no harmonisation of ICT activities in the institution; implementation activities were conducted in silos resulting in misunderstandings and wrong

assumptions between stakeholders. Defined communication channels paved the way for effective coordination across departments; proper utilisation of the channels could avoid manifestation of resistance behaviours from intended system users.

Management and ICT implementers enforced Moodle without initially discussing with the lecturers the best methods to use to increase and maintain good performance. Moodle advocates assumed that Moodle was the best intervention needed to improve teaching and learning, despite lack of resources. Lecturers felt that teaching methods were mostly effective and beneficial when they were freely chosen and consented to. They did not want to be cornered, threatened or coerced into using one particular method or tool of teaching.

The military approach is being used here. Use of commands and threats is not good. Train the person, avail the resources, engage with lecturers and avoid, always threatening to fire them [Lecturer-1].

Management used intimidation, dissuasion and imposition strategies and/or responses to make lecturers adopt Moodle. Most part-time and new lecturers adopted Moodle from fear of losing their jobs. Since Moodle usage was used as a basis for contract renewal or promotion, it was tricky for temporary lecturers to express or promote resistance behaviours at the workplace.

Management normally forces lecturers to use Moodle by generating reports, writing warnings and intimidation measures. But, I have never heard of anyone sent home because of that. They always preach that someone will go home but lecturers are not moved by that [Lecturer-10].

Most of the lecturers, however, became resistant to the threats, which they perceived as empty, since there was no evidence of anyone being fired from their jobs due to non-use of Moodle. Thus, despite warnings from management, different forms of lecturer resistance behaviours continued towards Moodle and related activities.

7.3.2 The ICT structure at Omega

The main ICT organs at Omega University, directly involved in the implementation of ICTs, were the ODL Department, headed by the ODL Director and the ICT Department, headed by the ICT Director – all reported to the ICT Committee chaired by the VC. The ICT Department had the following staff members: operations manager, systems analysts, hardware technicians, helpdesk supporters and network engineers. The ODL Department consisted of the ODL Director, deputy ODL Director, the e-learning analyst and a few administrative staff.

The ICT Department was the heart of the university; its performance was critical in making or breaking the university operations. The ICT Director highlighted that the *'thrust of the department was to provide responsive, effective and efficient ICT services at all times.'* Similarly, the ODL Department mainly focused on the provision, maintenance and facilitation of online teaching and learning applications.

The ICT Committee ensured development, implementation and adherence to various ICT policies and strategies across the university. The ICT Committee's focus was spread in many areas:

The ICT and ODL Departments offer services of internet, email, website, procurement and maintenance of hardware and software, e-learning, information security and advisory roles in ICTs [Document-1].

The ICT Committee was a support constituency, which supported the university to meet all its technological requirements. The ICT Director supported the notion that VC, a biologist, rather than ICT experts chaired the ICT Committee. The Director argued that it was appropriate for the CEO to spearhead the technical strategic missions of the university which were highlighted in the university's vision document.

The CEO has a vision of where the university is going, and from however he directs the institution, the ICT Department assists to achieve that vision. Therefore, it is not a technical issue but having someone to make strategic decisions, and then we buy in to achieve the set goals [Implementer-2].

Given that the need to implement ICT tools was university-wide, and the effort that the university was putting into computerise all work operations, it was critical for the office of the CEO to take charge of strategic events. Consequently, the ICT Committee played an essential role in the teaching, learning, research and administration issues. It formulated different sub-committees whenever necessary to work on various problems, depending on the nature of the problem. The sub-committees reported to the ICT Committee on progress, feasibility and possible solutions available. Therefore, as an across-the-board committee, it was critical that the VC chaired it.

7.3.3 The ICT culture at Omega

The ICT culture at Omega University evolved around the vision and mission statements embodied in the university ICT policy and strategic plans. The policies stressed the importance of providing ICT services that promoted and supported intellectual expression and growth in

line with the discourse of globalisation. Therefore, the ICT Department aimed to transform teaching and research at Omega into meaningful applications to achieve the university's goal of becoming a model institute that could effectively integrate ICTs in teaching and research. Specifically, the goal is congruent with the ICT vision stated in Omega's ICT policy, which aimed to:

Provide ICT services in pursuit of excellence in teaching, research, community service, administration and produce highly acclaimed graduates, through use of ICTs in teaching and research [Document-2].

This ICT vision showed an urgency and commitment in Omega to develop a culture of implementing and using ICT tools and use to conduct any university business. When Omega University started, it had close to no tools aligned to technology. The current ICT Director asserted that almost 90% of ICT development had occurred during his tenure; he had assisted the university to upgrade from chalk to white board markers and from blackboards to mounting of projectors in lecture rooms. Despite introducing enabling tools, *'the culture of ICT adoption was still growing and ongoing'* [implementer-1].

One of the ways to achieve an ICT culture, as stated in the ICT strategic plan document, was through support from top management. Senior management began a strong advocacy towards the implementation of ICT projects to ease operations in all university sectors. The advocacy extended to integration of educational technologies in teaching and learning. Senior management wanted to keep abreast with global and regional ICT trends and they were concerned that Omega was lagging behind most institutions. Therefore, when the opportunity of Moodle came along, they wanted the implementation process to take place as quickly as possible, even without adequate resources or proper planning.

The university is trying to move with modern ICT trends, towards the digital world. It also has a bearing on our position and visibility, so we need to keep up and move into the global village [Manager-2].

Management at Omega perceived Moodle as a suitable vehicle to increase efficiency in teaching and learning activities, thus improving the visibility of Omega within the Zimbabwean HEI landscape. However, the strong advocacy did not translate into a good implementation process of Moodle. The Moodle implementation process was rushed and flawed due to lack of diligent planning and needed resources. Management did not give Moodle time to settle and achieve objectives in the ODL programme before transitioning into the full-time learning mode. Similarly, the initial hosting of Moodle by a private Indian firm

was costly to the university; Omega met all costs, which accrued to technical support, backup and return flights for the Indian technical staff.

As earlier discussed, the Omega`s project team comprised of only two LMS experts and ICT personnel with limited or no knowledge of LMS and its related specifications. Lack of LMS expertise slowed progress of an already rushed implementation process.

We saw things differently with management in terms of how best to implement Moodle. They rushed us to do things. The e-learning analyst and I handled all the configurations with the support of a distant Indian firm. We did everything, all training because others did not know the technical side of Moodle [Implementer-2].

Although the ICT strategic plan was clear on how to implement ICT activities, the university vision appeared to override the ICT mission. The differences caused clashes between LMS implementers and senior management. The ICT strategic plan was regarded as less important; hence, it worked under the guidance of the overall university vision. However, ignoring proper planning and phases of ICT implementation can be detrimental. Managers wanted quick results of Moodle within a short space of time. The expectation disregarded lack of the much-needed ICT infrastructure to support implementation, as well as lack of user awareness.

To quickly meet targets expected by management within a short period, LMS implementers could only train a few lecturers on fewer modules of Moodle. However, the minimal training, education and exposure caused lecturers to rightfully assert that they had no sense of ownership of Moodle. Although Omega advocated strongly for an ICT culture that integrated technologies in all its sectors, the initial conditions hindered a smooth transition. The poor implementation process of Moodle led to the manifestation of various resistance behaviours from both students and lecturers.

7.4 Perceived threats from lecturers towards Moodle implementation

Perceived threats manifest when projections on the expected outcomes of the implemented technology are negative. Most lecturers perceived a number of threats from the implementation of Moodle at Omega University. The common threats perceived were increased workloads and fear of loss of relevance, status or jobs.

7.4.1 Perception of increased workloads

With the introduction of Moodle, most lecturers felt that more work was added to their already heavy workloads. A typical lecturer at Omega was expected to teach, research and do extension or community service. Meeting the requirements successfully enabled tenure or promotion within a certain period. Teaching contributed 60%, research 30%, and community engagement 10%. Since teaching had the largest weight, it was imperative that lecturers spend more time teaching and all related activities such as setting and marking examinations. Omega had a shortage of academic staff across its academic departments following a policy by the Zimbabwean MHE to freeze lectureship posts. The staff shortage left lecturers with heavy teaching loads and little time to conduct meaningful research and/or extension services. The increased teaching loads dwindled further the little social time that the lecturers previously had had. Therefore, introducing Moodle at such a time could have assisted lecturers to ease their work. However, this was not the case; lecturers felt that they had no extra time to spare and begin learning Moodle amidst heavy workloads. Therefore, they perceived that Moodle just came to add onto their already inflated loads.

The ODL Director is willing to help us with Moodle but then again there are challenges. The workload issue is a big challenge; people fail to find time for training to use Moodle [Lecturer-6].

For most lecturers, the implementation of Moodle was perceived as a threat, which only came to add more work onto their already inflated teaching loads. Despite the willingness of LMS implementers to offer walkthrough training sessions, fewer lecturers were interested due to lack of time, among other reasons. Without enough training, it was difficult for lecturers to create extra time to learn Moodle on their own. A perception in the increase of workloads resulted in most lecturers resolving not to use Moodle.

7.4.2 Fear of loss of relevance or status

Based on the myth that technology results in job losses, some lecturers felt that by accepting Moodle they would eventually lose their jobs. The lecturers gave several excuses to justify non-usage of Moodle. One lecturer complained that it was difficult to use Moodle when teaching large classes.

Sometimes we have 400 students in a class and it can be difficult if you want to communicate with them online, it is very tiresome. We fail to meet the demands . . . I don't know maybe for statistical courses . . . I'm not very sure of its applicability there because of some workings, you can't explain that on Moodle [Lecturer-9].

The reasons given by some lecturers for not using Moodle showed that lecturers had not been well informed of all the Moodle functionalities. In Moodle, there are modules that allowed virtual teaching and interaction so much so that there could be no need for a physical presence in the classroom. In addition, lecturers could upload interactive video and/or audio content on Moodle to allow students to conceptualise even statistical problems. The lack of such knowledge about Moodle caused lecturers to be cynical about its features, hence resistance behaviours.

One lecturer also asserted that it was justified for lecturers not to use Moodle because *'they will be safeguarding their jobs'*. Whilst, some lecturers thought that Moodle threatened their jobs and relevance, one professor indicated that such a belief was only a myth that could be true in manufacturing industries but not universities:

Ah, I think it happens at industrial companies of production where if previously 500 workers were needed, after technology implementation, only five would now be wanted. But, here in universities, we are actually very much needed (laughs) [Lecturer-15].

Interestingly, for lecturers who did not perceive threats to their jobs, they always had other reasons for not using Moodle. It seemed like excuses were not hard to come by. However, the majority of older lecturers still perceived threats on their relevance once they had accepted Moodle; they feared the loss of their important statuses, therefore resisting Moodle was a better option.

7.5 Objects of lecture resistance behaviours

Objects of resistance refer to targets at which user resistance behaviours are directed. Lecturer resistance behaviours were mostly directed towards *'Moodle advocates'* (ICT implementers and management) followed by *'Moodle significance'* (benefits or value) and least towards *'Moodle itself'* (system features or functionalities). Moodle advocates were greater targets of lecturer resistance because they directly monitored, enforced and expected maximum usage of Moodle while disregarding an enabling ICT environment. Interestingly, Moodle advocates were expected to ensure that lecturers appreciated the other two objects

of resistance; Moodle value and Moodle functionalities, before advocating for uptake. Table 7.3 presents categories of examples of objects of resistance. Management has three groups: lower, middle and senior management. However, for readability, the study eventually adopted the term ‘Moodle advocates’ to directly mean senior management and ICT implementers.

Table 7. 3: Objects of lecturer resistance behaviours

Objects of resistance	Forms of objects of lecturer resistance
Moodle advocates	Lower management (HODs)
	Middle management (Deans)
	Senior management (administrators), ICT project implementers
Moodle benefits	Value of Moodle or its significance
Moodle functionalities	Moodle features

7.5.1 Moodle advocates

The advocates of Moodle at Omega were ICT project implementers, lower management (HODs), middle management (Deans) and senior management (Administrators). HODs directly enforced and monitored lecturers` usage of Moodle. The HODs submitted department reports on Moodle to faculty deans (middle managers) to deliberate. The deans combined the reports for submission to senior management. Each management group employed different techniques available at their level to enforce, monitor and ensure usage of Moodle in teaching.

7.5.1.1 Lower management (HODs)

The lower level management at Omega were academic HODs. To enforce and monitor usage of Moodle, HODs asked each lecturer directly whether they had uploaded relevant course materials within the deadlines: *‘We have deadlines to upload certain materials on Moodle, so we make sure lecturers adhere to those deadlines’ [HOD-1]*. Fewer HODs physically verified each lecturer`s activities on the Moodle platform.

The lecturers tell you that they have uploaded. When you ask the sentiment around is it is being done, but I don’t really know if it’s true because I don’t know how to check on Moodle, I was not trained [HOD-2].

With constant direct contact, HODs were recipients of first-hand resistance behaviours from lecturers. Although it was policy to monitor Moodle usage, most HODs had not received training on how to navigate on the Moodle platform and check the accurate log of everyone`s

activities. Therefore, it was the lecturers' word against theirs; HODs had little option but to believe what the lecturers had told them. Lecturers took advantage of the HOD's ignorance of Moodle to find a way around the weak policy.

One HOD suggested that Omega had '*no effective ways to monitor Moodle usage*'. On the other hand, it was easier for ICT experts to monitor Moodle usage by checking the frequency of lecturer logs onto the platform. However, this method was not entirely reliable since often there was no internet connection. Similarly, evidence of lecturers' log sheets into Moodle did not automatically mean that a lecturer was, in fact, using Moodle or doing anything productive.

Eventually, HODs relied on student's reports to get close to accurate information on whether or not a lecturer made them do any activities on Moodle.

I usually ask students who accessed Moodle. However, fewer students affirm usage, the rest complain of poor internet connection and no laptops. Others profess ignorance of not knowing that they should use Moodle [HOD-5].

At the end of each semester, students evaluated lecturers on their use of ICT tools in teaching and learning; Moodle was the main online system. Based on the student evaluation forms, HODs deduced whether or not lecturers had used Moodle. However, there were problems with this evaluation method. Monitoring happened right at the end of the semester. Therefore, it was not possible for HODs to effectively address problems that occurred mid-semester when teaching was ongoing.

One HOD reiterated that it was difficult to monitor Moodle usage because the system '*came as a directive rather than something which lecturers contributed their buy-in*' [HOD-4]. This enforcement strategy from HODs induced reluctance behaviours. However, most HODs agreed with lecturers that low uptake of Moodle resulted from rushed and flawed implementation without proper user awareness.

I think somehow, people do not understand how universities are run; they are run by committees and consultations. If we ask people to use Moodle and they are not using Moodle, and they do not want to use Moodle, then why do we have Moodle? Where did it come from? I cannot go to them with a whip to say, why haven't you done this? I simply ask where are you with that thing [HOD-3].

Lecturers were not given their academic freedom to choose an LMS or technology of their choice. Consequently, efforts from HODs to enforce Moodle were thwarted. Lecturers became hostile towards Moodle, posing various excuses to their HODs to justify non-usage behaviours. Some lecturers corroborated that since there were no consequences or rewards towards Moodle, usage remained unimportant. Therefore, HODs resorted to mere encouragement strategies to make lecturers use Moodle in their departments.

7.5.1.2 Middle management (Academic deans)

Academic deans were part of the middle management that enforced and monitored usage of Moodle by all academic departments in their respective faculties. Most deans reiterated that they monitored Moodle usage through regular reports from HODs and feedback from student evaluations from each semester.

We monitor using student evaluations and HOD reports. Of late, we suggested that we do them twice per semester to check on adherence to quality assurance issues that include use of educational technologies [Dean-2_Faculty B].

Whilst HODs submitted regular reports to faculties, the Dean highlighted that information on Moodle usage was not always available. He suggested that deans needed training on how to navigate on Moodle to extract the usage information for themselves. Other deans also used peer-to-peer evaluations done by lecturers on fellow lecturers to monitor if their colleagues' methods of teaching aligned to set quality standards. However, one dean averred that it was tricky to rely on peer evaluations alone since they were prone to bias. Therefore, the deans '*trusted reports that came from students more than just peer-to-peer evaluations*' [Dean-3].

Some deans also highlighted that it was conflicting to enforce Moodle on lecturers because it meant giving more time to teaching opposed to research. The Faculty E Dean said that the university's main focus was to do '*more and more research without putting much emphasis or motivating people to focus on other activities*' [Dean-5]. This showed that no matter how much monitoring on Moodle usage, as long as the main thrust of the university was biased towards research, then anything to do with Moodle was likely to result in low uptake.

My role now was to motivate and talk positively about Moodle to remove fears of the unknown and it somehow worked. The motivation got them working and more started appreciating it [Dean-5].

When deans explained the benefits of Moodle to some lecturers, they began appreciating and using Moodle more. Based on departmental reports, the deans also pushed their respective HODs to encourage their members to use Moodle. The faculty summarised reports from respective departments for onward presentation to senior management and/or the ICT Committee.

7.5.1.3 Senior management and ICT implementers

Senior management and ICT implementers in the ICT Committee ensured that Omega's operations were aligned with ICTs according to agreed quality assurance standards. Faculty deans regularly reported on the state of faculties, in particular use of ICTs in teaching and learning. One of the deans posited that they were not entirely sure if their departments used Moodle. He stated that most reports from other deans were sugar-coated and portrayed a positive outlook of Moodle usage in their faculties whilst in some cases omitting the reality on the ground.

Reports are based on what one thinks and want people to believe, which may be different on the ground.

A negative report feels like you are doing badly and lagging compared to somebody who reports positively, whilst the reality could be that your faculty is actually doing better [Dean-4].

The objects of resistance formulated a hierarchical structure where reports that were submitted by lecturers to HODs, HODs to faculties and, in turn, faculties to administrators, were not entirely truthful. Their reports mostly painted a positive picture, which the faculty dean wanted the management to believe. It was only after confrontation on overwhelming non-usage reports that the deans began to reiterate a myriad of challenges surrounding Moodle. This showed contradictions on reality versus rhetoric, making it difficult to find the correct statistics of usage in departments.

Some faculties misrepresented facts that they were, in fact, using Moodle religiously, yet the reality was that fewer people were actually using Moodle. Therefore, hierarchically, lecturers saw HODs as their objects of resistance, in turn, HODs saw deans as their targets and finally deans saw senior management as their resistance objects. This showed a scenario where subordinates feared their immediate superiors and tried to avoid negative ratings against other departments. Members were using their form of capital to upgrade or retain their positions in the field (see Chapter 8).

The ODL Director and the e-learning analyst were the only LMS experts at Omega who directly spearheaded the implementation of Moodle. Despite being a small team, their responsibilities included training of all lecturers and HODs in each department. The main challenge the team faced was absconding of training sessions by lecturers. Without receiving adequate training, lecturers began to perceive LMS implementers as their objects for resistance. The blame pushed the experts to begin to offer door-to-door training sessions to individuals and departments.

For training and queries, we request departments and faculties to call us and schedule when they want us to come, because they have different needs and times. For individuals, we can just show them the process also if we have time [implementer-2].

Despite some lecturers attending training, they still complained of other reasons that led to failure of training sessions. For example, one lecturer highlighted that during a training workshop *'internet connection failed on three occasions and the whole training session was cancelled'*. The failures led to poor attendance in the subsequent training sessions; lecturers blamed ICT implementers for not providing the adequate infrastructure for effective training. Although the implementers configured Moodle, they highlighted challenges in direct monitoring of lecturer usage for all departments. Therefore, they passed on direct monitoring to HODs and deans.

Because the university is so big and we have more than 360 courses running, it is difficult to monitor whether lecturers are using. We assist with random monitoring through Moodle log sheets. We have tasked deans and HODs to oversee what happens in their faculties and departments [ODL- Director].

With lack of lecturer participation during Moodle implementation, and inadequate training, it was difficult for ICT implementers to convince lecturers that Moodle implementation was a success. Such a scenario caused ICT implementers to be targets of lecturer resistance. The flawed implementation and poor training frustrated lecturers. In turn, the lecturers resisted Moodle through its advocates (ICT projects' implementers).

7.5.2 Moodle benefits and/or value

System significance refers to the value and benefits expected from Moodle by its users. When lecturers complained about not realising the benefits of Moodle in teaching and learning, the targets of resistance were redirected towards Moodle significance. Lecturers questioned the need to have Moodle as a teaching tool when they still managed to conduct their work

successfully without Moodle: *'What is wrong with my teaching methods if they still produce good results?'* [Lecturer-7].

Lecturers did not receive enough awareness about Moodle's benefits to warrant effective uptake. Most lecturers reiterated that they did not know why Moodle was implemented to begin with. Similarly, one lecturer thought Moodle *'was meant for distance-learners to assist with learning when they were off-campus'*. Some argued that from the onset there was no buy-in of Moodle from the intended users.

I think implementers should explain the benefits of a system so that people understand first before training. If we get a memo there is going to be training, what is that? Imagine getting a memo that says 'Moodle Training', you wonder what it's all about. So, they should explain that there is this e-learning whatever and it's going to benefit you in A, B, C ways [Lecturer-9].

Further, lecturers claimed that they felt excluded from the system because they had not been consulted during the implementation process. They posited that universities were supposed to follow the protocol of being run by *'committees and consultations'* when initiating or implementing new policies.

This is what happens when you are the only ones developing and implementing policies. They do not ask people to say, come, let us talk about this and that; there is no discussion. We are supposed to reach a middle ground before we start implementing anything [HOD-3].

Lecturers asserted that the decision-making process was not inclusive enough. Although Moodle could have made positive differences in teaching and learning, the positives were overshadowed by lack of dialogue and user-participation during its implementation. Lack of knowledge of LMS benefits contributed to the denigration of Moodle by most lecturers. Therefore, in this scenario, the object of resistance by lecturers was Moodle significance.

7.5.3 Moodle features and functionalities

Moodle features are part of the system itself; it became the object of resistance when lecturers complained about system functionalities. Some lecturers proposed that for effective comprehension of Moodle, they needed adequate and effective training.

I believe there is training, which usually comes when people are very busy, making it difficult for people to grasp the navigation of the system and most of its functionalities [Lecturer-19].

Due to poor training, it was difficult for most lecturers to navigate effectively through all the twenty modules in Moodle. However, it was interesting to discover that only a few lecturers specifically complained about Moodle features and complexities. This could be attributed to the fact that few lecturers attempted to use the system exhaustively, therefore did not face many challenges. In addition, lecturers could have lost interest in the system due to the many flaws surrounding its implementation. Therefore, not many lecturers targeted resistance behaviours towards Moodle itself; most resistance behaviours kept being directed at Moodle advocates. The rationale was that if implementation were done properly, then Moodle navigation would be simplified.

7.6 Triggers of lecturer resistance behaviours

There are different forms of strategies, responses and mechanisms by Omega that triggered lecturer resistance behaviours. The triggers interacted with initial conditions and objects of resistance to induce lecturer resistance. Table 7.4 presents categories of resistance triggers at Omega during Moodle implementation. Different forms of triggers formulated three categories: *management*, *infrastructure* and *personal* triggers.

Table 7. 4: Triggers of lecturer resistance behaviours

Triggers category	Forms of resistance triggers
Management	Top-down strategies
	Use of threats
	Poor communication channels
Infrastructure	National electricity outages
	Internet and connectivity issues
Personal	Technophobia
	Age
	Attitude

7.6.1 Management triggers

7.6.1.1 Top-down strategies

Committees and departmental boards assisted in the day-to-day running of Omega University. The boards recommended the proposed ideas and policies to the university Senate for approval or rejection. Lecturers expected this bureaucratic management style to be effective during implementation of all new changes. Lecturers wanted to debate and agree on issues rather than be handed down finished products. One lecturer highlighted that:

There is a top-down approach here. We have policymakers like senior managers, deans, directors who enforce implementations on us. However, I feel that lecturers, as users of the applications, are not being involved at all. We just get the final product and there is no ownership of these LMS [Lecturer-2].

It seemed nobody considered lecturers' viewpoints regarding Moodle; there were no wide consultations during implementation. Lecturers expected coordination and dialogue before implementation of Moodle. The librarian supported lecturers by suggesting that '*there was minimal coordination between departments in the institution.*' This showed that lack of coordination at Omega isolated departments from each other (created silos) which was not favourable for implementation of any new systems.

7.6.1.2 Use of threats

Lecturers felt that they were being forced to use Moodle, since they had not initially consented to the implementation. They felt that a teaching method was only good when it was chosen freely. They did not want to be cornered or threatened to use a particular method.

The military approach is being used here. Use of commands and threats are not good. Train the person, avail the resources, engage with lecturers, not to always threaten to fire them [Lecturer-11].

Management normally forces lecturers to use Moodle by generating reports, writing warnings and intimidation measures. But, I have never heard of anyone sent home because of that. They always preach that someone will go home but lecturers are not moved by that [Lecturer-10].

This showed that management used intimidation strategies, commands and threats to make lecturers adopt Moodle. This approach fuelled more resistance behaviours towards Moodle advocates. Some lecturers, mostly new and temporary, adopted Moodle mainly for fear of losing their jobs. However, most of the lecturers became resistant to the threats, which they perceived as harmless since there was no evidence of anyone who had lost their job due to Moodle non-use.

7.6.1.3 Poor communication channels

Several lecturers complained of communication channels, which were not followed consistently. There was a low rate of response to lecturers' queries from management and implementers. Lecturers argued that their ideas were often discarded.

The problem with the system here is that when you air views, that is the end of it. We do not get feedback downwards. It's always bottom-up when reporting problems but no top-bottom to solve the problems. I do not know how they formulate their top-bottom policies really [Lecturer-3].

Resistance behaviours manifested when lecturers felt that no one at the top was paying attention to their grievances, while they were expected to adopt all directives from the top. The absence of dialogue caused misunderstandings and assumptions on either part which could have been avoided had there been good use of available communication channels.

7.6.2 Infrastructure triggers

7.6.2.1 National electricity outages

For decades, Zimbabwe has been struggled with electricity problems, which led to the introduction of load-shedding in many parts of the country. The absence of electricity without alternative power supplies forced lecturers at Omega to revert to textbooks opposed to online instruction. The alternative power supply at Omega was reserved mostly for senior administrators who resided at their own separate campus. Some lecturers thought preference of alternative power should have been towards teaching and learning.

7.6.2.2 Internet and connectivity issues

Moodle required reliable internet connection to operate. There was increased demand for bandwidth during the semester when both students and staff were on campus. The pressure caused severe connection problems. The ICT Director mentioned that they were '*sharing bandwidth across four campuses and it was a challenge*'. In addition, thieves vandalised to resell the optical fibre cables that fed internet connection into the university. There would be no internet connection until the stolen cables had been replaced. Such interruptions made both training and usage of Moodle challenging. Furthermore, the ICT implementers corroborated that bandwidth was still a cause for concern despite the internet having generally improved over the years. ICT infrastructure issues were beyond the university's control since they relied heavily on the budget allocations from government towards ICT development.

7.6.3 Personal triggers

7.6.3.1 *Technophobia and age*

Technophobia and age were triggers of lecturer resistance. Generally, most of the older lecturers expressed phobias towards ICTs. They experienced difficulties learning Moodle and they were afraid to make mistakes after trying.

It's just technophobia. It's one critical area where people just resist technology. There isn't much that we can do. Those lecturers say, 'I can't read from a laptop, I need a hardcopy so I can mark on it and make notes'. It's just phobia [Manager-1].

The older lecturers preferred to use their old ways of teaching; they cited that their traditional methods still worked. They confirmed explicitly that they were afraid to use Moodle because it was difficult and they were always lagging behind during training. Since Omega did not offer specialised and/or customised training for slow learners, most laggards withdrew from all activities associated with Moodle or any advanced technologies. Phobias and old-age syndromes triggered such withdrawal-resistance behaviours.

7.6.3.2 *Attitude of lecturers and ICT implementers*

There were blame-shifting moments amongst stakeholders; ICT implementers blamed lecturers' negative attitudes towards ICTs while lecturers blamed ICT implementers' hostile attitudes towards technical support. Lecturers blamed ICT implementers for rushing implementation without explaining the benefits of Moodle. Lecturers felt that the attitude of the ICT experts was rather hostile and unprofessional.

It's their attitude and conduct. It's not professional. When I wanted to start using Moodle, I went to the ICT office. The seven people there said they could not help me. Do you mean to tell me in the whole department only one person knows Moodle? [Lecturer-6].

A number of experienced professionals manned the ICT Department. However, not all of them were experts in both usage and management of Moodle. Therefore, the ICT Department personnel failed to assist lecturers with Moodle concerns. However, on the other hand, the ICT implementers refused to take the blame from lecturers and maintained that lecturers' resistance behaviours were caused by '*negative attitudes*'; lecturers merely did not want to fully embrace the global trends of technology culture.

7.7 An overview of the manifestation of lecturer resistance behaviours

A summary of the manifestation of lecturer resistance behaviours during Moodle implementation is presented in Figure 7.1. In addition to the previously known episodes of resistance, apathy, and passive, covert and active resistance (Lapointe & Rivard, 2005), the study also identified covert resistance (Selander & Henfridsson, 2012) where lecturers were pessimistic towards LMS implementation. Delegation of responsibilities was also identified as a unique form of resistance where, instead of outright refusal to use the system, lecturers delegated their Moodle roles to someone else, either a colleague or an ICT implementer. Eventually, Moodle advocates were deceived into thinking that many people were using Moodle when, in fact, some lecturers had misrepresented their resistance behaviours for adoption.

- Apathy resistance manifested in forms of disinterest and prioritisation. This showed that lecturers neither wanted anything to do with Moodle nor its benefits; they were primarily concerned with teaching, which they thought was more important.
- Covert resistance manifested in the form of pessimism and delegation where lecturers concealed their resistance behaviours by pretending to use Moodle.
- Passive resistance was expressed through minimal use; lecturers chose to underutilise Moodle.
- Active resistance manifested in forms of withdrawal, refusal to use and avoidance. This meant that lecturers expressed resistance behaviours explicitly and willingly chose not to use Moodle. Active resistance was mostly towards management and ICT implementers; it had little to do with the lack of relevance of the system in teaching and learning.

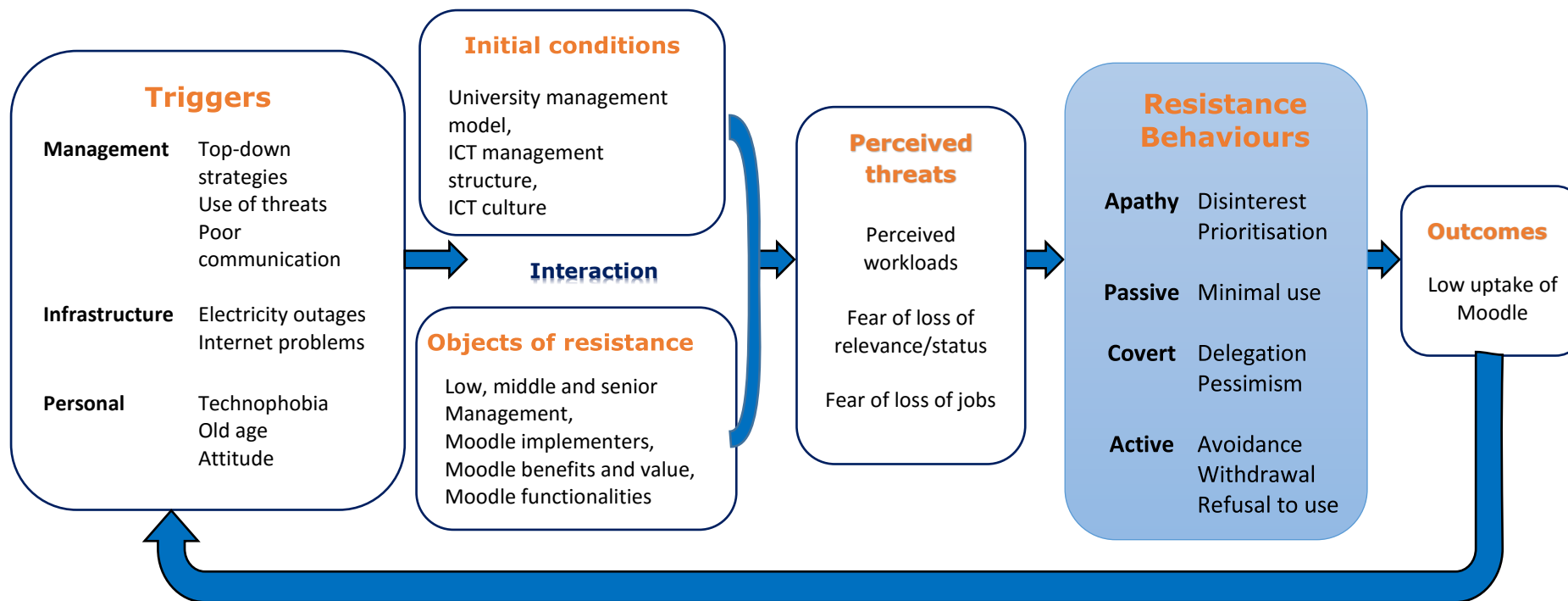


Figure 7.1: Summary of resistance manifestation from lecturers during Moodle implementation

7.8 Responses or strategies from Moodle advocates towards lecturer resistance

This section addresses the third objective of the study, which seeks to delineate strategies and responses used by management and ICT experts at Omega University to address, manage or prevent lecturers' resistance behaviours during implementation of Moodle. The concepts used in this section were borrowed from reviewed literature (recall Section 3.6). The study separated positive and negative responses and/or strategies in light of the forms of resistance behaviours.

7.8.1 Positive responses or strategies during Moodle implementation

Positive responses and/or strategies include those responses provided by management and ICT implementers that were progressive and optimistic towards lecturers. Examples of positive responses in this study are categorised in Table 7.5 as follows: *acknowledgment*, *rectification* (Rivard & Lapointe, 2012); positive strategies were *reward innovation* (Lawler & Mohrman, 1991), *effective training* (Aggarwal, 1998) and *user consultations* (Resker, 2008).

Table 7. 5: Positive responses or strategies towards lecturer resistance behaviours

Response/ Strategy	Resistance behaviours/ complaints	Management/ ICT implementer's response/strategy	Comments
Acknowledgement (Deliberation of issues between users and implementers)	<i>I think it's an issue of communication – the communication channels for sending queries don't work well Lecturer-7).</i> <i>The problem with the system here is that when you air views, that's the end of it. We don't get feedback downwards. It's always bottom-up when reporting problems but no top-bottom to solve those problems. [Lecturer-3].</i>	<i>We need to be more coordinated as an institution. We don't coordinate. It could be this one doing this or that. If I run into a problem, that's when I look for ICT people. We just need to be more engaging within all our sectors [Librarian].</i>	Some managers acknowledged that indeed there was poor interaction among departments at Omega. Therefore, it was easier to improve any communication if the top people were to initiate the process. However, based on lecturer's complaints, more effort was going to be needed to amend the broken communication channels.
Reward usage of innovation (Offer incentives to encourage more uptake from users)	<i>Maybe there can be sort of incentives or perhaps force it. It's not forced since there is no penalty for not attending a workshop. So, if I'm clever enough I make sure I only do the minimum expected [Lecturer-8].</i>	<i>Say we want to promote use of ICTs – I think we should empower our staff. For example, we give lecturers notebooks then we deduct the money from their salary in instalments. But, we</i>	Some managers showed positive signs of wanting to assist lecturers by offering to buy them laptops on credit as an incentive to use ICTs. However, lecturers still argued that if they bought the gadgets, they belonged to them, not the university. They wanted the university

	<i>I can't say they don't want to use Moodle but they don't have the gadgets to use and they may not use because of that, for example, no laptop [HOD-4].</i>	<i>tell them we expect them to use the gadget for teaching with ICTs. So, we don't want them to say they don't have a gadget, here is a gadget [Manager-2].</i>	to buy them the laptops or provide computers.
Rectification (Alterations by redesigning and redeveloping the system)	<i>The explanation they gave us seemed to indicate that Moodle would ease our work. But, come implementation and usage, it was just the opposite. There are more challenges in using it [HOD-5].</i> <i>Moodle is not user-friendly, half the time if I want to upload course materials, it goes round and round just to upload one document. How many documents can I upload? How many courses do I have? So, it's not user-friendly. That's where the problem is [Lecturer-11].</i>	<i>Issues to do with Moodle features, people normally start adopting after, which they then begin to tell you that this thing is limited in terms of functionality. That's when we address the limitations [Implementer-1].</i> <i>We work with department reps to get updates on critical issues, which we act on by making changes to the system. Sometimes the functionalities are there but users don't know how to use them – we run a workshop for that [Implementer-2].</i>	Moodle implementers asserted that they were available to work with lecturers whenever they faced challenges with Moodle functionalities or usage. They even ran workshops to address the difficulties. The reality on the ground, according to lecturers, was that Moodle was not user-friendly despite getting workshops. It seemed what the implementers thought was easy to use was not so easy for the lecturers.
User consultations (Consult with the user, find out reasons why users are resisting)	<i>We need to involve everyone, this idea of having a top-down approach, it doesn't work. They should uphold suggestions given by lecturers rather than just having the procedure of airing our views on paper without them being implemented [Lecturer-3].</i> <i>Generally, what is very critical is consultation and creating an enabling environment and infrastructure for the system to be successfully implemented [HOD-3].</i>	<i>We did our consultations with lecturer representatives and they nominated e-learning coordinators within their departments to monitor. Although of course there are people with no passion for ICTs and maybe they had conflicting ideas and felt e-learning was not the way to go [Implementer-2].</i>	The implementers claimed they tried to conduct user consultations with department representatives during Moodle implementation. However, they argued not all the representatives could have shared the same vision. Hence, the departments could have been sabotaged and failed to receive the necessary information and requirements.
Training	<i>Before implementation, they should do awareness education, not to hear about</i>	<i>I know last year we were requested to do some extra</i>	It seemed Moodle implementers were available to provide training to users,

(Effective and proper training)	<i>it from the grapevine. We need proper training. If possible, bring externals to give proper training. Implementers should be trained too because one can be an expert in Moodle but when it comes to implementation they are not [Lecturer-17].</i>	<i>training. We went around asking faculties and departments if they needed any extra training. We told them to call me whenever they had problems so that I could explain and show them how to use the system [Implementer-3].</i>	Therefore, they only provided the training after being called to do so due to different needs and times of departments. However, lecturers still complained that the procedure was not adequate, ranging from poor awareness to poor implementation processes.
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Generally, managers and ICT implementers tried to respond positively to some of the lecturers' complaints or resistance behaviours, for example, when they tried to work with department representatives to reach out to lecturers and find solutions to problems. However, the strategy did not eventually work out. Additionally, lecturers did not appreciate the idea of the university purchasing laptops on their behalf, arguing that if the money was deducted from their salary, then the laptop belonged personally to them.

7.8.2 Negative responses and strategies during Moodle implementation

Negative responses or strategies include those provided by managers and ICT implementers that were undesirable and hostile towards lecturers. Negative responses in this study were categorised in Table 7.6 as follows: *inaction*, *dissuasion* (Rivard & Lapointe, 2012), *enforcement* (Hussain & Hussain, 1984); negative or strategies were *no reward for innovation* (Lawler & Mohrman, 1991), *ineffective training* (Aggarwal, 1998) and *no change management strategies* (de Jager, 1994).

Table 7. 6: Negative responses or strategies towards lecturer resistance behaviours

Response/Strategy	Resistance behaviours/ complaints	Management/ ICT implementers' response/strategy	Comments
Inaction (Ignoring the resistance behaviours towards Moodle)	<i>The rate of response is very low – we don't know if our views are being taken into consideration or not [Lecturer-3].</i> <i>Ah, the reason I don't use Moodle it's the issue of connectivity – at times there is no internet and I can't access the platform. Sometimes I upload all my</i>	<i>You know, people will always find good excuses; to say I don't have a laptop to use with Moodle is a good excuse for not wanting to do things [Dean-1].</i> <i>Internet is good, it has improved a lot and actually, we host our own Moodle [Implementer-3].</i>	It seemed whatever complaints the lecturers came up with, the managers brushed them aside as excuses hence did not address them. The implementers even asserted that internet had improved and that despite almost everyone including managers complaining about

	<i>material and the system goes down [Lecturer-9].</i>		internet-connectivity issues.
Dissuasion (Use of force, threats and persuasion)	<i>They use threats (laughs). From my experience, they want everyone to upload material on Moodle or else, that's how the implementation is done [Lecturer-6].</i> <i>The management normally they try to force the lecturers to use sometimes by generating reports or writing some warnings and the likes [Lecturer-8].</i>	<i>There are certain things that need some level of force because there is no way you can have a perfect system. We know the benefits of Moodle sharing information with students might be useful to them. The university has a policy where students evaluate a course on Moodle, so if lecturers are not doing anything it's a violation of the law [Implementer-1].</i>	Some lecturers highlighted that managers used force and threats when trying to make them use ICTs for teaching. Similarly, Implementers agreed that force was necessary at times to make lecturers use the implemented systems, especially for the benefit of students.
Poor training (No effective or proper training)	<i>They respond to our queries . . . but when it comes to training, we need proper training so that when I am alone I can also train the students. But usually students know technology better than me [Lecturer-17].</i>	<i>They only need to have basic training . . . that is where they go, everything else they should manoeuvre and they find their own way [DVC].</i>	All the interviewed lecturers raised the issue of effective and proper training. Despite this being a concern, some managers thought training of Moodle in detail wasn't really necessary if only one could be trained on the basics. The implementers assumed that if lecturers did not call for training then everyone knew how to use Moodle.
Enforcing (Imposing system ideas without user involvement/ participation)	<i>Firstly, the users have to be involved in the developing process. They are less likely to resist than when they are just being told, 'you have to do it' Lecturer-20).</i> <i>I feel that lecturers, as the users of the applications, are not being involved at all. We just get the final product and there is no ownership of these LMSs [Lecturer-2].</i>	<i>Yes the problem is, some lecturers adopt and some do not want to move on from the challenges that's when we actually forcing them to move. The good thing is after they move on they will begin to actually enjoy the system [Implementer-1]</i>	The implementers assumed that by forcing lecturers to use Moodle, then lecturers would get used to and end up enjoying using Moodle. However, lecturers felt that no amount of force was going to make them use Moodle. Rather, they preferred proper user involvement during implementation.
No incentives for Moodle (No incentives to encourage uptake of technology by users)	<i>Like I said earlier on, as long as there are no consequences, as long as I am not rewarded for doing it, as long as I am not punished for not doing it, then why worry myself? [Lecturer-10].</i> <i>But in some other meeting, I think the VC said that we</i>	<i>Everybody has a laptop. . . . There is no way the University can provide everything, particularly a laptop. We know people have their personal laptops. A lecturer is expected to have a laptop. Whether you get it on your own, to make your work easier, but to say I won't do</i>	The middle managers agreed with top management that lecturers should buy their own laptops for use in their work. They even suggested that it was compulsory for everyone to use ICTs hence there was no need for any incentives.

	<i>should not reward anyone on using because it's now a requirement that people should be using [Lecturer-16].</i>	<i>University work with it, that's just an unreasonable excuse [Dean-1].</i>	However, lecturers wanted incentives to motivate them to use Moodle. With no motivation or consequences, not many lecturers used Moodle.
No change management (No strategies for transition from old to new work practices)	<i>It came as a directive rather than something where people can contribute their buy-ins – it sort of came as a directive [HOD-4].</i>	<i>We don't have laid out change management policies. I think most of it was done in meetings you see – in administrators' meetings they talk about it, what is expected. We also have a representative who attends ICT Committee meetings, who is told what things are there and report back [Dean4].</i>	There were no change management policies at Omega to usher people from old ways into new ways of doing things. Lecturers complained that Moodle came as a directive without proper education. Most of the new things were introduced from the top by managers in meetings and brought down to users.

In summary, the strategies used by management and ICT implementers to make lecturers use Moodle were conflicting with the basic requirements needed by lecturers to begin to use Moodle. The minimum and necessary requirements such as training and internet connection were not available, making it difficult to use Moodle. However, ICT implementers did not seem to pay much attention to lecturers' concerns; rather, they simply wanted everyone to use Moodle despite all the challenges.

7.9 Summary of chapter

This chapter presented the first section of the research findings that addressed the first three objectives of the study. The study employed MRITI to identify different forms of lecturer resistance behaviours at Omega University in Zimbabwe. Further, the chapter detailed the manifestation process of lecturer resistance behaviours based on MRITI concepts: initial conditions, perceived threats, objects and triggers of resistance. The chapter culminated with positive and negative responses and/or strategies from management and ICT implementers towards lecturer resistance during Moodle implementation.

CHAPTER EIGHT

THE LOGIC OF RESISTANCE TO LMS IMPLEMENTATION

If you want different results, you have to try different approaches.
Albert Einstein, Physicist

8.0 Introduction

This chapter details the second phase of the empirical findings for the study to understand the logic behind practices of resistance during LMS implementation at Omega, based on Bourdieu's TOP. The chapter uncovers how and why the context (field), habitus and capital influenced the manifestation of various forms of lecturer resistance behaviours at Omega University (recall Section 7.4). Section 8.1 presents a summarised overview of the various overlapping and joint fields and sub-fields identified for Omega as well as the relationships and interactions between them. Sections 8.2 to 8.4 detail the forms of capital and habitus influencing lecturer resistance behaviours in relation to their positions in the Omega field. Similarly, Sections 8.5 to 8.7 present the positions of ICT implementers in the Omega field as well as their habitus and different forms of capital. Furthermore, the positions of management, together with their various forms of capital and habitus at Omega, are presented in Sections 8.8 to 8.10.

To conceptualise the various practices relevant to Omega, the study identified various positions of the actors in the internal and external fields and sub-fields relevant to Omega (recall Figure 4.3). The overlapping, nested or joint internal fields were departments and faculties whilst the external fields were MHE and the country Zimbabwe. The forms and amount of capital owned by individuals and groups were also examined against the power relationships between field positions. Respondents were distinguished by the following variables: age group, academic title, academic qualification, status of employment, gender, department and faculty. However, due to the small size of respondents investigated under each variable, the number of participants belonging to a particular field was relatively small. To avoid complications and verbosity in explaining low-level individual positions in fields, the researcher kept focus on collective habitus and practices, for example, those of lecturers, HODs, deans, ICT implementers and senior managers.

On the other hand, to allow for a richer interpretation and where necessary, the explanations of forms and amount of capital were brought down to low levels such as individual participants.

For example, despite both being managers, a dean was a middle manager whilst the DVC was a senior manager and the Minister of HE was the overseer manager of the university. This was done to better conceptualise the relationships between different power positions. Understanding various power positions was necessary to deduce the forms of symbolic violence and misrecognition, as well as double meaning strategies happening within the overlapping fields.

8.1 An overview of the fields at Omega University

Relevant to Moodle implementation, the study identified the following five key fields nested in the Omega University field: *Academic departments*, *Faculties*, *ICT Department*, *ODL Department* and *senior management*, as illustrated in Figure 8.1. The fields overlapping the ICT Committee field show a representation, which came from each of the five fields. The other key fields external to Omega University, which influenced the practices of members in the internal fields, were *Ministry of ICTs* and *Ministry of Higher Education*. For clarity, different lines and shapes distinguish the various boundaries of both internal and external fields to Omega.

Figure 8.1 illustrates the fields of influence for Omega and the relationships between them. The main participants of the study, lecturers and HODs belonged to academic departments, which were nested in the Faculty field. Even though the ICT and ODL Departments are represented separately, they more or less performed the same roles and thus the researcher interchangeably referred to them as ICT, LMS, or Moodle implementers. Omega was also influenced by the external fields MHE and MoICT, which comprised regulatory statutory, that governed the quality of higher education and the implementation of ICTs thereof. In addition, the Omega field was also influenced by the Zimbabwean context as a developing country, which comprised the globalisation agenda as well as various socio-political and economic conditions.

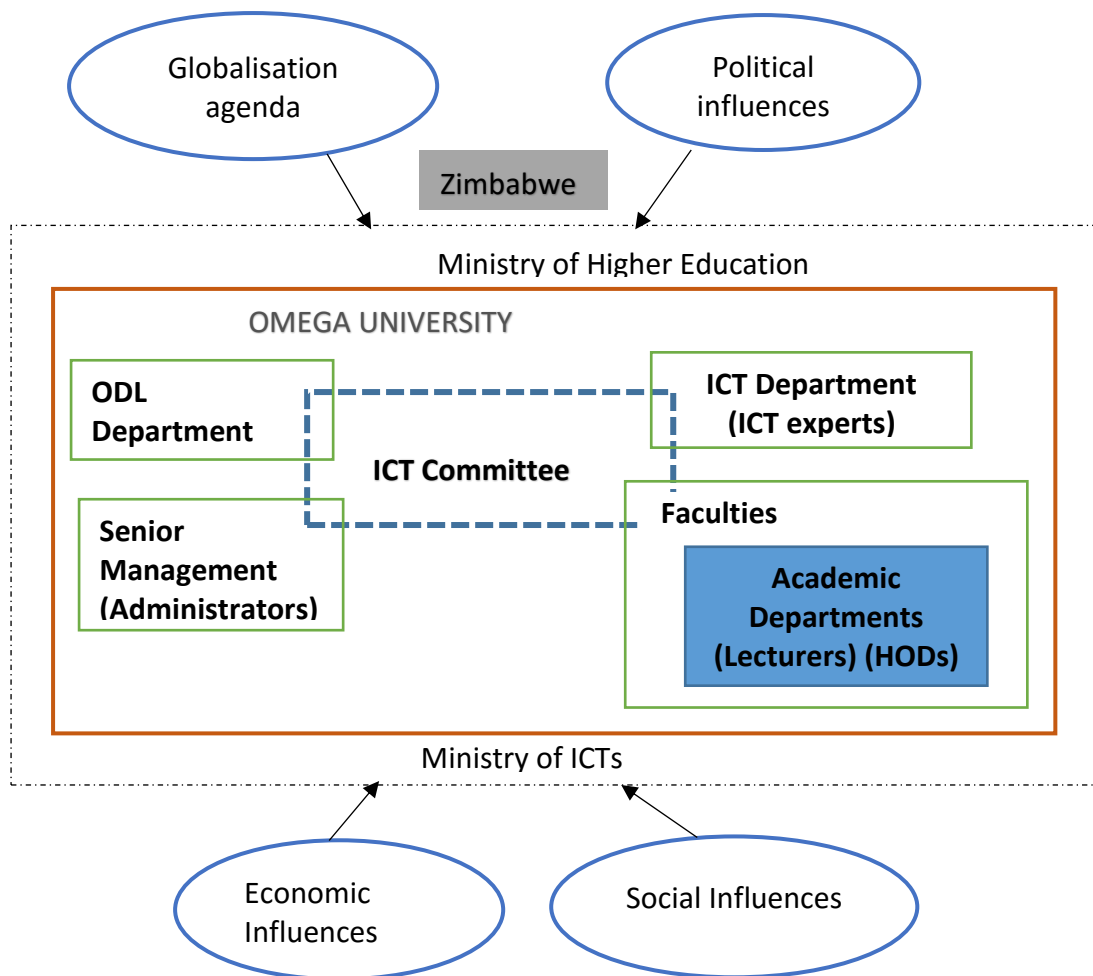


Figure 8. 1: An overview of the overlapping and nested fields at Omega

The subsequent sections explain the logic operations within the main internal fields of Omega deducing from the formula given by Bourdieu (1984) – ‘Habitus x Capital + Field = Practice’ (recall Figures 4.1 and 4.6). For clarity, further categorisation was done to represent the fields, using different groups of participants as follows: Lecturers and HODs, ICT implementers and managers; where managers were classified into middle (Deans) and senior managers (Administrators). To avoid repetition, departments and faculties were used interchangeably where necessary. In addition, to maintain focus on Omega, elaboration on sections like Zimbabwe, MHE, and MoICT were avoided except where necessary. However, these aspects were detailed earlier in Chapter 6.

8.2 Positions and relationships between contextual factors and lecturers' practices

Academic departments, which were nested in faculties, represented the field positions of lecturers and HODs at Omega. To examine the production and reproduction of lecturers' resistance practices relative to the lecturer's field positions, the forms of habitus and capital summarised in Figure 8.2 were examined. To minimise repetition, HODs' Moodle usage practices were discussed together with those of lecturers.

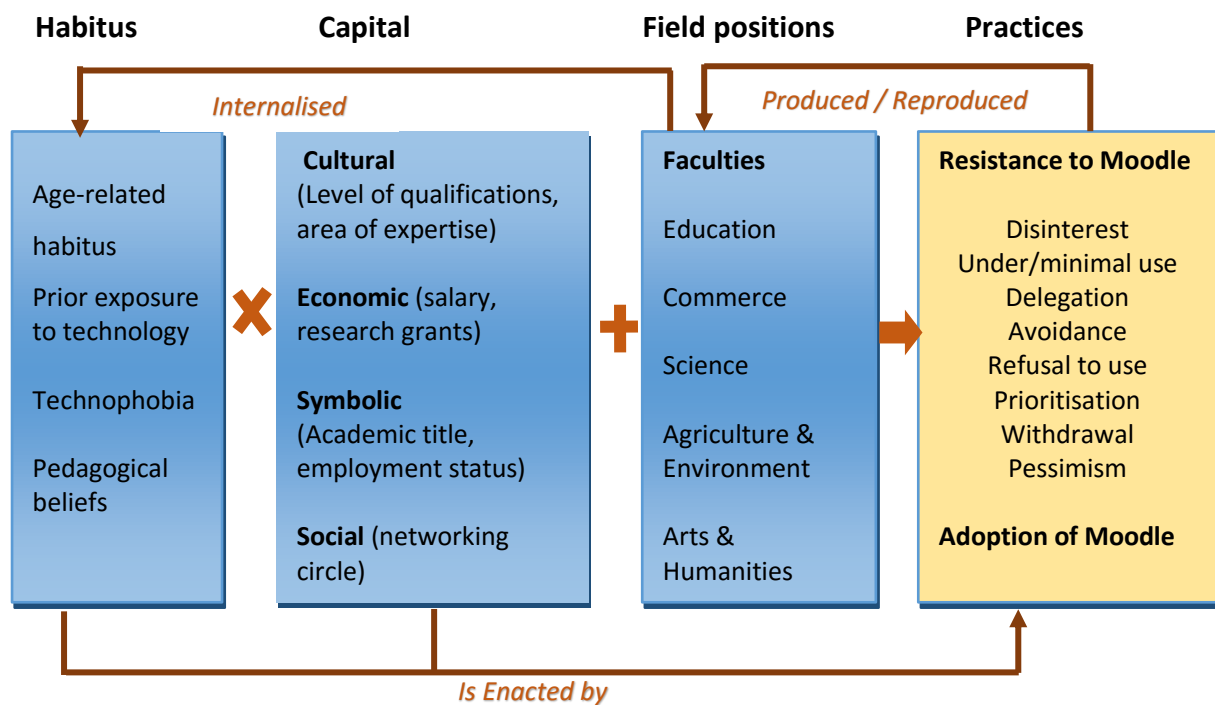


Figure 8. 2: Practices of lecturers enacted through habitus, capital and field positions

Lecturers' practices towards the implementation of Moodle manifested in various forms of resistance towards the LMS. The different forms of resistance behaviours such as disinterest and refusal to use were explained earlier in Chapter 7. The forms of adoption, if any, of Moodle were not detailed because they fell outside the scope of this study. However, to assist with the analysis of certain resistance practices, some of the adoption forms could have been mentioned in passing. The different forms of capital and habitus in lecturers influenced the manifestation of various forms of lecturer resistance behaviours in relation to their positions in the Omega field. The logic of manifestation of lecturer resistance practices is subsequently discussed in Sections 8.2, 8.3 and 8.4 through linking the causal relationships between capital and habitus of lecturers in relation to their field positions.

8.3 Capital influencing resistance practices of lecturers

The dominant forms of capital that influenced the practices and activities of lecturers at Omega are cultural and symbolic. Capital, internalised in lecturers when they entered and stayed in the field, caused them to employ various forms of either resistance or adoption towards Moodle. When lecturers entered the Omega field, they had their own capital, which was either increased or reduced, depending on the positions they assumed. This capital was modified, together with the habitus, to enact their work practices, which in turn modified and reproduced the field structure.

Table 8. 1: Forms of capital for lecturers and HODs at Omega

Capital	Category	Sub-category	Empirical examples
Cultural	Institutionalised	Departmental positions	Departments of Computer Science, Chemistry, Economics etcetera
	Embodied	Academic qualifications	Masters and Doctoral degrees
		Area of expertise	Curriculum Studies, Peace & Governance, Accountancy, Computer Science etcetera
Symbolic	Economic, social, cultural capital	Academic titles	Mr/Ms, Doctor (Dr) and Professor (Prof)
		Employment status	Permanent, Part-time and Contract

The most common forms of cultural capital at Omega were institutionalised and embodied. Institutionalised capital included the positions of lecturers in academic departments, whilst embodied capital comprised area of expertise and level of qualifications. Embodied capital was nested in the lecturers` habitus since it was formulated through expertise and knowledge gained over a long period. Most of the lecturers, save for those in the Computer Science Department, had limited expertise in ICTs, LMS and consequently Moodle.

Economic and social forms of capital were analysed as a combination of symbolic capital. The main forms of symbolic capital were lecturers` academic titles and status of employment. The common levels of lecturers` qualifications were Masters and PhD holders.

8.3.1 Cultural capital and resistance to Moodle practices

Just as in many universities across the world, at Omega University, research was regarded as more important compared to teaching. In that regard, most lecturers with PhDs put more effort into research than into teaching-related activities such as Moodle. Engagement in research easily culminated lecturers to gain promotion, better salary grades, as well as to avail chances of attaining research grants, which add to one`s economic capital.

I am more interested in research than in teaching; hence I spent most of my time doing the former, so having time for full exposure to Moodle can be problematic [Lecturer-9_PhD].

I think it has to be research. Yah, personally, it will be research because it allows me to grow career-wise. Anybody can teach but, with research, you need to put more effort [Lecturer-7_PhD].

The benefits of having a doctoral degree together with a good research record resulted in PhD holders prioritising research over teaching activities. Correspondingly, other duties and roles at Omega took precedence over teaching.

One of the professors, who was also an HOD, blamed their department's area of expertise to justify minimal usage of Moodle. He purported that his department was lagging in the use of Moodle because they did not have '*sound background of computer knowledge compared to others like Computer Science Department*'. Similarly, an Associate Professor reiterated that some do not use Moodle because '*they are computer illiterate and lacked the ability to use ICTs*'. Even though most of the lecturers agreed that area of expertise had an impact on the ability or lack of it for users to adopt Moodle, they also highlighted that this was not reason enough to exempt anyone from using educational technologies. The amount of cultural capital in terms of educational qualifications and areas of expertise determined the uptake of Moodle by most academic departments. Departments, which were not technology-related, had less capital in technology skills, thus presented more resistance or non-usage practices towards Moodle compared to their counterparts with more technology skills.

8.3.2 Symbolic capital influencing resistance to Moodle practices

Since symbolic capital encompasses all three forms of capital, an increase in symbolic capital is bound to increase cultural, economic and social capital and vice versa (Bourdieu, 1986). At Omega, the institution where a lecturer had attained their Masters or Doctoral qualifications mattered, because they stood to gain more prestige and power (or not) to influence their practices or conduct. Qualifications from renowned institutions outside the country were considered superior to other equivalent qualifications.

Since all PhD holders were addressed as 'Doctor' or 'Professor', the honour and prestige that came with the title was also considered very important at Omega and seemed to have an

impact on the uptake of Moodle. One lecturer observed that the rate of non-usage was *'more in Professors and less in junior lecturers'*. Having a prestigious title gave lecturers more power to choose whether to use Moodle or not. In addition, it seemed the position of the lecturer was only influential when they did not use Moodle rather than when they adopted it.

In terms of use, the position may not influence but, in terms of non-use, the position might influence. For example, when a Professor has not uploaded their course materials, an HOD who is not a Professor will be limited in terms of power to push the Professor to upload the materials on Moodle [Lecturer-2].

Lecturers with prestigious titles and positions used their high statuses to maintain their status quo work practices. Even those lecturers without skills in technology, could easily get away with resistance to Moodle practices. This created an uneven ground among lecturers; those with titles could use their positions to easily get away with resistance behaviours.

In the same way, the status of employment influenced some of the lecturers' uptake of Moodle. A lecturer confirmed that because of their permanent employment post *'sometimes I am reluctant to use Moodle compared to when I was a temporary lecturer'*. Similarly, another temporary lecturer also expressed the same views:

I think as a temporary lecturer, I would use it more so that I don't lose my job [laughs] or I have my contract extended compared to a permanent lecturer who is already assured of a job, they might not care much about Moodle [Lecturer-20_Part-time].

The status of employment at Omega was important because lecturers used it as a basis to either use Moodle or not, among other requirements. The situation of temporary or part-time lecturers forced them to use Moodle and obey most of the orders from their superiors so that they could achieve greater chances of their contracts being renewed. Consequently, lecturers in permanent positions had more cultural capital, which culminated into more economic capital in terms of high salary grades and probably the ability to apply for and get research grants and funding.

Most lecturers valued *economic capital* from research, which, they argued, provided a better future in their career compared to teaching. Practically, those lecturers who excelled in research ended up being given fewer teaching duties. Such lecturers could then afford to justify resistance practices towards Moodle and easily get away with it, with the covert support of the superiors. It seemed the lecturers did not welcome extra duties aligned to teaching, such as

incorporation of Moodle, because they understood teaching activities to be less prestigious than research. A lecturer who valued research more than teaching voiced that research allowed them *'to grow their career compared to teaching where any lecturer can teach without much difficulty'*. The bias of favouring research over teaching was evident in most lecturers at Omega, hence any activities to do with research would face less resistance compared to additional teaching activities such as Moodle usage.

The *social capital* of a lecturer allowed for resistance behaviours towards Moodle. The networks between lecturers from the Computer Science Department and ICT implementers put them at an added advantage towards Moodle usage expectations.

For example, there was a deadline of uploading continuous assessment on Moodle but because some of the ICT guys are our colleagues and we often interact with them on other issues, they were flexible and lenient with us thus allowing us to upload our marks after the deadline [Lecturer-3].

The social capital created from social relationships between users from technology-related departments and implementers worked in favour of lecturers when they failed to comply. Since lecturers from the Computer Science Department worked together on many other related projects with the ICT implementers, it was not ideal for ICT implementers or other managers to be strict towards their resistance behaviours. However, as highlighted earlier in the preceding section, the CS department rarely if at all presented resistance practices due to their habitus of prior knowledge in ICTs.

On the other hand, most lecturers denied that having social links in the university played any role towards the uptake of Moodle or lack of it. The amount or nature of social capital did not cause lecturers to resist Moodle. The ICT implementers tried to treat everyone equally when faced with Moodle challenges or any ICT-related issues, despite their position in the Omega field. This was confirmed by one of the lecturers who thought that having connections with fellow workmates was *'more of a personal relationship and it had nothing to do with management or ICT implementers discriminating anyone'*. ICT implementers helped anyone who approached them in a fair manner, despite their relationship. Although social capital was not considered to be crucial as far as Moodle uptake was concerned, there were some lecturers who enjoyed its added advantage.

As a result, lecturers wanted to acquire various forms of capital for two major purposes; to get away with resistance behaviours and for prestigious reasons, as illustrated in Table 8.2.

Table 8. 2: Uses of capital by lecturers at Omega

Capital	Capital for resistance purposes	Capital for prestigious purposes
Social	Network with ICT experts	Not applicable
Economic	Engage more in research than teaching activities	Salary grades, research grants and funding
Cultural	PhD holders prefer research to teaching	Academic titles of 'Doctor' and 'Professor'
	Departments with limited expertise in ICTs	

Social capital was mostly used for resistance purposes rather than for prestige, whereas economic and cultural capital were used for both resistance and prestige purposes where applicable.

8.4 Habitus influencing resistance practices of lecturers

To analyse the manifestation process of resistance practices towards Moodle within Omega, the researcher required an understanding of lecturers` habitus, that is, the sets of mental dispositions internally structured in lecturers. Although lecturers from the same departments and faculties had more or less the same collective habitus, they showed different kinds of individual habitus due to their varying past backgrounds. The internalised habitus of lecturers enabled them to either adopt or resist Moodle. As the lecturer`s habitus were modified when Moodle was implemented in the Omega field, so did their practices, which reproduced the field in such a way that their habitus were remodified.

As presented earlier in Figure 8.2, the habitus of lecturers that affected the general uptake technology, in particular Moodle were as follows:

- Age-related habitus
- Lack of prior exposure to ICTs
- Fear of technology (technophobia)
- Pedagogical beliefs of lecturers.

8.4.1 Effects of age-related habitus on technology uptake

The findings show that age-related habitus of lecturers affected their technology efficacy and consequently influenced their resistance behaviours. Age-related habitus of lecturers affected

technology uptake and were shared by many respondents at Omega, be they young or old. All the lecturers aged 56 years or older reiterated that they faced more difficulties in using Moodle or in introducing methods that required use of technology, into their teaching practices. Similarly, almost every other respondent also agreed that age contributed to resistance to change practices. This was attributed to their beliefs that the era of learning new technologies had already passed them and it was a waste of time and tiresome to try to catch up. Despite mentioning other factors that affected Moodle uptake, most of the older lecturers` nominated age as the main contributor to their resistance behaviours.

Older lecturers would mostly hide behind their age gap to justify resistance practices towards Moodle. However, such resistance practices aided in reproducing the structure of the field that produced them, and reinforced the older lecturers` position in the field as those who were incapable of using Moodle. By maintaining the position that it was difficult to adopt new changes in old age, the older lecturers gained sympathy from some ICT experts and managers who reaffirmed their dominant positions as a `special` group who were allowed not to use Moodle at Omega. Further analysis of the situation showed that there were other significant factors that hindered the uptake of Moodle besides age; however, older lecturers had somewhat managed to secure their dominant non-usage positions in the field and thus reproduced the field`s structure accordingly, rather than altering their habitus.

The practice of younger lecturers assisting older lecturers to use Moodle was common, as well as the delegation of Moodle responsibilities by older lecturers to younger lecturers. It became a normalised situation where younger lecturers were obliged to assist older lecturers with Moodle roles.

I think I would put age as the number one factor for not using Moodle. Age has influenced my approach towards ICTs . . . I think my colleagues in the department have come to understand that, ah no, we need to help this old man [Lecturer-18_Faculty E].

It seemed the older lecturers were not under pressure to learn how to use Moodle, knowing that their younger colleagues would come to their rescue whenever necessary. The probability that some of the older lecturers did not even attempt to log in to the system was very high. As highlighted by one HOD, there were deliberate tendencies by older lecturers to resist Moodle because *`generally older people resist change . . . they may deliberately resist any instructions*

coming from younger members of staff, for example, on the use of Moodle'. Older lecturers faced challenges learning new things from younger lecturers, whom they thought should in fact be learning from them. Therefore, resistance did not only manifest towards the technology itself, but was also in the habitus of older people learning from younger ones.

During their regular monitoring of Moodle uptake, HODs reported a link between age and fear of technology in general, where older lecturers asserted that the option of using technologies was more difficult than using existing familiar methods, which they had experience on.

We had an incident where an older lecturer was supposed to process exams. He had an outburst saying he was never trained to use ICTs in all his career, why was he expected to use them now? [HOD-2].

That means older lecturers were reluctant to acknowledge or adapt to changes in their career path: rather they preferred to maintain the status quo. An older dean explained that it is easier to adopt change when someone is young because the change happens simultaneously with their career development. On the other hand, it was said to be different for older lecturers who thought they had already passed developmental stages but were now expected to adopt new teaching methods. The change was deemed unnecessary and irrelevant.

There is no adaptation because we had our own ways of doing things, which were successful then, and now there is this, it's new. The young ones are growing up with it so they are quick to accept, us we have to go through a major change [Dean 3].

Considering that traditional methods were successful during their early career and probably currently as well, it became difficult to convince older lecturers that use of Moodle could significantly improve teaching and learning. The older lecturers wanted to prove that they were still relevant and produced good results, despite using traditional methods. The satisfaction in use of old methods led to the challenges of boycotting of training sessions by older lecturers.

Most HODs reiterated that they '*observed that all the older members from the department did not attend*' Moodle training sessions. Similarly, one of the ICT experts highlighted that when they offered training across the university, they also observed that the same age groups of younger lecturers attended. He further accentuated that '*I hope it's not labelled stigmatic*'. It is possible that older lecturers did not attend training due to fear of stigmatisation when they failed to perform other functionalities or were too slow to grasp concepts.

Sometimes I go there but I come back without understanding anything. So when I have things I want my students to look at, I give them my materials from the works I would have collected [Lecturer-17].

It was much easier for older lecturers to borrow hard copy textbooks from the library and write notes in notebooks to hand out to students than to attend Moodle training sessions just to try to use technology. However, one of the ICT experts differed in perception that age resulted in resistance to Moodle by positing that *'teachers always want to train others in the same way they were trained so learning new things is not ideal'*. Therefore, lecturers used their prior learning experiences and background, and not necessarily age, to decide whether to adopt new methods for their teaching or not.

8.4.2 Lecturers' prior exposure to ICTs

The choice to use Moodle was dependent on the context or prior exposure to technology. Despite someone's age, for them to effectively integrate ICTs into their teaching, their habitus and background should have been exposed to, and gained skills in, technology or related areas, as highlighted by one of the Moodle implementers.

I cannot say age as such but maybe context where maybe someone despite being older was exposed to technology before. Some did their degrees abroad and were exposed to LMS whilst some may be young but their context while growing up might not have been exposed to technology [Implementer-1].

Some members of the senior management reiterated that habitus in the form of pre-exposure to technology played an important role in influencing work practices, particularly acceptance or resistance to Moodle. However, the Deputy Registrar Academic (DRA) purported that even though both the younger and older lecturers had not been exposed to technologies, it was only the older lecturers who could be justified in resisting technologies through lack of exposure, not necessarily the younger lecturers.

Some were exposed to technology so they are quick to adopt but with older people, it's lack of exposure. The younger generation, exposure is there, so we look at other factors when they resist. But with older lecturers, it's definitely lack of exposure [Manager-4].

Since the younger generation of lecturers were naturally exposed to one or another form of technology, it was easier for them to adopt new technologies; they were less likely to be affected by the same habitus of exposure as their older counterpart lecturers.

An HOD suggested that there was also need for technology implementers to have patience during the implementation process to allow everyone to learn the systems at their own pace since *'it took a bit of time to get used to new systems depending on one's background'* [HOD-3]. Implementation could have been rushed without much consideration of the different levels

of understanding from different users and departments. Another HOD purported that the Computer Science Department was ahead of other departments in terms of Moodle usage.

I think my department lags behind use of Moodle compared to the Computer Science department because this department is fully aware of the advantages of using technologies hence they are able to use it with minimum cohesion [HOD-1].

Generally, lecturers with comprehensive computer knowledge appreciated the benefits of integrating technologies into their teaching, thus positively influencing their Moodle uptake. The position of the Computer Science Department in the Omega field, together with its collective habitus, gave it more advantage towards Moodle uptake. Similarly, those with less or no experience in ICTs were more sceptical with any form of technology such that they became extra careful when using it. One lecturer narrated a story where another lecturer *'had an old laptop, which took long to boot and he refused memory sticks fearing viruses so he printed hard copies of notes'* [Lecturer-11]. This shows that despite putting effort into adopting educational technologies, the novices were still worried that something would probably go wrong and they would lose their saved documents.

Some beginners complained that the process of learning the technologies was actually difficult for them because the training experts assumed that everyone knew the simplest functionalities.

I ask them about this and that, but Ah! It's difficult. They assume that I should know this thing so they don't explain even the basics. That's why I told the experts that we need different training classes instead of bunching us in one class, where they assume that we are all on the same page [Lecturer-12].

During training, the implementers and trainers did not take into account the different levels of knowledge in possession of expected users of Moodle. The beginners felt the training sessions favoured experienced users. This could have been embarrassing to expose such levels of ignorance in public where the assumption would be that everyone knew at least the basics of using technology. The ineffective training and limited knowledge of Moodle led to some lecturers boycotting training, as highlighted earlier. Some went on further to adopt what they perceived as alternative and simpler applications. One lecturer from the Faculty of Education professed that they ended up using other options *'for example, Google applications are equally fast and good enough to accomplish my work'* [Lecturer-17]. This indicated that Moodle might not have been user-friendly despite training, because some lecturers managed to use alternative applications without training from experts.

8.4.3 Effects of technophobia on technology uptake

For one reason or another, lecturers presented fears or phobias of integrating technology into their work practices. Most lecturers shared the perception that the introduction of new technology into the work environment would automatically make them redundant, hence risk losing relevance and ultimately their jobs.

People are still in their comfort zones so to quickly introduce technologies will make them fear retrenchments, a threat to their jobs from the technologies [Implementer-4].

Despite fearing to alter their familiar work practices and habitus, lecturers also feared the effects that accompanied the implementation and use of technologies such as the loss of jobs, relevance or status. To successfully remove lecturers from their comfort zones, the implementation process needed to follow correct procedures and be as inclusive as possible, thus assuring them that Moodle did not come to replace them.

One of the lecturers highlighted that the choice to use Moodle depended on the time when someone was introduced to the technology: *'If lecturers were never exposed to technology, then there could be phobias' [Lecturer-14]*. However, some older lecturers posited that they were not afraid to learn about new technology. Some claimed that their children taught them some stuff at home *'ah no no no. . . I'm not afraid. I'm very eager you should see me with my kids at home [laughs], although it's difficult to learn' [Lecturer-16]*. Older lecturers were not keen to learn about new technologies; however, being taught by one's children at home could have made it more exciting and less tense compared to being trained to use Moodle by ICT experts at work.

Most resistance behaviours manifested during the inception phase of Moodle because lecturers were generally afraid of the unknown with so many perceived threats (recall Section 7.3). This was so because of the lack of user awareness and significance of the system, which led to unfamiliar ways of doing things. One of the managers reiterated the assumption that whenever a new system is introduced, people are afraid of various losses *'It's just phobia, I mean when something new comes in, people are afraid of so many things' [Manager-5]*. In addition, another manager seemed to echo the same sentiments to say the fear of technology was normal and known to be there, despite genuine reasons that justified it.

It's just technophobia. It's one critical area where people just resist technology. There isn't much we can do about such people. Those lecturers say, 'I can't read from a laptop, I need a hardcopy so I can mark on it and make my own notes'. It's just phobia [Manager-2].

Managers believed that the fear of technology was a habitus engraved in expected technology users and particularly lecturers and it was bound to manifest whenever a new technology was introduced. Therefore, managers normalised the habitus of technophobia towards Moodle, such that it became difficult to accept or analyse without bias other reasons forwarded by lecturers that could have led to resistance or non-use of Moodle.

None of the older lecturers owned up to being afraid of technology. In all cases, someone claimed that another person was afraid of technology based on common knowledge or literature. None of the older lecturers openly associated their non-usage behaviours with fear; rather they pointed at other factors, such as old age. Probably the habitus of older lecturers denied them the affirmation that fear caused their non-usage behaviours but, rather, age-related habitus made it difficult for them to learn new things. This is reiterated in past studies that older participants deny that they fear technology for fear of stigmatisation from other peers who might label them as weak, forgetful or unable to tackle the complexities of technology (Peek et al., 2014).

8.4.4 Pedagogical beliefs of the lecturers

Pedagogical beliefs of lecturers towards wanting to accept or improve teaching methods played an important role in the uptake of the technology. The habitus of wanting to teach students in a particular way to make them understand concepts and achieve certain learning outcomes influenced lecturers' decisions to either adopt or resist Moodle, use it minimally or exhaustively.

If my pedagogical beliefs tells me that, I have to physically stand before my class in a lecture and see every student then Moodle is useless. But, someone who prefers more engagement and creativity when given Moodle, they would explore the tools they can use. One may be comfortable just to post a PowerPoint or pdf file but someone encourages interaction and discussion with students thus bringing the physical classroom experience on the Moodle platform [Implementer-2].

It was easier for innovative lecturers and those who taught distance learners to accept new challenges as long as it enhanced students' creativity, excitement and engagement. It is known that when students are motivated they tend to perform better (Edmunds, Thorpe, & Conole,

2012). Pedagogical beliefs in the form of Technology, Pedagogy and Content Knowledge (TPACK) work together to support good teaching in a given context, be it corporate or university (Mishra & Koehler, 2006). Table 8.3 presents empirical examples of pedagogical beliefs at Omega University.

Table 8. 3: Pedagogical beliefs of lecturers at Omega, based on TPACK components

Pedagogical beliefs	Theoretical description	Empirical observations
Content knowledge	Knowledge about the actual subject matter that is to be taught.	Lecturers taught specific content in their areas of expertise such as Biology, Education, Geography and Arts.
Pedagogical knowledge	Deep knowledge about processes and methods of teaching and learning – how to teach to achieve learning outcomes.	Lecturers used different methods to teach to achieve aims – some blended with Moodle, some preferred only face-to-face interaction in the classroom.
Technological knowledge	Knowledge and skills to operate standard and advanced technologies when teaching, such as, books, chalk, internet, videos and software applications.	Lecturers used both standard technologies, such as, whiteboard markers, printed documents and advanced technologies, such as Moodle, to teach students.

Good teaching practices involves lecturers incorporating all the three knowledge areas to teach students and not just choosing either one or a combination of two components:

TPACK is the basis of good teaching with technology... pedagogical techniques that use technologies in constructive ways to teach content; knowledge of what makes concepts difficult or easy to learn and how technology can help redress some of the problems that students face; knowledge of students' prior knowledge and theories of epistemology; and knowledge of how technologies can be used to build on existing knowledge and to develop new epistemologies or strengthen old ones (Mishra & Koehler, 2006: 1029).

Whilst Omega University took a techno-centric approach towards teaching and learning, it was not compulsory for lecturers to enter the institution with prerequisite qualifications, training or knowledge in Education or Technology; rather only content knowledge was considered. As such, the lecturers were experts in their fields but did not have the habitus of 'good teaching' (Koehler & Mishra, 2009) or 'teaching properly' (Cox & Graham, 2009) such that they struggled to integrate Moodle into their teaching (Mutanga, Nezandonyi, & Bhukuvhani, 2018). Hence, they resisted Moodle.

The ODL Director, also an educator in educational technologies, claimed that most of the university lecturers outside the Faculty of Education had not received proper training to

become teachers or lecturers. Therefore, their habitus and beliefs drove them to quickly resist rather than adopt new teaching methods.

I'm saying the educators understand the need of visual aids for example how to prepare an interactive presentation. Most lecturers think it's just easy. A PowerPoint may be okay when you are physically there to present it but when you are not there you need an interactive presentation [ODL Director].

Most of the lecturers at Omega did not understand the importance of interaction in the classroom in the same way as lecturers trained in pedagogy (educators). Only one faculty had the pedagogical component from TPACK. Therefore, the meaning of teaching and learning was different across the university, depending on the habitus of pedagogical beliefs.

When I deal with people who are not educators like myself, I expect a lot of friction because we don't share the same pedagogical beliefs. When I look at how lecturers perceive teaching, we are very different and our transition from one phase to another might not be as quick for everyone [ODL Director].

Lecturers from the Faculty of Education, compared to others, were expected to apply their knowledge of TPACK to quickly accept new teaching methods or technologies, such as Moodle. However, this was not the case since the majority of lecturers from the Faculty of Education justified resistance to Moodle in more or less the same ways as lecturers from the other four faculties. Therefore, the assumptions from the ODL Director regarding lecturers were not true for Omega.

Lecturers from the Faculty of Commerce and Arts asserted that due to large numbers in their classes, it was difficult to make course materials available to students in advance; *'If I give them all the notes they will dodge lectures or have a tendency of not participating so what will I be trying to achieve'* [Lecturer-9]. In contrast, the Dean of Faculty of Education agreed with the ODL Director that *'giving prior access to students makes them engage more in debates in class thus getting different perceptions.'* Integrating Moodle did not reap the same expected positive effects across faculties. Whilst in small faculties, the probability of increasing student engagement by providing course materials in advance was high; the impression was rather different in larger faculties where students' participation was reduced, some even absconding lectures.

Some lecturers blamed the habitus of the country, Zimbabwe, which resulted in HEIs adopting pedagogical practices, which were examination-oriented. Learning in Zimbabwe from primary to tertiary education was designed towards passing of examinations, with fewer extra-

curricular activities. This was problematic since any additional changes to the curriculum not aligned to the outcome of passing examinations was likely to face resistance.

Do you know why things don't work here in Zimbabwe? It's because everything is exam-oriented. At the end of the day, students, take exams so any change should target this expected outcome. We are evaluated using student pass rates, not Moodle. If we want adoption, we need to change the whole HEI system [Lecturer-15].

The Zimbabwean Higher Education system's curriculum was not fully aligned to the use of educational technologies. Therefore, lecturers were forced to work towards something that did not add value to their work practices and/or achieve main learning objectives. Therefore, it was more important for lecturers to have their students attain good pass rates without necessarily overloading them with extra liabilities such as the use of Moodle. Hence, the lecturers preferred to use what they called 'simpler' methods to achieve the expected outcomes.

8.5 Positions and relationships between contextual factors and ICT implementers' practices

ICT and LMS experts were respectively positioned in the ICT and ODL Departments. To examine the reproduction of ICT implementers' practices, the themes in Figure 8.3 were analysed using the implementers' habitus and capital in the field.

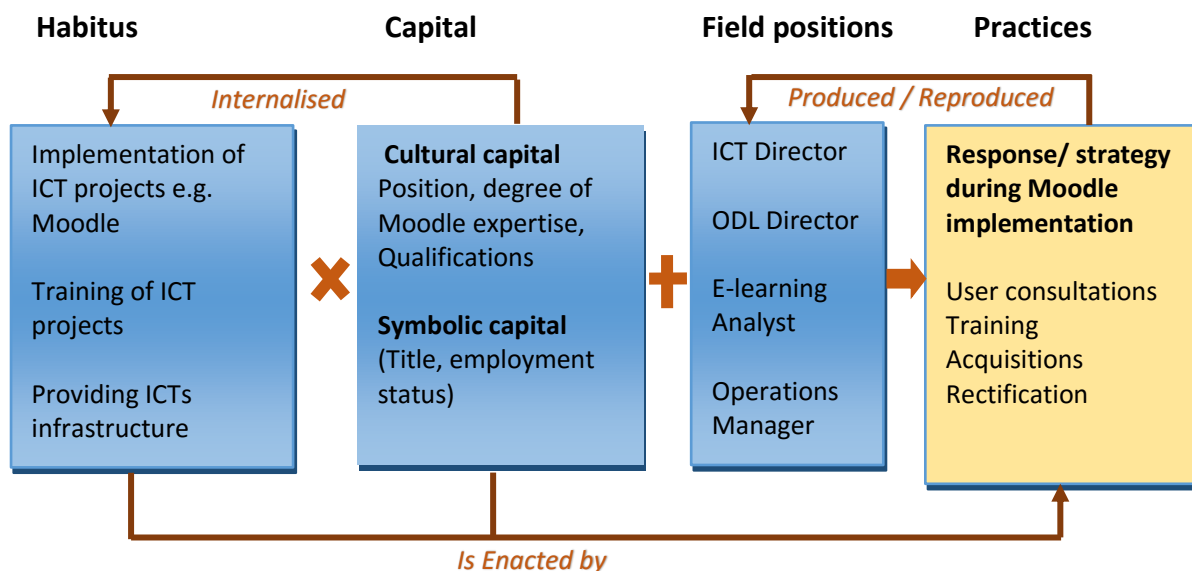


Figure 8. 3: Practices of ICT implementers enacted through habitus, capital and field positions

Practices of implementers during Moodle implementation were user consultations, training, system acquisitions, planning and rectifications. Some of the practices were detailed earlier in Chapter 7 as responses or strategies during Moodle implementation. The different forms of capital and habitus in ICT implementers in relation to their positions in the Omega field influenced their responses or strategies towards lecturer resistance. The logic of ICT implementers' practices is subsequently discussed in Sections 8.5, 8.6 and 8.7 through linking the causal relationships between their capital and habitus in relation to their positions in the Omega field.

8.6 Capital influencing ICT implementers' practices in the Omega field

The dominant form of capital that enacted the practices of ICT and LMS experts was cultural capital in the form of degree of Moodle expertise. The levels of expertise of the implementers were limited, knowledgeable and highly knowledgeable of Moodle (see Table 8.4). The levels of qualifications, area of expertise and academic titles of the implementers were not outstanding in influencing their practices. Another important factor in the practices was the employment status of ODL and ICT Directors, which was contract-based. The contracts were a five-year agreement renewed on good performance. Therefore, the directors worked hard towards achieving set targets so that their contracts could be renewed.

Table 8. 4: Forms of capital for ICT implementers at Omega

Actor	Cultural capital		Symbolic capital	
	Position & Degree of Moodle expertise	Qualification & Area of expertise	Academic title	Employment status
Implementer 1	Open Distance Learning Director Highly knowledgeable of Moodle	Master in Educational Technologies	Mrs	Contract
Implementer 2	ICT Director Limited knowledge of Moodle	Master in Computer Science	Mr	Contract
Implementer 3	E-learning analyst Knowledgeable of Moodle	Bachelor of Information Systems	Mr	Permanent
Implementer 4	Operations manager Limited knowledge of Moodle	Master in Computer Science	Mr	Permanent

Although all technical staff members in the ICT Department were experts in technology, not all had expertise in LMS implementation or its training. A lecturer complained that they once failed to get any service pertaining to Moodle after seeking assistance from the ICT Department.

When I wanted to start using Moodle, I went to the ICT office. The seven people there could not help me. Do you mean to tell me in the whole department only one person knows Moodle? [Lecturer-6].

The ICT Department was not trained to train lecturers on the use of Moodle, hence their reluctance in assisting users. The members might not have been interested in Moodle because they had their own areas of expertise ranging from networking, hardware and software engineering. Moodle could have been sidelined because it originated from the ODL Department and the ICT Department only came in to assist. Therefore, it was problematic to expect that ICT people would effectively assist with Moodle. Similarly, a lecturer from the Computer Science Department reiterated the same sentiments by claiming that trainers did not have enough knowledge on Moodle, rather *'they knew only of the technical side not the educational side of Moodle.'* Even though some of the technical experts knew about Moodle in general, the knowledge was not enough to equip an ordinary lecturer with the required educational technology expertise for use in the classroom.

8.7 Habitus influencing practices of ICT implementers

The practices of ICT implementers were driven by the following habitus (see Figure 8.3):

- Successful implementation of all technology-related projects
- Providing training
- Providing adequate ICT infrastructure.

The practices among others included user training, consultations, planning and maintenance of implemented systems. However, the habitus were not divorced from an individual's or group's capital with respect to their position in the field.

8.7.1 Implementation of ICT projects

Moodle implementation did not match the expected standards of ICT implementation. The implementation of Moodle was not successful because it did not follow the standard procedures of ICT project implementation (see Section 2.1.2). Initially, the ODL Director was the only expert in LMS directly spearheading Moodle implementation. The Director got partial assistance from the ICT Department and the ICT Committee to assist with introducing Moodle. Due to inadequate LMS expertise, the implementation process was mostly flawed. However, this did not deter the implementation of Moodle.

The initial step was to choose an LMS by comparing various options such as Blackboard, Claroline and Moodle. The ICT implementers recommended Moodle because it was *'more*

advantageous with a wider global usage, more functionalities and no licence fees' [Implementer-1]. In other words, Moodle was an open source available for customisation. Thereafter, an e-learning analyst was recruited to assist the ODL Director with the direct implementation of Moodle. All this was done before consulting the intended users of the LMS. One of the lecturers highlighted that they did not receive any awareness or education pertaining to Moodle before its implementation.

Before implementation, they should do awareness education . . . tell us first before the system comes not for us to hear it from the grapevine [Lecturer-17].

Due to their habitus of prior ICTs knowledge, the implementers introduced Moodle on their own without consulting intended users whom they considered unknowledgeable of ICT issues. This excluded lecturers from the implementation process, hence resistance to Moodle. Another factor, which affected Moodle uptake, was the time it took to implement. Despite ICT experts claiming they introduced Moodle in 2012, some lecturers indicated that the implementation took quite a long time being discussed, without any significant usage on the ground.

I remember in 2012, I was here before going for sabbatical leave for 8 months . . . when I came back, people were still talking about Moodle but not using it to teach. It was not practical without internet. So, it's implemented yes but when you try to use it, it doesn't work [HOD-2].

The implementation of Moodle was unusually long and complex. Three years down the line, *'people were still trying to learn and accept Moodle' [Implementer-2].* Even after managing to initiate some lecturers to use Moodle, it remained difficult to have them fully utilise all the features, such as enabling interaction with students. Three years later, Moodle uptake was still below 50% as highlighted by the ICT Director: *'it has been difficult and up to now I don't think we have achieved more than 50% uptake'.*

8.7.2 Training of ICT projects

Despite being a small team, the LMS experts were responsible for the initial and ongoing training of lecturers in all departments. The main challenge the team faced was lecturers missing Moodle training sessions. The lecturers directed their resistance behaviours towards Moodle trainers rather than Moodle itself. This drove implementers to begin offering door-to-door training for individuals and departments on requests.

For training, we request departments to schedule when they want us to come because they have different needs and times . . . for individuals I just show them the process if I have time [implementer-2].

Without being involved in the implementation of Moodle and, further, failing to receive proper training, it was difficult for lecturers to adopt Moodle at a fast rate. This caused lecturers to resist anything to do with Moodle. To resolve this, implementers offered personalised training sessions whenever requested by individuals or departments. However, due to the flawed implementation and training processes, it remained difficult to increase the uptake of Moodle. It seemed formalised and scheduled training was only done during the inception of Moodle, and thereafter nothing was formally offered. Complaints also came from new lecturers asserting that they were expected to use Moodle when they joined the university without receiving any training of its use.

When I came I just heard that I'm supposed to upload materials . . . I'm surprised on what they are talking about. I don't even have an account. I have to travel to another campus 10km away to be trained [Lecturer-5].

There was poor coordination of training for lecturers to motivate them to want to use Moodle. The LMS experts were overwhelmed and incapacitated to conduct training for every lecturer who joined the university at a different time. Although the implementers claimed that they did their part in training other lecturers, this was in contradiction to what some of the lecturers pointed out. One of the lecturers posited that it was *'a baseless claim that I have been trained because I am always going back to them after facing a problem'*. It seemed the training that lecturers received for Moodle, was not sustainable enough, since the habitus of most lecturers were not backed by adequate skills in ICTs. The ICT implementers' actions were driven by the habitus and beliefs that they were the only ones qualified to implement and train users on various systems at Omega.

Due to low uptake of Moodle, the number of complaints presenting to ICT implementers by lecturers was reduced. However, implementers mistook the absence of criticism to mean they had done a perfect job in implementation and training of Moodle. To confirm this, the ODL Director said *'I can't accurately say training was enough or not but since we get very little criticism, I think it was enough'*. Implementers confused the indifference and disinterest behaviours of lecturers to mean satisfaction with Moodle.

8.7.3 Providing ICTs infrastructure

The habitus of ICT implementers to provide adequate ICT infrastructure did not match the extant ICT infrastructure at Omega. The ICT infrastructure set up at Omega was unfavourable to the implementation and use of any technologies. Access to hardware and software by both staff and students was limited. Both had to buy their own laptops for use at work, as there were not enough computers. Those who could not afford them found it difficult to use the educational technologies as much as needed.

The major problem is computers . . . people rely on their own machines unlike in other universities where they have so many computers in their labs. So, if a person does not have a personal laptop there is nothing much they can do let alone use Moodle [HOD-5].

It was difficult for lecturers at Omega to use technology in their work practices when ICT implementers did not provide enough hardware and software infrastructure. Without availing most of the much-needed software to lecturers and students, the use of pirated software became rampant. Furthermore, lecturers complained that general maintenance of the few computers that belonged to the university was poor and it took a lot of time before a computer fault was fixed. Despite advocating for general use of ICTs in the classroom, implementers did not provide such equipment.

Resources were generally scarce. Lecturers resorted to sharing the few projectors available, thus depriving other lecturers. This frustrated the efforts from both implementers and lecturers to integrate educational technologies into teaching and learning. A lecturer asserted that ‘we share one projector among five lecturers in my department, which we book in advance’. They, however, could not get assistance from other departments because they were experiencing the same challenges. The frustrations were shared across the university with the ODL Director affirming that infrastructure at Omega was quite problematic.

What defeats our efforts is the state of our infrastructure. When I try to do something, today the internet is up, tomorrow it's down. If my mind wants to do something and I try it without success I leave it because it's not progressive, I feel defeated. So, infrastructure needs a lot of attention [Implementer-1].

Despite the limited infrastructure, the university tried to allocate annual budgets towards the implementation of ICT projects. However, the budgets were insufficient to cater for all the needed requirements. The ICT Director highlighted that their current budget allocation was USD\$5 million, with 20% and 40% of the funds going towards hardware and internet

subscriptions respectively. The remainder was shared across departments for support mechanisms and educational software. However, the funds were not adequate to acquire computers for each department. Where the university budget was inadequate, other means were tried out. The bursar recalled that *'the president of Zimbabwe had donated a number of computers to the university'* during that year's graduation ceremony, therefore the budget towards acquisition of computers was cut. Due to the acute economic challenges facing the country over the years, the government's budget towards ICTs was also limited. Other infrastructural challenges that faced Omega were narrated earlier in Section 7.5.2.

8.8 Positions and relationships between contextual factors and managements' practices

The management in the Omega field were members of the ICT Committee, coming from various top offices to make strategic decisions on ICT policy development and implementation. The group of managers, who included deans of faculties, were known as university administrators. To examine the reproduction of managements' practices, the themes in Figure 8.4 were analysed, using the managements' habitus and capital in the Omega field.

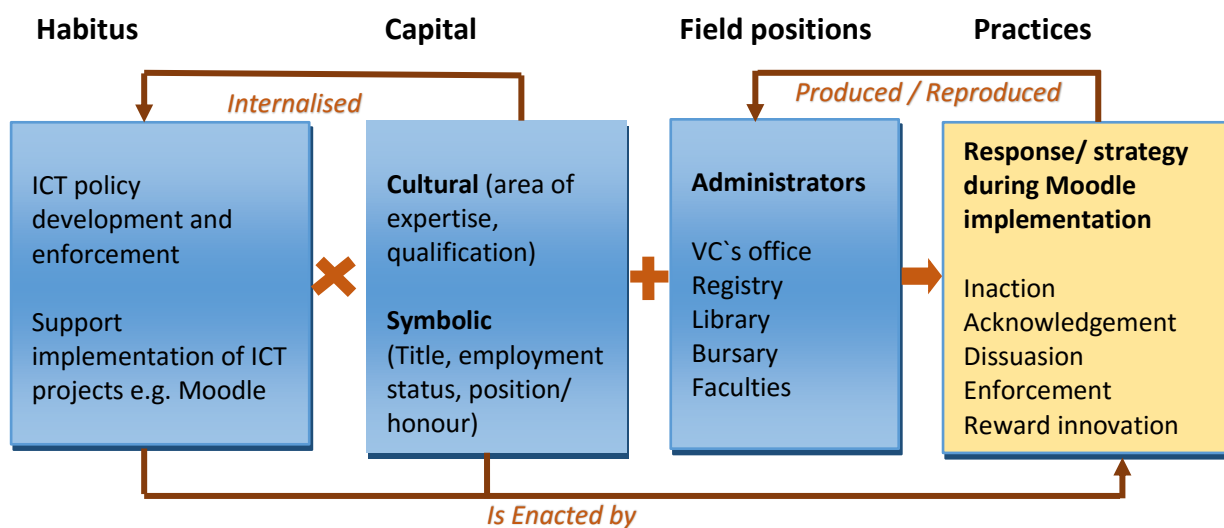


Figure 8. 4: Practices of management enacted through habitus, capital and field positions

Practices of management during Moodle implementation were inaction, enforcement, acknowledgement and consideration of reward for innovation. These were detailed earlier in Chapter 7 as responses and strategies used by management towards lecturer resistance. To avoid repetition, the habitus for middle and senior managers were presented together. The

different forms of capital and habitus in management in relation to their positions in the Omega field influenced their responses or strategies towards lecturer resistance. The logic of managements` practices is subsequently discussed in Sections 8.9 and 8.10 through linking the causal relationships between their capital and habitus in relation to their positions in the Omega field.

8.9 Capital influencing the practices of management

The dominant form of capital that influenced managements` practices was symbolic capital in the form of university positions, academic/university titles and employment status, all of which brought a level of honour or prestige to managers. Management also used social capital to increase the economic capital of prestigious lecturers. They were influenced through social connections to award more research awards and grants to Doctors, Senior lecturers and Professors compared to junior lecturers. Nonetheless, all managers had limited knowledge of Moodle expertise, as shown by their type of qualifications and area of expertise, which were not technology-related (see Table 8.5). Their practices towards Moodle implementation were based on secondary knowledge mainly borrowed from the ICT and LMS experts.

Table 8. 5: Forms of capital for middle and senior managers at Omega

Capital	Category	Sub-category	Empirical examples
Cultural	Institutionalised	University positions	Dean of Science, Librarian, Bursar, DVC, DRA
		University titles	Faculty Deans, Executive management /Administrators/Principal officers
	Embodied	Academic qualifications	Masters and Doctoral degrees
		Area of expertise	Accountancy, Microbiology, Mathematics, Information Science, etcetera.
Symbolic	Cultural, social, economic capital	Academic titles	Mr/Mrs, Dr and Prof
		Employment status	Permanent and Contract

The lack of ICT expertise did not deter the managers, especially faculty deans, from monitoring and enforcing usage of Moodle; they achieved this by relying on HODs. The prestige, which the managers possessed, and the honour, which the university bestowed upon them, gave them power to oversee implementation of ICT projects in the institution without necessarily having to be ICT literate. Similarly, the VC who chaired the ICT Committee was also not a technical person. The ICT Director asserted that one did not need to have a technical background to head the ICT Committee.

No, not necessarily, the CEO has a vision of where the university is going, and from however he directs the institution, the ICT Department assists to achieve that vision. Therefore, it is not a technical issue but having someone to make strategic decisions then we buy-in to achieve the set goals [Implementer-2].

The management was there to make strategic decisions in harmony with the ICT implementers, in line with the mission and vision of the university. Therefore, whatever was discussed and approved in the ICT Committee, the management made sure that the mandate of the university was being achieved. This also assisted the Bursar's office to find any critical areas that needed urgent funding, as well as Registry to see if technical decisions made by the committee were benefiting the university community.

8.10 Habitus influencing management's practices

The practices of management were influenced by the following habitus (see Figure 8.4):

- ICT policy development and enforcement
- Supporting implementation of all ICT projects.

Both the habitus and capital produced the managers' practices with respect to their positions in the Omega field.

8.10.1 ICT policy development and enforcement

The habitus of the managers at Omega included developing and enforcing ICT policies in the university with the assistance of the ICT Committee. The responsibility of the management in the ICT Committee was to assist with the development of ICT policies. The policies were passed onto Senate for approval. Senate was the highest decision-making board, which approved all university policies. Initially, the ICT Department under the guidance of the ICT Director developed the ICT policies and strategic plans. The documents were discussed in the ICT Committee for feasibility and corrections. Despite the ICT Committee membership being well represented on paper, some groups were more active than others.

I think because we have technical members in the committee, so if there is a system, which they like, they have the technical expertise to justify it's feasible and vote for the proposed system [Manager-1].

The habitus of the technical experts in the ICT Committee influenced most of their decisions to introduce and/or enforce new policies and systems in the university. In the end, the ICT directorate had more power to spearhead discussions in the direction they wanted and considered relevant. However, senior managers were always available to rationalise most of

the decisions. It was interesting to note that even if the passive members were against the introduction of a certain policy, they had limited expertise (capital) to argue for their cases. One of the managers said *'if the committee doesn't rule in your favour then you are also responsible for their resolutions'*. Consequently, despite a few active members influencing certain decisions, all the committee members were accountable for the decisions made.

Most of the managers highlighted that the introduction of Moodle at Omega was long overdue since the world had turned into a global village. When some managers attended the eLearning Africa Conference on ICT for Development, Education and Training in Tanzania in 2011, they realised that the university was lagging behind. Therefore, they immediately introduced Moodle. However, the process of introducing the e-learning policy was abrupt and lacked proper user sensitisation. The DRA described the way in which Moodle was introduced in a sarcastic manner *'the ODL Director and the DVC went to Tanzania and came back to say we now have Moodle, let`s use Moodle [laughs]'*. Thus, the introduction of Moodle was not done clearly and properly; rather there was a rush to change ICT policies and align them with current trends from elsewhere. The rushed process of implementing new policies and strategic plans was incongruent with the existing infrastructure to support such decisions.

The ICT strategic plan for a five-year period was well documented. However, it was impossible to accomplish given the inadequacy of resources at Omega. In its SWOT analysis, the strategic plan highlighted the weaknesses faced as the *'inability to generate own financial resources and inadequate infrastructure'*. To remedy such challenges the university planned to:

Establish an ICT repair arm, a commercial software development arm, and an ICT consulting arm. The University also planned to engage in Public and Private Partnerships to support ICT services, collaborate with other institutions and look for donations [Document-2].

Most of the suggested remedies seemed unrealistic because of the poor political and economic status of the country. Similarly, the Bursar reiterated that getting funding or donations for ICTs was problematic since the current environment of Zimbabwe repelled international organisations who wanted to invest in Zimbabwe. In the same way, although ICT was a priority, it competed with other critical items such that the treasury`s immediate option was to borrow from international organisations. Unfortunately, due to the overburden of prior loans and repayments, the country ruled out the option of continual borrowing. Therefore, funding and

budgets towards ICTs in Zimbabwe affected the role of developing and enforcing good ICT policies by management in HEIs.

8.10.2 Support implementation of ICT projects

The other habitus of the managers at Omega were to provide financial support for the implementation of all ICT-related projects in the institution including setting up of Moodle. The Bursar indicated that they paid a certain amount of money towards Moodle, *'we finance it by paying subscriptions annually'*. Therefore, they expected to see the full utilisation of Moodle by users to justify funds going towards subscriptions. However, this was in contradiction with the ODL Director, who asserted *'we host and maintain Moodle in-house and no annual fees or licences are paid'*. The rushed implementation could have resulted in poor information received by stakeholders. Another way in which the management supported implementation and use of Moodle was by introducing credit schemes to assist lecturers purchase laptops for use when teaching using ICTs.

I think we should empower our staff . . . we give lecturers notebooks then we deduct the money from their salary in instalments. But, we tell them we expect them to use the gadget for teaching with ICTs. So, we don't want them to say they don't have a gadget, here is a gadget [Manager-2].

Despite a low budget, the university was committed to helping its lecturers acquire computers for use at work on loan. The university could not buy computers for lecturers because the finances were channelled towards other critical operations, which ended up eating into the ICT budget.

Most of the senior management were not familiar with the Moodle platform. They complained that it was biased towards academics, making it difficult to effectively monitor and support it. The DRA asserted that the exposure to the Moodle platform was supposed to be extended to non-academic staff members as well, to appreciate how it functions and was not reserved for a certain group alone. He posited that it was difficult for management to simply come in as managers and try to manage something they did not understand: *'I attended one of the Moodle workshops by the ODL Director just to get an appreciation of the system'*.

All those things like Moodle just come as ad hoc . . . when you want to implement a project; you must plan how you are going to do it. If you do not plan properly, then it will not succeed [Manager-3].

The introduction of Moodle was done without proper planning, resulting in a flawed implementation process. Most managers did not understand the stages taken by LMS experts to implement Moodle. Nonetheless, they continued to support the ICT implementers during Moodle implementation.

8.11 Summary of chapter

This chapter presented the contextual factors in the form of habitus and capital that influenced the work practices of lecturers, ICT implementers and management. The work practices were in the form of lecturer resistance behaviours and responses or strategies of ICT implementers and managers during Moodle implementation in the Omega field. The Omega field comprised of nested and overlapping fields, which enabled participants with different habitus and forms of capital to act in a certain way and produce certain practices. The chapter revealed the relationship between contextual factors and positions of several actors in the Omega field. This was followed by a detailing of the identified types of habitus and forms of capital that influenced lecturer resistance practices towards Moodle. Furthermore, the habitus and capital for ICT implementers and managers were examined to determine how they influenced the type of response or strategy they offered during Moodle implementation.

CHAPTER NINE

A THEORETICAL DISCUSSION OF THE FINDINGS

*Never worry about theory as long as the machinery does what it's supposed to do.
Robert A. Heinlein*

9.0 Introduction

This chapter discusses research findings of the study. The study focused on the manifestation of resistance from lecturers towards the implementation of an LMS in a Zimbabwean HEI. The discussion addresses research questions in line with extant literature, MRITI (Lapointe & Rivard, 2005) and Bourdieu's TOP (Bourdieu, 1990b).

The chapter is presented in five sections. Section 9.1 revisits the primary research question. Section 9.2 summarises key themes from the study findings in Chapter 7 and 8. Sections 9.3 to 9.6 discuss the key themes, focusing on the research questions to identify different forms of lecturer resistance, how it manifests and the influence of responses and strategies from management and ICT implementers on resistance behaviours. Contextual factors in the form of habitus and capital explain why lecturers exhibit the identified resistance practices and why management and ICT implementers employed certain strategies or responses (practices) to manage resistance practices, which in turn propagated lecturer resistance. The key thematic outcomes of the findings assisted in formulating the study's theoretical propositions. Each theoretical proposition was subdivided into respective sub-propositions (See Table 9.1).

9.1 Revisit of the research question

The background to the study (recall Chapter 1) highlights an increase in the implementation of ICT projects in HEIs of low-income countries, to improve human capacity development of its citizens. However, the countries continue facing challenges in harnessing the productive capacity of their ICT resources into desired outcomes. Whilst most HEIs have incorporated ICTs, the uptake of LMS remains low, with the full potential of the technologies not realised. Some of the challenges to low LMS uptake were inadequate training, lack of ICT expertise, poor ICT infrastructure, lack of top support management, resistance to change, high costs and complexity of implementation (Garg et al., 2015). Whilst these challenges play a significant role in limiting uptake of LMS in HEIs, the role of *user resistance* in this problem has not been fully explored (Ali et al., 2016). While there are other issues that could affect uptake, the study argued that understanding user resistance to LMS implementation was important. The

manifestation of different forms of resistance behaviours during LMS implementation caused low uptake of the LMS by the intended users. Therefore, it was imperative to understand the manifestation process of various forms of resistance as well as contextual factors (habitus and capital) and their influence on user resistance to LMS implementation. Furthermore, the study analysed the effects of responses and strategies from management and ICT implementers towards lecturer resistance on the uptake of the LMS. This argument emanated from the following primary research question:

- ***How does resistance behaviours from lecturers manifest during the implementation of LMS in developing country HEIs?***

The study analysed user resistance to the implementation of an LMS in HEIs to establish various forms of resistance behaviours that manifested from lecturers. The analysis highlighted key resistance behaviours that manifested during the implementation of Moodle at Omega University in Zimbabwe. The findings showed that lecturers displayed more of apathetic, passive and covert resistance behaviours than active forms of resistance, whilst no aggressive behaviours were expressed. While the identified forms of resistance are in line with reviewed literature (Lapointe & Rivard, 2005; Selander & Henfridsson, 2012), the previous studies have not highlighted that delegation is a combination of both resistance and acceptance depending on which side we look at it – ‘two sides of the same coin’. The older lecturers played the cultural card by expecting to be ‘saved’ by younger lecturers in times of need, hence delegated their Moodle duties (Cattell, 1993). Similarly, younger lecturers were glad to act as saviours to older lecturers to fulfil this cultural expectation. This, however, distorted the statistics of who was using or not using the system at Omega. While delegation was a covert resistance practice from the users’ perspective, it was hidden to Moodle advocates who could only see acceptance (Kane & Labianca, 2011). This finding can be valuable to technology implementers to realise that some resistance episodes can be embedded or misrepresented as acceptance.

The findings showed that Omega employed a ‘technological determinism’ approach towards the implementation of Moodle. The assumption was that technology was going to improve teaching and learning activities, which would in turn enhance human capacity development of citizens in low-income countries (Daly, 2000; Moodley, 2005). However, in light of the adage ‘*You can lead the horse to the water but you can’t make it drink*’, even though management

and ICT implementers were determined to show lecturers the benefits of integrating Moodle into teaching activities, they could not force lecturers to accept it because, people, like horses, will do as they will. What people do are practices or repeated actions driven by their habitus, capital and positions in the social field to which they belong.

Due to the poor implementation of Moodle, most of the expected objectives to improve teaching and learning were not achieved. Lecturers felt excluded and lacked a sense of ownership and responsibility towards the system (Leidner & Kayworth, 2006), hence they devised methods to resist anything to do with Moodle. The contribution from this finding is that the different roles that stakeholders played influenced their practices to retain or upgrade their positions in the social field and to be able to exercise power over others. The understanding of the previously established work routines, objects or triggers of resistance and possible threats brought by a new system can balance the positions of actors in the HEI field and possibly assist to enhance uptake of new ICT projects.

The study analysed responses and strategies that were employed by management and ICT implementers towards lecturer resistance. Moodle advocates used negative strategies such as not rewarding innovation and dissuasion and, in some instances, applied positive responses such as inaction and acknowledgment. Neither the negative nor positive responses and/or strategies were able to improve uptake of Moodle; rather, contextual dynamics and power relations were at play. Power relations were highlighted when management used threats and force to make lecturers use Moodle. However, the lecturers also exercised their power by employing tactics of apathy, and covert, passive and active resistance. The finding was in line with the notion that the exercise of power is also closely related to resistance behaviours (Behrent, 2013; Foucault, 1980).

The analysis of the contextual factors concentrated on the habitus and capital of lecturers, management and ICT implementers at Omega and surrounding fields. The study analysed the habitus of lecturers in relation to age, prior exposure to technology, technophobia and pedagogical beliefs, as well as capital in relation to qualifications, positions, academic titles and employment status. The resistance practices by lecturers from different departments can be explained by a theoretical framework, which underpins how ICTs are integrated into teaching

and learning. Technology, Pedagogy and Content components – TPACK (see Figure 9.1) – argues that for effective integration, the educator should have a combination of all the TPACK components (Koehler & Mishra, 2009).

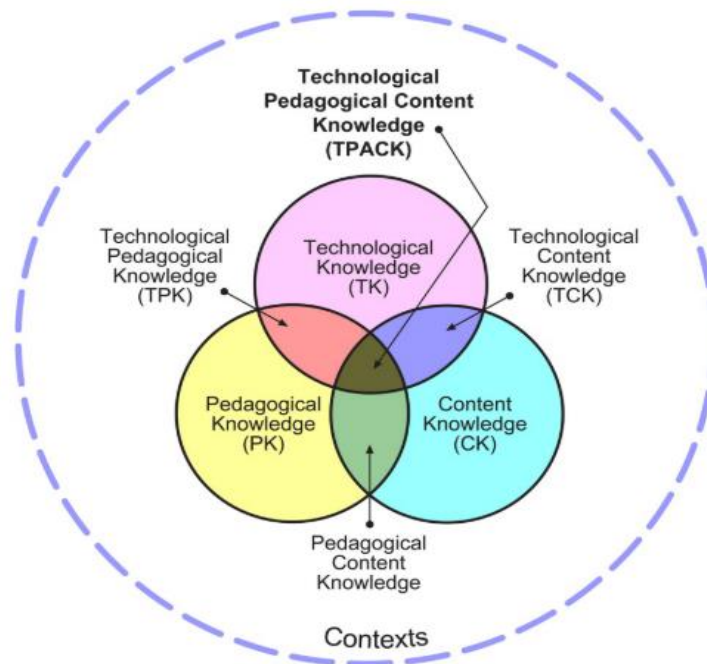


Figure 9. 1: The TPACK framework and its knowledge components (Koehler & Mishra, 2009)

The study noted that while all lecturers had Content Knowledge (CK), there were many instances where lecturers had combinations of either (1) Technological and Content Knowledge (TCK) or (2) Pedagogical and Content Knowledge (PCK) or (3) Technological and Pedagogical Knowledge (TPK). The differences in habitus and forms of capital (PCK, TCK, TPK) hindered the achievement of TPACK and, therefore, influenced various forms of resistance practices from lecturers. The contributions of the findings are insights into the oversight of management in ensuring that a techno-centric approach needed lecturers to enter the Omega field with habitus and capital equivalent to TPACK, to easily integrate its components for effective teaching (Mutanga et al., 2018). Similarly, contextual factors in the form of habitus and capital may influence the choice by technology users to accept or resist a new system (Ellway & Walsham, 2015).

Management and ICT implementers used their habitus and capital in the form of prestige, honour and power to make lecturers use Moodle. However, the technology advocates had limited power to ensure an enabling environment for Moodle implementation and use. In

implementation of ICT projects, obstacles were highlighted in shortages of ICT expertise, expertise in LMS, ICT infrastructure and limited technical support. The challenges created a scenario of double standards, which aided the poor implementation of Moodle. Poor implementation versus high expectations from Moodle advocates created conflicts and consequently resistance from lecturers. In part, the findings were consistent with reviewed literature on how the lack of ICT expertise and technical support promotes user resistance (Albugami & Ahmed, 2015).

Additionally, failure to provide adequate ICT infrastructure and computer equipment generated user resistance behaviours in HEIs of low-income countries (Howard, 2013). The study extended the debate to highlight insights on the effects of poor management policies, poor implementation of ICT projects and inadequate ICT resources in developing countries and their influence on low uptake of LMS in HEIs caused by user resistance (AlQudah, 2014). Consequently, poor implementation of ICT projects drives users in HEIs to shift their focus from interior issues of the system under implementation and concentrate on resisting exterior issues of the system (Pechenkina, 2017).

9.2 A thematic summary of the study findings

A summation of the findings show that different forms of lecturer resistance behaviours manifested during the implementation of Moodle because the initial conditions interacted with objects of resistance at Omega University and generated some perceived threats in lecturers. In particular, the initial conditions, which were previously established work structures at Omega, included its management model, ICT structure and ICT culture. The findings on the objects of resistance showed that lecturer resistance was mainly targeted towards management and ICT implementers as the advocates of Moodle and less towards Moodle's value or its functionalities (Bhattacharjee & Hikmet, 2007). This showed some power struggles and relations among the different positions within the management sector.

The study also found that perceived threats from lecturers during Moodle implementation emerged when initial conditions continuously interacted with different objects of lecturer resistance. Because of Moodle, lecturers perceived an increase in the workloads and loss of relevance or status in the workplace or, in a worst-case scenario, loss of jobs.

Besides linking findings to the theoretical base of initial conditions, objects of resistance and perceived threat, without considering emerging concepts, the study also found several triggers at Omega that influenced manifestation of lecturer resistance. The triggers were related to the outcomes of Moodle implementation to either use or not use and they were categorised into three themes: *management*, *infrastructure* and *personal factors* (Fernandes, Joia, & Andrade, 2012).

Section 7.8 highlighted the strategies and/or responses from management and ICT implementers towards managing lecturer resistance during Moodle implementation. The nature of response or strategy did not change the lecturers' perception of Moodle. When management acknowledged their wrongs and offered some solutions, lecturers did not appreciate the positivity of such strategies; rather they highlighted new factors to blame the management. In the end, some management and ICT implementers resorted to negative strategies to force lecturers to use Moodle. However, the negative strategies did not help much since the required necessities to enable effective Moodle usage were not available. The study findings are incongruent with existing literature, which asserts that some positive strategies or responses may not necessarily enhance usage of the technology (Rivard & Lapointe, 2012). This anomaly can be explained by contextual dynamics at play in the Omega University as presented in Chapter 8, supported by the analytical basis of Bourdieu's TOP.

Sections 8.2, 8.5 and 8.8 analysed the contextual factors in form of habitus and capital, which influenced resistance practices of lecturers as well as practices of managers and ICT experts when managing resistance behaviours. The habitus of lecturers, related to age, prior exposure to technology, technophobia and pedagogical beliefs, caused resistance practices to reproduce lecturers' positions in the Omega field. The internalised individual or collective habitus in lecturers caused them to act in the way they did. This is corroborated by Schultze and Boland (2000b) who purported that internalised habitus produce an actor's practices, which generate the structures and positions in the field, which in turn build onto the existing habitus, thus, formulating an infinite causal loop.

Forms of capital that influenced resistance practices of lecturers were their qualifications, positions, academic titles and employment status. Forms of capital of lecturers and their habitus, plus their positions in the field, controlled the choices to display different forms of resistance to Moodle. Lecturers with more symbolic capital could easily get away with resistance practices compared to their colleagues with less. In the same way, the practices of management and ICT experts were driven by the habitus of implementing, supporting and training of ICT projects, providing ICT infrastructure as well as developing and enforcing ICT policies. In addition, the following forms of capital influenced responses of management and ICT experts: prestige, honour, level of Moodle knowledge and qualifications. The subsequent sections discuss emerging themes from the study findings in detail. Table 9.1 summarises key themes of the study findings and corresponding theoretical propositions and sub-propositions.

Table 9. 1: Main themes of findings and their theoretical propositions

Key themes	Theoretical propositions	Sub- propositions
Manifestation process of different forms of lecturer resistance behaviours.	<i>When initial conditions interact with objects and triggers of resistance, they produce perceived threats in lecturers, which causes the manifestation of resistance behaviours (Proposition 1).</i>	Previously established work routines (management model, ICT structure and ICT culture) influence the manifestation of different forms of lecturer resistance behaviours (Proposition-1a).
		Objects of resistance (system features, value of system and system advocates) influence the manifestation of different forms of lecturer resistance behaviours (Proposition-1b).
		Management, personal and infrastructural triggers influence the manifestation of different lecturer resistance behaviours (Proposition-1c).
		Perceived threats (fear of loss of relevance and perceived workloads) influence the manifestation of various forms of lecturer- resistance behaviours (Proposition-1d).
Strategies and/or responses from management and ICT implementers to manage lecturer resistance.	<i>The strategies or responses from management and ICT experts towards user resistance during LMS implementation may influence the manifestation of different forms of lecture resistance behaviours (Proposition 2).</i>	
Contextual factors and practices of lecturers, management and ICT implementers.	<i>Differences in habitus and capital in multiple fields influence different resistance practices in lecturers AND different responses or strategies from management and ICT implementers towards resistance practices (Proposition 3).</i>	Different values and beliefs (habitus) in multiple fields influence different forms of practices in lecturers, management and ICT implementers (Proposition-3a).
		Different forms and amount of capital influence different practices of resistance in lecturers and negative responses or strategies from ICT implementers and management (Proposition-3b).

9.3 Forms of lecturer resistance behaviours

When Moodle was implemented at Omega University, the following forms of resistance behaviours manifested: *disinterest, prioritisation, minimal use, delegation, pessimism, avoidance, withdrawal* and *refusal to use*. Most of these behaviours were also discovered in the reviewed literature (Lapointe & Rivard, 2005; Mahmud et al., 2017). These were regrouped into four main episodes; apathy, and passive, covert and active resistance (see Table 7.2). However, the study did not find any aggressive-resistance episodes, contrary to other studies and contexts (Lapointe & Rivard, 2005). Most of the lecturer resistance episodes were apathetic and passive against fewer incidences of active resistance, as reiterated by one of the lecturers,

People are apathetic, they don't agree that they resist. Zimbabweans generally are passive . . . they avoid getting injured at all costs just like snakes. They bite and leave – aggressive but in a diligent way. Politicians take advantage of us. . . . It happens here too; lecturers do things just to appease the bosses [Lecturer-9].

The country's political environment and influences external to the Omega field (see Figure 8.1) shaped lecturers' actions to the extent of them adopting passive behaviours to express dislike whenever a new change was introduced. The instability of the Zimbabwean political environment created a culture of non-aggressive protests towards grievances by way of thwarting opposing voices (Willems, 2010). This culture was also instilled into HEIs such as Omega, causing lecturers to resist Moodle implementation less aggressively. Therefore, the introduction of Moodle did not give lecturers much choice except to accept the system. Such a scenario should have worked in favour of the Moodle advocates who felt that with non-aggressive resistance, lecturers would eventually adopt Moodle. Nevertheless, the uptake of Moodle remained low, since lecturers continued to resist Moodle, even though it was mostly passive (Van Offenbeek et al., 2013).

Additionally, lecturers adopted passive instead of aggressive resistance probably because the threat was not as big among other things; they knew that they would not be fired due to non-adoption of Moodle. The 'use of threats' by management were not too serious to result in anyone being fired, so there was also no need to adopt aggressive resistance. Furthermore, as professionals, lecturers might have avoided using force and aggression to disrupt the teaching and learning environment. Rather, they hoped for fruitful dialogue and feedback from the relevant boards across the university towards their concerns. In addition, the habitus of

lecturers of loving to teach students and loving their work might also have influenced them not to display aggressive behaviours in the workplace.

The habitus of lecturers represented by the symbol of their employment status led them to act professionally even in the way they resisted change. The social status of lecturers in the community influenced them not to 'behave like savages'. This is congruent with past studies, which highlight that since resistance is socially constructed, employees utilise self-enhancement strategies rather than aggressive behaviours to respond to threats towards their work (Van Dijk & Van Dick, 2009). In addition, literature shows that aggressive resistance does not automatically improve the unfavourable conditions brought by a system; rather, chances of transformation into a better condition are reduced or delayed (Cerom & Cregor, 2010; Nugroho, Polnok, Martiningsih, & Devassy, 2017). Therefore, lecturers might have perceived a fruitful dialogue with technology implementers by resisting Moodle passively rather than aggressively.

Active resistance was evidenced when lecturers refused outrightly to use Moodle and withdrew or avoided using Moodle. The lecturers directed resistance towards management whom they perceived to be putting their personal interests, for example, buying cars, ahead of providing ICT tools required for teaching. The expression of resistance from lecturers against management perks, expressed through grumbling and rebellious behaviours (Laumer, Maier, Eckhardt, & Weitzel, 2014; Mahmud et al., 2017), demonstrated a fight for equality and improved working conditions in the Omega field (Joshi, 1991).

Lecturers used covert resistance behaviours to appease Moodle advocates (Bagayogo et al., 2013). The covert behaviours were expressed through delegation such that managers were deceived into thinking that lecturers were using the system. The study also noted that '**delegation**' was a unique and stealthy resistance behaviour represented in form of covert episodes. Delegation was interesting because, even though it was classified under resistance, it misrepresented itself by allowing lecturers to falsify their actions and conceal resistance behaviours (Kane & Labianca, 2011). This became difficult for Moodle advocates to know that a lecturer did not use Moodle because someone else would do their job for them. The lecturers pretended to accept the system when, in fact, they did not even recognise its significance

(Lapointe & Rivard, 2005). Therefore, management was deceived to believe that, in some departments, Moodle was accepted when, in fact, maybe one person was delegated to upload course materials on behalf of those who 'pretended' to be unable to use the system. It was difficult for management to differentiate between those who genuinely could not use Moodle and those who just did not want to use Moodle. All the same, according to this study, those behaviours were classified as resistance-genuine or not, since resistance is not only defined or affirmed in negative or pretentious circumstances.

Similarly, delegation behaviours expressed by older lecturers due to their age-related habitus, is a common cultural expectation in the African and Zimbabwean context. Elders naturally expect respect and assistance from younger people whilst younger people also feel obliged to respect and assist the elderly with their duties (Cattell, 1993). Based on Bourdieu's symbolic capital of honour, older lecturers took advantage of the cultural context and used their age-related habitus to delegate Moodle duties to younger lecturers who did not complain because, culturally, it was an expectation to 'rescue' their older counterparts.

This study postulates that it is important to know that resistance can be hidden through falsified acceptance behaviours (pretence) (Kane & Labianca, 2011). This contributes to IS literature on the different forms or types of resistance. The study showed that resistance to LMS implementation may be a symptom of underlying, unresolved, organisational challenges and the forms of resistance behaviours revealed in this study could provide practical implications for ICT implementers within similar settings for future reference. Thus, providing an enabling environment for institutions wishing to implement LMS could go a long way in eradicating the manifestation of different forms of resistance behaviours among system users.

9.4 Manifestation process of lecturer resistance behaviours

This section contains theoretical propositions that were uncovered when different forms of resistance behaviours manifested due to underlying initial conditions that triggered objects of resistance and perceived threats of lecturers during the introduction of a system in the workplace. The following sub-sections discuss the manifestation process of the different forms of lecturer resistance behaviours at Omega in light of initial conditions, perceived threats,

objects and triggers of resistance. The empirical observations assisted in formulating the following combined theoretical proposition:

Proposition 1: *When initial conditions interact WITH objects AND triggers of resistance they produce perceived threats in lecturers, which cause the manifestation of different forms of resistance behaviours.*

This proposition formulates four sub-propositions, which are discussed in the subsequent sections.

9.4.1 Effects of established work routines on manifestation of resistance

Introducing a new system has the potential to disrupt the core essence of work routines previously established in the university structures (initial conditions), thus influence the manifestation of resistance behaviours (Laumer et al., 2016). The study identified three previously established work routines at Omega: the *management model*, *ICT structures* and *ICT culture*. In particular, the study found that Omega's management model, whose major decisions passed through formalised committees, was bureaucratic, (Pielmus, 2016). However, most of the strategies at Omega were inclined towards a top-down approach; one lecturer claimed that the management tactics characterised a '*military approach*'. Often, threats, though not acted upon, were used on lecturers to push them to uptake most of the newly-implemented policies in the university; this included Moodle. This contradicts extant literature, which asserts that bureaucratic management culture does not make decisions outside the recommendations of recognised boards and committees (Dwivedi & Gow, 1999).

At Omega, the bureaucratic model applied only on paper, whilst the management adopted a corporate style where middle and senior managers developed and approved policies under the guidance of the CEO (Meek et al., 2010). The top-down approach at Omega created numerous communication breakdowns between staff and management with regard to Moodle implementation. The poor communication created isolated departments (silos) which hindered the successful uptake of Moodle. Similarly, the use of threats only managed to intimidate the lecturers further, driving them to continue resisting Moodle. Use of force has never been a good tactic when trying to make users adopt a new technology, because it makes the users lose the sense of ownership of the system as they regard it as imposed (Jiang et al., 2000).

It was a challenge for managers to implement Omega`s management model because of the differences in habitus between academics and administrators. Lecturers expected to exercise their '*academic freedom*' by operating with what was agreed on paper (bureaucratic), rather than accepting the contradictory approaches adopted by management (corporate) (Altmann & Ebersberger, 2013). The study therefore, found that resistance behaviours were not necessarily linked to any specific model of management; any structure of management could influence the manifestation of resistance as long as it contradicts the expectations of the users.

The ICT culture at Omega is laden with the rhetoric of the globalisation agenda, which assumes that the power of globalisation makes it inevitable to integrate LMS in teaching. Globalisation is a discursive concept that informs policy discussion and implementation of ICTs in HEIs. Other studies argue that passive acceptance of the globalisation agenda in the education sector creates a deterministic view about the role of technology as an independent phenomenon with its own trajectory (Clegg et al., 2003). This understanding does not regard globalisation as a driving force of change, but rather an expression of the explosive nature of capital accumulation (Brown, 1999).

Despite having limited resources, Omega wanted to upgrade their ICT access, use and skills in line with globalisation. Management felt an urgency to quickly implement ICTs in the university, particularly in teaching, learning and research. However, this created clashes between management and LMS experts. LMS experts felt that management was rushing Moodle implementation without following necessary procedures and requirements to implement the LMS. Therefore, perceptions of Moodle`s purpose were different from those of management and LMS experts, as well as lecturers. The rush to implement Moodle without enough knowledge of its benefits and functionalities led to manifestation of lecturer resistance behaviours.

Bird & Nicholson (1998: 6) therefore, argue that global, technology-driven higher education may not be addressing issues that impact on the effectiveness of learning for different people. It is imperative to explore the rationale for such globalisation, and consider the optimistic advocates of this trend, the benefits and higher education arguments that exist for its development. The globalisation of HEIs should moderate the globalisation agenda by stressing

the importance of the tools for developing countries that provide self-produced appropriate higher education for themselves, and remove cynical profiteering by bureaucratic universities (Currie & Newson, 1998).

The ICT policies and strategic plans (ICT structures) to support the vision and mission of the university were available and well documented. However, putting theory into practice was problematic due to various economic factors, which affected the ICT budget of the country. The 2019 budget allocated US\$380.8 million to the MHE, with the bulk of the funding directed towards supporting disadvantaged students under the student loan facility (Edu-Loan), as well as equipping laboratories at teachers' colleges and infrastructural development at State universities (Zimbabwe Budget, 2018). However, the allocation is by far limited to cater for all state institutions, considering that the state of infrastructure for most of them is already below standard.

The limited funding consequently affects implementation of ICT projects in HEIs and the problem will persist for as long as ICT programmes do not get their own reasonable share of funding. Since ICT budgets are low in most Zimbabwean HEIs, a myriad of problems affect the implementation of LMS, ranging from inadequate ICT infrastructure, poor implementation, costs and lack of ICT experts (Garg et al., 2015). Scarcity of ICT resources inadvertently creates apathetic behaviours from intended system users (Joia, Gradvohl de Macêdo, & Gaete de Oliveira, 2014).

Although the ICT policies at Omega strongly advocated for integration of Moodle into teaching activities, the initial conditions prior to the process hindered its smooth implementation, leading to manifestation of lecturer resistance. The study showed that flawed management strategies, poor ICT structure and a weak ICT culture may influence manifestation of lecturer resistance, despite a strong advocacy of Moodle uptake from management and ICT implementers. These research findings suggest the following theoretical proposition:

Proposition 1a: *Previously established work routines (management model, ICT structure and ICT culture) influence the manifestation of different forms of lecturer resistance behaviours.*

9.4.2 Objects of resistance and their impact on LMS implementation

Lecturer resistance behaviours at Omega University were mainly directed towards management and ICT implementers (*Moodle advocates*) as opposed to the *benefits* or *features* of Moodle (refer to Table 7.3). There were power relations within the different field positions at Omega (Dent & Goldberg, 1999). The middle and senior managers delegated the HODs to put pressure on 'fellow' lecturers to adopt Moodle. Such a situation is interesting because it reiterates the strategies adopted by colonial rulers to impose their rule on the colonised. Similar roles were played by the black elite during the colonial rule in Zimbabwe, where the colonial supremacy manipulated a few blacks by giving them lower leadership positions for imposing their rules and laws on the black majority (West, 2002). At Omega, lower management (HODs) received less or apathetic resistance from lecturers compared to middle and senior managers whose strategies received more and active lecturer resistance. This was partly because the HODs were not exempt from using Moodle, hence did not entirely separate themselves from their 'fellow' lecturers, despite representing senior management in academic departments. Therefore, appointing HODs to monitor and enforce Moodle onto lecturers did not yield the expected success in the uptake of Moodle.

At Omega, resistance behaviours were also specifically directed at Moodle itself, besides Moodle's advocates or Moodle's value. This was confirmed when lecturers purported ease of use of technologies, such as, Google Drive, Eliademy, emails and WhatsApp. However, when it came to Moodle, that is when various excuses were given such as unavailability of internet and use of personal laptops. Interestingly, although the alternative technologies also required internet and laptops, lecturers went out of their way to provide their own laptops and alternative internet. Some lecturers even self-learnt Eliademy and Google Drive, yet they complained of inadequate or no training in relation to the use of Moodle. The reasons for this could partly have been that there was limited user education and consultation of Moodle before its implementation and, of course, there was ineffective training post-implementation. On the other hand, lecturer resistance to Moodle might not have had anything to do with its benefits or features, rather everything to do with rebelling against the unfavourable management practices at Omega.

This is a new contribution of the study missing from extant literature where lecturer- resistance behaviours directed at management and ICT implementers were concealed behind resistance of the system`s significance and/or its features. Therefore, although the study affirms that Moodle advocates, Moodle significance and Moodle features influenced lecturer resistance behaviours, it seemed the two later concepts became almost invisible when most of the resistance behaviours culminated towards Moodle advocates. As such, these discussed findings suggest the following theoretical proposition:

Proposition 1b: *Objects of resistance (system features, value of system and system advocates) influence the manifestation of different forms of lecturer resistance behaviours.*

9.4.3 Impact of resistance triggers on LMS implementation

The study identified a number of triggers that generated conditions for manifestation of lecturer resistance. These were classified into management, infrastructure and personal triggers. Management triggers were *top-down strategies, use of threats and poor communication*; infrastructure triggers were *electricity outages, internet problems* whilst personal triggers were *technophobia, old age and attitude*. Management triggers such as use of threats and top-down approach are similar to those reiterated upon the management model of the university under initial conditions in Section 9.3.1.

In addition, poor communication resulted in most lecturers giving up airing their views concerning Moodle. The communication channels from top to bottom levels were effective whilst from bottom to top were ineffective or absent. The most effective communication link was that of disseminating information from management to lecturers. After airing grievances regarding new policies, it was quite challenging to get feedback from the top. This caused resistance behaviours to manifest from lecturers who felt ignored, hence they chose to resist the new policies including Moodle implementation. This is reiterated in literature where communication breakdowns during the implementation of new technologies have often resulted in their low uptake (Ford, Ford, & D'Amelio, 2008; Jakopovic, 2010).

Internet at Omega was erratic; every participant faced challenges with connectivity. Although the country was affected by constant electricity load-shedding, it was mainly internet and

bandwidth problems that largely affected the uptake of Moodle. Factors that affect ICT implementation in developing countries include technological, managerial and environmental factors (Garg et al., 2015; Nawaz et al., 2011). The study confirms that poor ICT infrastructure plays an important role in triggering lecturer resistance behaviours.

The findings show that technophobia, age and attitude of lecturers influenced the manifestation of lecturer resistance. All respondents above 55 years feared using new technology and justified that the process was not worth it since their usual methods produced the same positive results. Due to fear of learning new things, older lecturers ring-fenced their territories to safeguard against their phobias towards technology, thus translating into resistance behaviours.

A similar finding on resistance behaviours was related to the attitude of lecturers. General negative attitudes of lecturers towards integrating technologies into the classroom affected the implementation and uptake of Moodle. The absence of LMS experts at Omega to fully assist lecturers on the benefits of Moodle increased the negative perceptions from lecturers towards Moodle, since there was limited trust in the system and its implementers. The whole situation did not present either an authentic or a professional process. Similarly, previous studies have corroborated these findings and highlighted that the attitude of expected users of online technology in HEIs can influence the rate of uptake of the technology (Al-Emran, Elsherif, & Shaalan, 2016). It is against this discussion that the following theoretical proposition is suggested:

Proposition 1c: *Management, and personal and infrastructural triggers influence the manifestation of different forms of lecturer resistance behaviours.*

9.4.4 Effects of perceived threats from lecturers on LMS implementation

The study showed that perceived threats of lecturers towards Moodle implementation resulted in the manifestation of different forms of resistance behaviours. The following were the perceived threats of lecturers in this study: *perceived increase in workloads* and *fear of loss of relevance, status or jobs*. Users do not simply resist new technologies for the sake of it; they respond to threats posed by the introduction of a new technology (Lapointe & Rivard, 2005).

Perceived threats result from possible negative outcomes brought by the new system. If users perceive benefits, they are likely to adopt the system, otherwise they resist it (Marakas & Hornik, 1996; Van Offenbeek et al., 2013).

Lecturers at Omega felt Moodle activities would add to their burden of workload; they were already complaining about heavy workloads. The implementation of Moodle threatened to add to their workloads and this move faced resistance (Klaus & Blanton, 2010). Similarly, the habitus of physically connecting with students in the classroom assured lecturers` relevance and virtual teaching using Moodle threatened that assurance. The fear of losing relevance, along with their physical presence in the classroom, influenced most lecturers to shy away from Moodle, hence the display of resistance behaviours. Some extant literature has argued against the notion that technology replaces employees (Eason, 2001). However, several intended users still perceive that once a new technology is entrenched in the institution, then chances of losing their jobs increase. Therefore, users try to reject a new technology and safeguard their jobs. This perception is, however, not entirely true, because most HEIs are advocating for the blended learning approach to better assist students with conceptualisation of concepts and easy achievement of learning outcomes (Tshabalala, Ndeya-Ndereya, & Merwe, 2014).

In this regard, lecturers at Omega, who feared to lose their jobs due to the introduction of Moodle, did not have adequate knowledge of the benefits of blended learning to students. The lecturers lacked knowledge on digital methods of teaching mainly because the university did not provide them with adequate training on LMS. Therefore, without assurance of no losses or negative consequences from Moodle implementation, lecturers at Omega perceived numerous threats, which triggered the manifestation of resistance behaviours. These empirical findings suggest the following theoretical proposition:

Proposition 1d: *Perceived threats influence the manifestation of various forms of lecturer resistance behaviours.*

9.5 Responses or strategies of managers and ICT implementers towards resistance

The responses or strategies from management and ICT implementers to manage lecturer resistance during Moodle implementation at Omega were both positive and negative. The

negative responses were: *inaction*, *dissuasion* (Rivard & Lapointe, 2012) and *enforcement* (Hussain & Hussain, 1984) whilst the negative strategies were *no reward for innovation* (Lawler & Mohrman, 1991), *ineffective training* (Aggarwal, 1998) and *no change management strategies* (de Jager, 1994). The positive responses were: *acknowledgment*, *rectification* (Rivard & Lapointe, 2012), *reward innovation* (Lawler & Mohrman, 1991) whilst the positive strategies were *effective training* (Aggarwal, 1998) and *user consultations* (Resker, 2008). Nevertheless, both the positive and negative responses and strategies did not stop lecturers from resisting Moodle.

Interestingly, instead of positive responses increasing the uptake of Moodle, they actually invited further resistance and resentment towards management. Management offered to purchase laptops on behalf of lecturers to use at work on agreement that lecturers would pay back the university in instalments. This attracted an outcry from lecturers who felt that it was the responsibility of the university to provide computer equipment for staff and not for lecturers to subsidise the university by use of 'personal laptops'. This was a unique and key contribution to the study, since most studies assume that positive strategies or support from senior management is likely to improve technology uptake from users (Vrhovec, 2016).

The strategies used by management and ICT implementers to make lecturers use Moodle did not meet the minimal requirements needed to begin using Moodle. Lecturers needed necessary tools, effective training and internet connection to ease use of Moodle. Moodle advocates did not address these concerns from lecturers'; rather they merely promised to use Moodle amidst all the challenges, and promised to solve the problems in due course.

Existing literature suggests that management and ICT implementers should diagnose and prepare effective responses and/or strategies towards user resistance (Fiedler, 2010). It can be challenging to develop solutions whilst at the same time being accused of causing the problems. A collaboration between users and implementers is recommended to adequately diagnose the causes of resistance and then provide quality improvements (Vrhovec, Hovelja, Vavpotič, & Krisper, 2015). There was no clear-cut mechanism at Omega for the management to follow to develop and address lecturer resistance. This raises a question of whether management

understood the root causes of lecturer resistance. It remained a challenge to adequately formulate strategies, which addressed specific resistance behaviours (Vrhovec & Rupnik, 2011).

The most common reactions from management were either *inaction* towards Moodle concerns or *enforcement* of Moodle on lecturers. Despite management employing persuasion tactics to make lecturers use Moodle, this did not help much, since it created a one-way scenario of dealing with problems. Negative strategies such as dissuasion did not help to reduce lecturer resistance, neither did they improve Moodle uptake. It was ineffective to employ whatever strategies – positive or negative – without addressing the necessary initial conditions (refer to Section 9.3.1) and other root causes of resistance. Therefore, it was imperative for management to strategically align their responses or strategies with other necessities required in providing an enabling ICT environment.

The ICT implementers and management at Omega lacked a thorough understanding of the root causes of lecturer resistance. Consequently, they could not respond to it efficiently?? (Markus, 1983). However, leaving management to manage lecturer resistance alone could be ineffective. A participatory approach to addressing resistance would be more effective (Ngwenya & Pelsler, 2018; Vrhovec et al., 2015). The root causes are explained in detail by relating to contextual factors in the subsequent section. Nevertheless, when technology implementers employ certain strategies and responses without addressing the contextual dynamics and root causes of resistance, different forms of resistance behaviours are likely to manifest. From this debate, the following theoretical proposition is suggested:

Proposition 2: The strategies or responses from management and ICT experts towards user resistance during LMS implementation may influence the manifestation of different forms of lecturer resistance behaviours.

9.6 Contextual factors versus practices of lecturers, management and ICT implementers

The study found that contextual factors in the form of habitus and capital influenced lecturer resistance practices, as well as responses from management and ICT implementers towards lecturer resistance during Moodle implementation at Omega University. Because habitus and capital are internalised in individuals, they conceptualise better the manifestation of different

forms of lecturer resistance, as well as explain reasons behind certain responses or strategies from management and ICT implementers. Since the study identified nested and overlapping fields at Omega, the exact boundaries of the fields can be difficult to establish, unless we explain practices of individuals based on internalised habitus and capital in relation to field positions. This was corroborated by Mutch (2006) and Bourdieu (1977) who discovered that the intertwined layout of fields in a social space reduces the visibility of spheres of influence that the different fields have on individuals' actions.

The logic of practices of participants in a field is accumulated from the participants' habitus and capital in relation to their field position. Hence, the participants' practices are equated to *[habitus and capital plus field]* (Bourdieu, 1984). The same practices reproduce the participant's field position to either strengthen or weaken it (Schultze & Boland Jr., 2000b). This is evident in the study where lecturer resistance practices were influenced by:

- Internalised individual habitus and capital,
- Collective habitus and capital of their departments and
- Habitus and capital of the Omega field.

This cyclic causal loop also applied to the practices of management and ICT implementers. Therefore, a relationship between the participants' habitus and capital, in relation to their positions in the multiple fields, influence the nature of practices displayed by those participants. It is against this discussion that the following theoretical proposition was suggested:

Proposition 3: Differences in habitus and capital in multiple fields influence different resistance practices in lecturers AND different responses or strategies from management and ICT implementers towards resistance practices.

The proposition has two sub-propositions, which are discussed in the subsequent sections.

9.6.1 Habitus of stakeholders during implementation of ICT projects in HEIs

In addition to pre-existing habitus, lecturers' resistance practices were also formulated through age-related habitus, prior skills in technology, technophobia and pedagogical beliefs. While

lecturers from the same departments had a collective habitus, their resistance practices were different because of their internalised individual habitus; hence, the manifestation of different forms of resistance behaviours. The different forms of resistance practices can be attributed to an individual's habitus shaped by their past experiences and historical background. This is congruent with past studies on user resistance to IT implementation in HEIs, which noted that internalised or collective habitus of users cause them to act differently and display different forms of either resistance or adoption practices towards the new system (Beckman et al., 2014; Nachmias et al., 2010).

Similarly, the habitus of ICT implementers to implement ICTs, provide training and ICTs infrastructure depended on the collective habitus of Omega and external fields. Therefore, the practices of ICT implementers were influenced by their own internalised habitus as well as the habitus of surrounding external fields. Thus, the poor implementation of Moodle was not attributed to ICT implementers alone; rather it was Omega's prerogative to ensure that ICT implementers were provided with necessary tools to accomplish their duties effectively. However, failure to conduct user consultations and provide effective training to warrant successful uptake of Moodle rested entirely on ICT implementers. The modifications to their habitus led them to employ certain strategies - positive or negative towards user resistance to cover up flawed actions.

The habitus of senior management to assist with development and enforcement of ICT policies, as well as support implementation of ICTs, relied on the support from lower and middle managers. The stakeholders at Omega worked in silos with minimum corroboration of events across groups on the rate of Moodle uptake. Information on Moodle uptake and usage passed onto deans by HODs was not entirely accurate; it was the same information that senior management used to make strategic decisions pertaining to Moodle.

Some managers gave biased reports, which downplayed lecturers' grievances. Despite all the known challenges, they did not want to be blamed for poor management by presenting that their departments or faculties were failing to adopt Moodle. Such behaviour was driven by different values and beliefs (habitus), which influenced lower and middle managers to want to appease senior managers. They wanted to maintain or upgrade their prestigious positions in

the Omega field at the expense of system users. Past research asserts that junior managers pride themselves as strategic advisors to senior managers; hence, they continuously scan information in the workplace and group it into right or wrong information and 'who needed to know', 'who wants to know' or 'who should know' (Schultze & Boland Jr., 2000a). Therefore, to protect their positions, it was easier for lower and middle managers to inform ICT implementers about Moodle challenges than to tell senior management.

Past research acknowledges the alignment of values and beliefs from multiple fields on the ability of technology stakeholders to collaborate during ICT projects implementation in HEIs (Schultze & Orlikowski, 2004). Shared meaning describes common values and beliefs between stakeholders, built over time through face-to-face interactions to make sense of each other's actions (Bjørn & Ngwenyama, 2009). The studies reiterate this study's findings that successful implementation of LMS in HEIs depends on shared meaning, and collaborative and financial support amongst stakeholders, including government and private organisations. When system implementers in multiple fields have different values and beliefs, they employ certain practices or strategies, which may cause or retain low uptake of technology (Schultze & Orlikowski, 2004). When management and ICT implementers share different values and beliefs, they fail to understand each other, resulting in breakdowns, coupled with failed efforts to increase uptake of the new technology.

Since habitus are incremental; the introduction of Moodle attempted to build onto the already existing habitus of lecturers using traditional methods of teaching. This created divisions within Omega's multiple fields, causing conflicts between lecturers, management and ICT implementers. The conflicts threatened the stability of the stakeholders' field positions, causing resistance to manifest. Extant literature asserts that practices, actions or behaviours of actors result from the shaping of the field by their habitus and vice versa, to retain their shared interests that can unite or divide them (Ellway & Walsham, 2015; Ngwenya & Pelsler, 2018). Therefore, when individuals are not receptive to building onto their existing habitus during change, symbolic violence and misrecognition occurs and results in clashes, which in turn cause resistance practices (Czerniewicz & Brown, 2013; Petit-Dit-Dariel et al., 2014). Different values, beliefs (habitus) and perceptions of Moodle's value from participants in Omega's multiple fields caused divergent views regarding LMS implementation. Most lecturers perceived a number of

threats from the implementation of Moodle, leading to manifestation of resistance behaviours. Given this discussion, the following theoretical proposition can be suggested:

Proposition 3a: *Different values and beliefs (habitus) in multiple fields influence different forms of practices in lecturers, management and ICT implementers.*

9.6.2 Stakeholders` forms of capital of during implementation of ICT projects in HEIs

The different forms and amount of capital possessed by lecturers, management and ICT implementers determined their initial and subsequent positions in the Omega field as well as retention of the acquired positions. When lecturers, managers or ICT implementers had more capital in the field based on qualifications, academic title, employment status and level of Moodle knowledge, they were more likely to accumulate more capital to retain or upgrade their existing positions. Therefore, lecturers with more different forms of capital were valuable to a small university such as Omega and displayed more resistance behaviours compared to fellow colleagues with less capital. Management did not want to frustrate PhD holders for not using Moodle, to avoid losing them. Hence, they ‘understood’ when doctors or professors explained that they were busy doing research and did not find time to concentrate on Moodle.

Since it is rare or non-existent in the Zimbabwean academic culture to address anyone using their first name (Zhou, Pfukwa, & Landa, 2018), it was quite prestigious (symbolic) to be addressed as Dr or Prof at Omega. Prestige and titles (*cultural capital*) were the most important capital at Omega, which influenced some lecturers to resist Moodle and still be ‘safe’. The lecturers had increased chances of negotiating non-usage of Moodle without facing any dire consequences from management. Therefore, more capital in relation to habitus and field positions of lecturers influenced their choices to display certain forms of resistance behaviours towards Moodle.

Previous studies have shown that lack of ICT expertise and technical support promotes user resistance, because the new technology becomes unreliable due to many technical faults which are likely to take more time to resolve (Albugami & Ahmed, 2015). Due to limited LMS experts at Omega, whenever lecturers were confronted about resistance towards Moodle, they accused LMS implementers of poor implementation. In other words, lecturers justified

resistance to Moodle by shifting blame to ICT implementers who had low capital in terms of expertise in Moodle implementation and support. Similarly, the inadequacy of computers meant that Omega had low economic capital, which consequently affected lecturers, resulting in resistance to Moodle. As reiterated in past studies, economic crises in most developing countries affect universities, which in turn fail to provide computers and tools for staff and students to use with educational technologies (Howard, 2013). It is, therefore, essential for management to avail enough ICT resources and technical support during LMS implementation and reduce low uptake (Al-Busaidi & Al-Shihi, 2012; AlQudah, 2014).

This study contends that there was a strong relationship between the choice of resistance practices and the amount of capital possessed by a lecturer. Departments such as Computer Science used Moodle more because of the nature of their expertise and prior knowledge and skills in ICTs. Therefore, resistance from departments with less ICT expertise manifested mostly in the form of *minimal use* of Moodle. Past research notes that prior knowledge and skills in technology, as well as area of expertise, influence user acceptance or resistance of the technology (Al-Busaidi & Al-Shihi, 2012).

Prestige, honour and level of Moodle expertise influenced the type of responses or strategies from management and ICT experts when managing lecturer resistance. Since managers and ICT experts had more symbolic capital, they employed mostly negative responses and strategies that were inclined towards retention or upgrading their positions in the field. These empirical observations suggests following theoretical proposition:

Proposition 3b: *Different forms and amount of capital influence different practices of resistance in lecturers and negative responses or strategies from ICT implementers and management.*

This is congruent with many studies on resistance to change, which assert that most managers take resistance for granted and define it at face value as a negative factor, which needs urgent overcoming (Kossek et al., 1994). It is often that, when resistance manifests, managers with more symbolic capital try to overcome it without taking time to understand the underlying root causes (Ali et al., 2016). Users, therefore, perceive such strategies and responses negatively, resulting in resistance to the technology and consequently low uptake.

9.7 Summary of chapter

This chapter discussed the results of the study. The focus was to address the research questions in line with the key thematic outcomes in the findings to summarise how resistance manifested from lecturers in HEIs during the implementation of LMS projects. In light of the findings, seven theoretical propositions were suggested and validated using existing literature regarding resistance to technology implementation in HEIs as well as MRITI and TOP frameworks. Following is a summary list of this study's theoretical propositions in light of research questions.

1. Previously established work routines (management model, ICT structure and ICT culture) influence the manifestation of different forms of lecturer resistance behaviours (Proposition-1a).
2. Objects of resistance (system features, value of system and system advocates) influence the manifestation of different forms of lecturer resistance behaviours (Proposition-1b).
3. Management, personal and infrastructural triggers influence the manifestation of different lecturer resistance behaviours (Proposition-1c).
4. Perceived threats (fear of loss of relevance and perceived workloads) influence the manifestation of various forms of lecturer resistance behaviours (Proposition-1d).
5. The strategies or responses from management and ICT experts towards user resistance during LMS implementation may influence the manifestation of different forms of lecturer resistance behaviours (Proposition 2).
6. Different values and beliefs (habitus) in multiple fields influence different forms of practices in lecturers, management and ICT implementers (Proposition-3a).
7. Different forms and amount of capital influence different practices of resistance in lecturers and negative responses or strategies from ICT implementers and management (Proposition-3b).

CHAPTER TEN

CONCLUSION

Never promise more than you can perform.
Publilius Syrus

10.0 Introduction

This thesis is concerned with how resistance to the implementation of LMS from lecturers in HEIs of developing country environments manifested. Chapter 9 discussed the research findings and suggested seven theoretical propositions and implications on LMS implementation in HEIs. This chapter provides an overview of the research, contributions of the study, study limitations, suggestions for future research work and researcher's reflections of the research process. In conclusion, Section 10.7 presents the key message of the study.

10.1 An overview of the research

10.1.1 Problem statement, rationale and purpose of the study

The research question for this study was *'How does resistance behaviours from lecturers manifest during the implementation of LMS in developing country HEIs?* This has been evaluated by studying the dynamics influencing the implementation and low uptake of ICTs in HEIs of developing countries, as well as the contextual factors responsible for the generation of lecturer resistance behaviours during the implementation of LMS in HEIs. The primary question was answered through four sub-questions.

- The first sub-question identified different forms of resistance behaviours that manifested from lecturers during LMS implementation.
- The second sub-question was on the manifestation process of lecturer resistance behaviours during LMS implementation.
- The third research sub-question examined how the nature of responses and strategies from management and ICT experts influenced lecturer resistance behaviours.
- The fourth sub-question was on how contextual factors in the form of habitus and capital influenced lecturer resistance during LMS implementation in HEIs.

The following paragraphs summarise the answer to the questions.

It has been established in extant literature that the implementation of ICTs, particularly LMS, in HEIs of developing countries is marred with low uptake of the technology, thus failing to achieve the intended objectives of being a transformative drive and improving the human

capacity development. This stems from the fact that developing countries are still struggling to harness the productive capacity of their ICT resources due to a myriad of factors.

The study reviewed the literature on the implementation of ICT projects in HEIs in developing countries. The review showed that low uptake of ICT projects emerge because of a number of barriers: limited ICT expertise, high cost and complexity of implementation, inadequate training, lack of senior management support, poor management models and culture, poor ICT infrastructure to develop robust ICT networks, and resistance to change. These were classified into technological, managerial, environmental and social factors. The apparent dearth of research on the role of user resistance in causing low uptake of ICTs in HEIs has revealed the need to further investigate this human-centred phenomenon.

Whilst most past studies acknowledge resistance as a barrier to ICTs implementation in many organisations, the aspect of user resistance has often been taken for granted and at face value by managers to be a negative factor. Most managers assume that user resistance is a factor that needs to be overcome as soon as it emerges, thus overlooking the details of how and why user resistance has manifested to begin with. Ignoring the contextual factors under which user resistance manifest has resulted in poor development of responses and strategies towards user resistance, further propagating low uptake of the ICT projects.

The objectives of this study were thus to investigate the manifestation of lecturer resistance behaviours during the implementation of LMS in HEIs and the responses employed by managers to manage such resistance behaviours. In addition, the contextual factors under which lecturer resistance was seen to manifest were investigated in light of Bourdieu's TOP.

10.1.2 Research design

The study was qualitative, deductive and followed an interpretive research epistemology. A case study research design was employed using a single case of a Zimbabwean HEI to answer the research questions by investigating user resistance, a unique and complex phenomenon of interest, which needed comprehensive conceptualisation.

The case investigated the implementation and usage of an LMS, Moodle, at Omega University in Zimbabwe. The case selection was carefully thought out after the researcher discovered evidence of the phenomenon under investigation. Data was collected through semi-structured interviews, participant observations, documentation, field notes and informal conversations. The use of multiple sources of data and methods in both the data collection and data analysis stages allowed triangulation to validate and confirm the reliability of the research findings. A total of 38 interviews were conducted with various stakeholders involved in Moodle implementation and 15 documents were analysed.

The underlying theoretical framework used for the study was Bourdieu's TOP (Bourdieu, 1990b), which complemented MRITI model (Lapointe & Rivard, 2005). MRITI assisted in identifying the forms of resistance behaviours that manifested from lecturers during Moodle implementation, whilst the TOP, in light of contextual factors, provided the overall explanations on why lecturer resistance behaviours/practices manifested in the way they did. Reviewed literature assisted in identifying the responses and strategies used by management and ICT implementers towards and/or to manage lecturer resistance behaviours.

The data analysis was divided into three phases; (1) analysis to identify and understand the manifestation of lecturer resistance behaviours, (2) analysis to identify responses and strategies from management and ICT implementers towards lecturer resistance, and (3) analysis to understand how contextual factors surrounding Omega University influenced manifestation of lecturer resistance behaviours during Moodle implementation.

10.1.3 Summary of research findings

A summation of the findings showed that different forms of lecturer resistance behaviours manifested during the implementation of Moodle because of the initial conditions that interacted with objects of resistance at Omega University and generated perceived threats in lecturers. Some of these findings were new whilst others substantiated what already exists in established literature. In particular, the study found that the initial conditions were the management model, the ICT structure and the ICT culture at Omega. Similarly, the objects of resistance showed that lecturers' resistance behaviours were mainly targeted towards management and ICT implementers as Moodle advocates and less towards Moodle's value or

its functionalities. In addition, the perceived threats from lecturers included fear of loss of relevance, status or jobs, as well as increased workloads. Furthermore, the study identified various forms of resistance behaviours that manifested from lecturers during Moodle implementation. Table 10.1 presents the eight different forms of lecturer resistance behaviours.

Table 10. 1: Different forms of lecturer resistance behaviours

Resistance episodes	Forms of resistance behaviours
Apathy	Disinterest
	Prioritisation
Passive resistance	Under use/minimal use
Covert resistance	Delegation
	Pessimism
Active resistance	Avoidance
	Withdrawal
	Refusal to use

The forms of resistance were regrouped into four episodes namely: apathy and passive, covert and active resistance. The triggers of the resistance behaviours to use or not use Moodle were grouped under the following: management, infrastructure and personal triggers.

The positive responses or strategies from management and ICT implementers were acknowledgment, reward innovation, rectification, effective training and user consultations, whilst the negative responses were inaction, dissuasion, enforcement, no reward for innovation, ineffective training and absence of change management. The study found that the nature of responses at Omega neither reduced lecturer resistance nor enhanced the low uptake of Moodle.

Various contextual dynamics, in the form of differences in habitus (values and beliefs) and capital within and outside the Omega field, led to the manifestation of lecturer resistance practices as well as the practices of managers and ICT implementers towards lecturer resistance. In particular, the findings showed lecturers` resistance practices were caused by the following *habitus*: age, technology skills, technophobia and pedagogical beliefs and the following forms of *capital*: academic qualifications, position, titles and employment status. Consequently, the practices of management and ICT implementers were driven by the *habitus* of implementing, supporting and training of ICT projects, providing ICT infrastructure as well as

developing and enforcing ICT policies and motivated by the following forms of *capital*: prestige, honour, degree of Moodle expertise and qualifications.

10.2 Implications of findings for LMS implementation in HEIs

The differences in the forms of habitus and capital in multiple fields at Omega caused conflicts and disagreements that influenced the manifestation of different practices of resistance in lecturers, as well as different responses and strategies from management and ICT implementers towards lecturer resistance. In light of these findings, it is suggested that the implementation of LMS in HEIs involves stakeholders who have different values and beliefs in relation to their field positions and depending on the multiple fields of practice to which they concurrently belong.

To minimise divisions, create a harmonious working environment and cordially resolve conflicts, technology users, managers and implementers should be thoughtful and aware of the different values and beliefs from their respective colleagues. Therefore, instead of causing conflicts or frictions, the stakeholders should create a common social space where members' values and beliefs are supported as well as promote change management strategies that allow for a smooth transition whenever there is need to adopt new values and beliefs. This could create a platform for exhaustive user consultations on system choices for implementation to cater for various individuals' work practices which in turn could contribute to ICT project implementation success by improving uptake, thus reducing user resistance practices.

At managerial levels, managers and implementers should be more reflective of their powerful positions which influence their actions and when developing policies and implementing ICT projects. Power imbalances due to different forms and amounts of capital result in communication breakdowns and perceived threats from expected system users. Reflections ensure that silos are thwarted and communication channels are improved both vertically and horizontally, to ensure successful implementation of ICT projects. Consequently, the responses and strategies towards any possible user resistance behaviours would be less critical but, rather, geared towards providing more user education, awareness, effective training and rectification of implemented systems.

The study also revealed that when initial conditions interact with objects and triggers of resistance, they produce perceived threats in lecturers, which trigger resistance behaviours. These findings can also be explained by the preceding contextual dynamics. However, from another revelation, the study posited that the successful implementation of LMS depends on good management models, ICT structures and the ICT culture of an institution. In addition, the benefits and functionalities of the LMS should be explained to users exhaustively and LMS implementers should find ways to guard against various forms of possible triggers that may influence non-usage behaviours. In doing so, chances are reduced of perceived threats from expected LMS users and that possible means to ensure successful uptake of the LMS are employed, perhaps with lesser effort, by all the stakeholders. Thus, there could be manifestation of different forms of acceptance compared to possible manifestation of resistance behaviours.

10.3 Contribution of the study

This research makes three types of contributions: knowledge, theoretical and practical. The study also derived research propositions to explain the manifestation of lecturer resistance practices, as well as responses of technology implementers during Moodle implementation.

10.3.1 Contribution to knowledge

The study contributes to knowledge by adding to the body of literature in the IS discipline on ICTs implementation in higher education. The empirical evidence and theory (Chapter 2, 3 and 7) in this thesis contribute to the body of knowledge through detailing a myriad factors contributing to the low uptake of ICT projects in HEIs in developing countries, as well as through a deeper conceptualisation of user resistance towards the implementation of LMS in HEIs. The study has answered the main research question of how resistance to LMS implementation manifests from lecturers in a university in a developing country context of Zimbabwe. The research ties together technology users, managers, ICT experts and policy makers and analyses how uptake of ICT projects in HEIs can be improved through development of effective implementation processes, policies and strategies of ICTs in HEIs.

The study reveals that initial conditions in the form of poor management models, ICT structure and ICT culture of an organisation (Dopson & McNay, 1996), affect the technology

implementation process, resulting in low uptake of the technology. It further asserts that these conditions, mixed with negative triggers, as well as perceived threats from users, determine the targets towards which to direct resistance behaviours (Lapointe & Rivard, 2005). The detailing of the step-by-step manifestation process of lecturer resistance in this study can assist managers and ICT implementers on 'how', 'when', and 'to whom' to address concerns of the system under implementation. As such, the roles and strategies from managers and ICT experts are fundamental towards the successful implementation of ICT projects in HEIs (Ijaz & Vitalis, 2011; Rivard & Lapointe, 2012).

A systematic review of literature in Table 2.1 identifies and categorises into four the numerous challenges that affects the implementation and uptake of ICT projects in HEIs of low-income countries: technological, social, managerial and environmental factors (Fernandes et al., 2012; Laferrière et al., 2013). Thus, the study assists to add significant insights to literature of the conditions that inhibit successful implementation of ICT projects in HEIs, thereby provides a platform for stakeholders to design possible ways of improvement. The theoretical propositions in Chapter 9 suggested from the study findings demonstrate the existence of such key insights by linking them to literature.

Through the gaps highlighted in existing literature, the study contributes towards understanding the resistance phenomenon and how its manifestation affects implementation of ICTs in HEIs of low-income environments (Laumer et al., 2015). Since resistance is perceived negatively with very little understanding, this study elucidates the limited conceptualisation of different forms of resistance to richly contribute towards the domain of resistance to technology implementation in IS (Samhan, 2018). Research implications from the literature reviewed on resistance to technology implementation are summarised below:

- Resistance to technology implementation is a unique and complex phenomenon, which requires a dedicated comprehensive research for better conceptualisation of the concept.
- Understanding the management models, ICT structures and ICT culture of an organisation can guide ICT implementers on the various forms of resistance behaviours likely to manifest when an ICT project is implemented in similar settings of HEIs in developing countries.

- Exploration of the relationship between perceived threats and manifestation of resistance behaviours is insightful for managers and ICT implementers to develop responses and strategies that instil positive perceptions of the system in users.

The research has contributed to the knowledge base by identifying and refining some theoretical insights on resistance from literature and empirical observations to emerge with a better explanation of the resistance phenomenon.

10.3.2 Contribution to theory

The study makes a contribution to theory in three ways:

- 1) The use of TOP as an explanatory theory of resistance to LMS implementation in HEIs,
- 2) The integration of different theories to TOP to augment its explanatory power,
- 3) Addition to the resistance body of knowledge by enhancing the degree of theorisation of resistance to LMS implementation studies in IS research.

First, the theoretical contribution emerges from the use of TOP (Bourdieu, 1990b) as an explanatory theory of resistance practices to LMS implementation in HEIs. Although TOP is borrowed from the sociology discipline, it has gained popularity in IS research in the last two decades. However, its use to analyse the practices in technology implementation is still limited. Further, a few studies have employed TOP as an analytical and explanatory tool of resistance to implementation of ICTs in HEIs. Other studies have focused on ICTs use by nurse educators (Petit-Dit-Dariel et al., 2014), barriers to technology integration by teachers (Belland, 2009) and digital communication technologies in sociology (Ignatow & Robinson, 2017). To the researcher's knowledge, this study is the first to use TOP as an explanatory theory in the domain of resistance in IS.

The use of TOP in this study may be seen as a theoretical contribution to the IS discipline, which provides a theoretical and conceptual link between the implementation of LMS and the resistance practices that manifest within HEIs of developing country settings. TOP affords the means to trace practices of stakeholders to deduce causality and relationship structures (Schultze & Boland Jr., 2000b) implied during implementation of technology. Since TOP's strength is explanatory and not prescriptive, it does not impose on people how things should be done; it allows a clear unravelling and explanation of complex processes and multiple

relationships in a field (Mutch, 2006). Therefore, TOP can fit into HEI contexts to provide a practical approach in explaining internal and external interactions during ICT implementation. TOP's key concepts of field, habitus and capital respectively assisted the study to describe the context where actions took place, articulating boundaries and constraints governing Omega's multiple fields; analysing the participants' internalised strategies to survive the power struggles within Omega; and explaining who qualifies to enter and stay in the Omega field, why and how.

Second, the study has shown that Bourdieu's TOP is capable of explaining, in its entirety, the process of manifestation of resistance during LMS implementation and use in the complex and dynamic field of ICT for education (Brunello, 2010) and the multidisciplinary IS field in general (G. Davis, Gray, Madnick, Ralph, & Andrew, 2010). Since TOP is a social practice-based theory (Schatzki, 2001) rather than a practice theory based on science and technology (Latour, 1987; Rouse, 1996), it describes entities and actions at an abstract level such as actors or agents and practices in general, and not as ICT users or resistance specifically. Therefore, the study brought in other theories to complement and provide an improved degree of explanation for all the processes involved in the manifestation of resistance behaviours.

Lapointe and Rivard (2005)'s MRITI, which is an integration of (Joshi, 1991; Marakas & Hornik, 1996; Markus, 1983; Martinko et al., 1996), was used to explain how different forms of resistance behaviours manifested from lecturers during Moodle implementation at Omega, when perceived threats were triggered by objects of resistance and initial conditions. Accordingly, the study addressed the limitations of TOP and its vagueness to scientifically explain forms of resistance towards LMS implementation that result in low uptake of ICTs in HEIs in developing countries. To the researcher's knowledge, this study is the first to incorporate TOP and MRITI as explanatory theories in the IS discipline, as well as in the domain of technology implementation. By building onto the multilevel model of resistance, this study provided a unified conceptualisation of resistance to technology and a deeper theorisation of resistance that is lacking in the domain of resistance in IS research (Samhan, 2018). Therefore, the study contributes to the IS field another approach to using TOP and increasing the degree of theorisation of resistance, as well as expanding the scope of theoretical analysis of user resistance to ICTs implementation studies.

Third, the study contributed to theory development by showing gaps in literature from unclearly defined and non-existent unified theoretical frameworks, to provide a better explanation of how and why different values, beliefs and capital causes certain forms of resistance behaviours to manifest during implementation of ICT projects in HEIs. Resistance studies and theories in the IS discipline are rich but at the same time fall short on the level of theorisation (Samhan, 2018). Specific and systematic studies on resistance are uncommon within the IS discipline, whilst the term 'resistance' is sporadically used with minimal understanding (Vinthagen & Johansson, 2013). Although past research has analysed resistance and provided some insightful information on managing it, there is still paucity in the degree of theorisation on the phenomenon (Lapointe & Rivard, 2005; Samhan, 2018). This has driven this study to contribute to such theoretical development by employing TOP and MRITI.

Furthermore, most technology studies explain resistance in passing as the direct opposite of acceptance, using theoretical angles of organisational change perspective (Erwin & Garman, 2010) and adoption (Kumar & Daniel, 2016). As much as these aspects are important, it is also crucial to study resistance using multidisciplinary theoretical lenses and to reveal novel explanations as to how and why people resist technology. By drawing on the combination of TOP's sociology theoretical lens and MRITI resistance lens, a better inference to knowledge and theorisation is achieved on how and why lecturers resist to ICTs implementation in HEIs. Therefore, this study added knowledge by developing an amalgamated theory that informs better strategies to manage user resistance and improve the low uptake of ICT projects in HEIs of developing countries.

10.3.3 Contribution to practice

The study has made a contribution to practice by establishing a deeper understanding of resistance as opposed to just enlisting it as one of the barriers to ICTs implementation. A deeper understanding of the resistance phenomenon has more potential to contribute to improvement of ICT uptake in HEIs compared to just mentioning it in passing as a negative factor. Even though the drive behind understanding user resistance is to enhance technology uptake in HEIs, this study has shown that it has potential to improve ICT strategies, communication skills and bring together key stakeholders to ensure successful implementation of ICT projects in HEIs. Uptake of LMS in HEIs is low, due to lecturer resistance (Cancho et al.,

2010), as well as limited ICT expertise, poor ICT infrastructure and limited management support (Garg et al., 2015). It is therefore imperative to understand lecturer resistance to devise strategies that can manage resistance behaviours and enhance their ICT expertise, as well as provide the necessary requirements to enable uptake and effective usage of the ICTs (Nawaz, 2011).

The research contributes significantly to the wider arena of HEIs in Zimbabwe as well as developing countries and similar settings, by drawing on practical insights to help address social inconsistencies and inequalities brought about by the implementation and use of technologies in the workplace (Beckman, Apps, Bennett, & Lockyer, 2018). The study provides a podium for lecturers to have a voice, academic freedom and a platform to air their views without fear (Keller, 2006), thereby providing rich insights on how they exhibit resistance behaviours during LMS implementation. In the same way, this could assist technology implementers to listen to users and devise strategies or responses that address the raised concerns.

Despite a number of studies conceptualising user resistance, few studies in the IS discipline have conceptualised responses and strategies from technology implementers towards lecturer resistance – nor the impact of these responses on lecturers (Rivard & Lapointe, 2012; Vrhovc, 2016). These studies have shown that negative strategies such as dissuasion or enforcement may reduce resistance tendencies in users, more than positive responses such as acknowledgment or inaction. However, this study has shown that without fixing the underlying root causes of initial conditions, objects and other triggers of resistance, the negativity or positivity nature of responses from management and ICT implementers does not reduce the manifestation of lecturer resistance behaviours.

Ultimately, different habitus and capital of stakeholders induce power struggles to retain or upgrade field positions, causing divisions and conflicts between users and technology implementers, giving rise to resistance behaviours and consequently low uptake of the ICTs. Therefore, understanding the differences in values, beliefs and positions of key stakeholders will go a long way in appreciating everyone`s freedom, views and challenges and assist a unified voice to formulate best strategies and responses towards ICT projects implementation, which in turn could eradicate resistance behaviours. The study has contributed to practice in that the

coming together with one voice of managers, ICT experts, project managers, policymakers and technology users, who will create a holistic understanding of their various differences, which allows them to develop ways that minimise conflicts in the workplace. Such practical contributions inform change management strategies, policies and processes appropriate for HEIs in developing countries and similar settings during technology implementation to improve uptake of ICT projects.

10.4 Limitations of the study

This research was undertaken using a single case study strategy. The researcher pursued it to gain richer insights by building comprehensive, context-bound explanations of resistance, a unique phenomenon (Yin, 2013). Preferably, to obtain an understanding of the complexities inherent to different HEI and country contexts, a multiple case study design would have been ideal (Eisenhardt, 1989). However, due to the nature of the theoretical framework employed in the study (Bourdieu's TOP), this became insignificant because the embedded single HEI consisted of sub-units in the form of multiple fields to represent multiple cases that could be analysed separately. For example, the HEI Omega nested faculties which in turn nested academic departments and, separately within the Omega, existed the ODL and ICT Departments as well as the ICT committee, each having its own unique characteristics and constraints defining it (see Figure 8.1). Therefore, data emerging from the multiple sub-units can be analysed between sub-units or across sub-units to enhance quality of findings. Additionally, the study's theoretical findings from the single case are transferrable to other similar research contexts.

The researcher could not interview a key participant of the study, the Chairman of the ICT committee, due to time constraints and unavailability. The VC of Omega was the Chairman of the ICT committee, which made the overall strategic decisions concerning implementation of ICT projects in the university. It would have been ideal to interview the VC to understand his vision as CEO of the institution about which direction the ICTs should take and how he expected ICTs to influence the vision and mission of the university. To mitigate this limitation, the Deputy VC, who was also a member of the committee and chaired it in VC's absence, was interviewed instead.

The study only focused on lecturers as technology users. In an HEI, where both academics and students use LMS for teaching and learning respectively, interviewing students as well would have been ideal. Initially, the study proposed to include students as participants but, during data collection, the sample became larger and more complex, considering the study was also focusing on managers, ICT experts as well as documents. Including students would have made the study broader and more complex, whilst presenting a minimal understanding of the phenomenon for each cohort. In addition, the researcher chose to leave out students because relatively fewer studies concentrate on lecturers and resistance to LMS compared to studies on students and technology integration.

The researcher was a participant observer in the study and this could have created some degree of bias on the data. However, to mitigate the negative impact of this limitation, the researcher employed the seven principles for conducting and evaluating interpretive research, shown in Table 5.1 (Klein & Myers, 1999). In particular, the researcher remained sensitive to multiple meanings from respondents by carefully questioning the participants for their input without necessarily leading them. Where information was unclear, the researcher went back to participants for verification and validation, using member-checking methods. Accordingly, despite being guided by preconceived theories, the researcher was open to possible falsifications of the presumptions and tried to present the emerging concepts as portrayed from the collected data.

10.5 Possible future work

The limitations in the preceding section form a basis for possible future research work in both the academic arena and other private organisations. This research presents three suggestions for possible future work. In addition, it is also hoped that future research will be undertaken to validate the suggested theoretical propositions, explaining how resistance to implementation of LMS implementation manifest from lecturers in HEIs of developing environments.

First, since the study focused only on lecturers as LMS users on the teaching perspective, future studies could also include students as LMS users from the learning perspective, as they are important to balance the comparative analysis of the forms of resistance behaviours that manifest from users of technology and/or LMS in HEIs.

Second, whilst this study used a single case method to identify and explain forms of resistance behaviours manifesting from lecturers in HEIs, future research could employ a multiple case study method to deduce a comparative analysis of the explanatory power of the different forms of resistance that manifest from different contexts, and perhaps identify more. Similarly, explanations of the causality loops between initial conditions, objects and triggers of resistance, as well as perceived threats versus manifestation of certain resistance forms, could be improved by use of a mixed method approach to produce quantifiable measures of these determinants as evidence (Kaplan & Duchon, 2014).

Third, due to time constraints and space, this study simply explained the causalities of various forms of resistance. Future research could further focus on why lecturers justified their resistance behaviours in a way to avoid guilt or face any negative consequences. The need to hide resistance behaviours and the continued belief that resistance is a negative thing that needs to be eradicated exists, not only in managers and ICT implementers, but in technology users as well, such that they would quickly deny or justify by neutralising their behaviours rather than affirming resistance of the system. On that note, the researcher's paper was accepted for publication, drawing on the neutralisation theory from the deviance discipline, to explain how lecturers neutralise resistance during LMS implementation in HEIs (see research publications section).

10.6 Researcher's reflections of the research process

The personal reflections of the researcher were based on immersing myself into the study and self-consciousness of the research process. The constant self-awareness and reflections allowed me to critically analyse the decisions and choices I made throughout the research process and their impact on the study inquiry (Ortlipp, 2008). Carrying out this research has been substantial for me as an individual and an academic in the IT field. During the course of the study, I reflected on views from the ICT for education practices and their interrelations with values, beliefs, political and economic contexts to influence the phenomenon under investigation. In addition, as an academic from an IT field of an HEI in a developing country environment, my perceptions on implementation and use of ICT projects, in particular LMS, have been repeatedly challenged. The following three sections present my reflections as

follows: (1) the evolution of the research motivation and questions; (2) the research design and how it can be improved; and (3) evaluation of study contributions based on theory development and findings.

10.6.1 Motivation of research

At the inception of the study and based on extant literature as well as empirical observations from the case study, the intention was to understand the barriers causing low uptake of educational technologies in higher education, since it was essential to achieve set targets for SDGs 4 and 9 by the year 2030. The drive came from the realisation that the LMS implemented in the case under investigation seemed to be underutilised, with many users unaware of its purpose and benefits, as well as it being affected by surrounding contextual factors. Additionally, and through a systematic review of literature, I later discovered that most studies were inclined towards technology adoption with unquestionable doubt that ICTs transform and improve the livelihoods of people across all sectors of the economy such that any barrier towards incorporation of ICTs should to be mitigated. Thus, I saw that past studies had explained adoption of ICTs from the acceptance perspective rather than from any other alternative, which could be a continuum of resistance or a 'darker' side of ICTs (Unwin, 2018); resistance was mentioned in passing as an obvious negative factor manifesting in form of resistance to change.

Similarly, most studies portrayed user resistance as a negative factor, which managers needed to overcome as soon as it emerged, without necessarily exploring its underlying root causes. To support this revelation, some existing literature highlighted that resistance was not necessarily bad; rather, it could manifest to address inconsistencies or irregularities brought about by the new system (Dent & Goldberg, 1999); hence, it was imperative to understand it more. This was interesting for me, as I also had preconceived assumptions that resistance was a bad thing, so I decided to explore further to understand how and why resistance manifested by users during the implementation and use of ICTs projects in HEIs, resulted in their low uptake. This led me to also include key stakeholders of LMS implementation so that I could understand the processes from all possible angles.

On the other hand, I also realised that there is a possibility that others may look at the non-usage behaviours of Moodle at Omega as a result of poor implementation and not necessarily as a result of user resistance. This insight can be accepted as well in this study. However, this study further argued that poor implementation in fact influenced manifestation of non-usage behaviours in lecturers. From the definition of resistance in IS, '*an opposing action and intentional force behind the introduction of a new technology*' (Mahmud et al., 2017), non-usage, therefore, qualifies as a form of resistance behaviour.

Since I am from Zimbabwe, it was advantageous for me to work with respondents who at times preferred to use our own language to simplify explanations. This enhanced engagement between the respondents and myself during the research process. Since I was a participant observer myself during the time of data collection, I was also expected to use Moodle and attend strategic meetings concerning Moodle implementation and uptake, as well as occasionally monitor usage of Moodle by other participants. Therefore, experiencing and listening to reactions towards the LMS from multiple perspectives of the users, managers and ICT experts was complex whilst eye-opening, at the same time allowing me to relate well to different values and beliefs of all the relevant key stakeholders. Thus, balancing the study's theoretical arguments of all the participants became easier.

10.6.2 Reflections on methodology and research design

The research epistemology of interpretivism intends to gather in-depth understanding and meaning of the social phenomenon, whilst suggesting that the knowledge of reality is socially constructed by human actors (Walsham, 2006). Since resistance is a complex social phenomenon, I felt that a social theory would best explain its nature, hence the highly fragmented social practice theory by Bourdieu caught my attention and I began reading more on it. As an explanatory framework, Bourdieu's TOP was suitable to demystify the complexities of resistance, whilst explaining why people do what they do every day (practices) based on its rich constructs (field, habitus, capital). However, the link between resistance and technology implementation could not be fully illuminated by TOP alone, hence, the decision to integrate with the model of resistance to IT implementation, which described the manifestation process of different forms of resistance behaviours (Lapointe & Rivard, 2005). I acknowledge that the study findings could have been different if I had employed different theories, but the choices I

made were more appropriate in linking different values and beliefs of actors to their corresponding resistance behaviours, which might not have been easy had I used other approaches.

I acknowledge that the case selection process for this study was not entirely purposeful but, rather, opportunistic. The single HEI was selected because it was available, convenient, cost-saving and the institution as well as the respondents gave full consent to participate in the study. However, the presence of the phenomenon of interest in the case study as well as the characteristics of the organisation and participants were also relevant to allow me to answer the research questions in a reliable way.

I struggled in pinning down the 'unit of analysis' of the study, seeing that reviewed literature posed many arguments (see Section 5.3.4). After careful consideration, I finally adopted Mouton and Babbie (2001)'s views, which supported embedded units of analysis, because the research question of this study is about how the project context influences user resistance. Therefore, the embedded unit of analysis to which this study's conclusions are based is '*resistance to LMS implementation by lecturers*'. 'Resistance to LMS implementation' was the primary unit of analysis and 'lecturers' was the secondary. I combined the instances of both the 'process' and the 'individual' (Berg, 2001; Mouton & Babbie, 2001).

10.6.3 Evaluation of study contributions

I employed Whetten (1989)'s model to evaluate this research contributions in relation to the engagement of the theories and the results of the study. The model poses seven questions (see Table 10.2), to which I gave a summary of corresponding answers to demonstrate the validity of the thesis contribution. Comprehensive answers to these key questions are found in the various points of discussion in the study. The sections of reference are respectively pointed out to the reader to avoid repetition. Theoretical development and engagement allowed for the data of the study to be presented meaningfully, in an in orderly and sensible manner.

Table 10. 2: Evaluating the study contributions (Whetten, 1989)

Evaluation question	Answers
What is new?	The study provides key insights and contributions on resistance to the implementation of LMS in HEIs in developing country contexts. It contributes by addressing relevant and persistent research questions, which are answered through formulation of theoretical propositions. The significant study contributions to knowledge, theory and practice are presented in Section 10.3.
So what?	The suggested theoretical propositions have implications to LMS implementation in HEIs as narrated in Section 10.2. The in-depth understanding of resistance practices provided by the study provides for appropriate and effective change management strategies amongst users, managers and ICT experts in HEIs to ensure successful LMS implementations.
Why so?	The assumption by managers that resistance is a negative factor that needs instant overcoming, perpetuate dominance and takes for granted technology users. The theories and methods employed in the study were relevant to understand user resistance and bring together key stakeholders in LMS implementation in HEIs, to work together to improve uptake of ICT projects.
Done well?	The researcher was guided by the systematic review of literature, which provided gaps in the body of knowledge regarding factors influencing low uptake of ICTs and, in particular, user resistance as a cause for low uptake of ICT projects in HEIs (Chapter 2 & 3). Particularisation of both the TOP and MRITI was done to suit the research questions, data collection, analysis and results interpretation.
Well Done?	Explanations of user resistance to LMS implementation were given in the context of HEIs in the context of developing countries. Discussion of findings presented theoretical insights gained from similarities and differences obtained from other studies that employed the same theories.
Why now?	The study is of contemporary interest to technology users, managers and ICT experts in HEIs in developing countries who have been trying to implement numerous ICT projects in their workplaces without success, due to a myriad of challenges. User resistance is one of the factors and understanding lecturer resistance behaviours as well as responses from managers and ICT experts towards lecturer resistance may enhance uptake of LMS in HEIs.
Who cares?	The study is relevant to developing countries and similar contexts, researchers, ICT policy-makers, PhD students studying resistance or employing TOP or MRITI frameworks, managers and ICT experts, as well as those interested in improving uptake of ICT projects in HEIs for teaching, learning and research purposes. Improved teaching and learning activities may improve human capacity development, which in turn may improve economic development.

TOP and MRITI theories were engaged through guiding the research process, as well as deduction of theoretical propositions based on emerging concepts from the findings, to explain the manifestation process of resistance towards Moodle implementation.

10.7 Key message of the study

Studies in ICTs implementation have put more emphasis on the need to adopt the technologies as a means to transform and improve the capacities of humans and organisations across the world, whilst overlooking the ‘darker’ side of the ICTs. In particular, more studies have suggested that use of LMS in teaching and learning enhance not only the quality but also the

quantity of education, thus presenting an undoubtedly beneficial impact. However, whilst recent studies have shown an increase in the implementation of LMS in HEIs, the uptake remains low, with the expected objectives continuing to be largely unachieved due to a myriad of challenges, especially in developing countries. The challenges include poor ICT expertise, lack of training, lack of senior management support, limited ICT infrastructure and resistance to change. Whilst these factors play a significant role in limiting uptake of LMS, the role of user resistance has not been fully explored, as attested. This study, therefore, presents a more balanced approach to the discussions of ICTs and higher education, based on an explanatory evaluation of user resistance and its implications on the low uptake of LMS.

The study brought invaluable insights into the factors that trigger user resistance, different forms of resistance as well as managers' responses towards lecturer resistance behaviours. This revelation brings the need to understand differences in the values and beliefs of lecturers, managers and ICT experts during implementation of new technologies in HEIs. In addition, flawed implementation of LMS projects can fuel resistance practices in intended users such that users' complaints are shifted and directed towards system advocates, rather than towards the system itself or its significance. Thus, flawed implementation causes users to concentrate on exterior rather than interior issues of the system being implemented.

The key message of this study, therefore, is that the manifestation of user resistance behaviours, as well as the values and beliefs of all key stakeholders involved in LMS implementation in HEIs, should be understood to develop responses and strategies that ensure successful implementation of future ICT projects. Additionally, when HEIs wish to achieve 'technological determinism' and/or 'techno-centrism', it is recommended to implement policies that equip intended technology users with all the components of TPACK. Finally, system advocates should resolve external issues in the institution before system implementation, so that users' focus is mostly directed towards internal factors, that is, the system being implemented.

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APPENDICES

Appendix A: UCT ethics approval



**Faculty of Commerce
Ethics in Research Committee**

University of Cape Town
Private Bag Rondebosch 7701
Email: kincaidharold592@gmail.com
Telephone: +27 71 823 7573

April 16, 2015

Proposal No: UCT/COM/048-2015

Ms Lucy Charity Sakala
Information Systems
University of Cape Town
lsakala@gmail.com

Dear Researcher,

Project title: RESISTANCE TO THE IMPLEMENTATION OF EDUCATIONAL TECHNOLOGIES IN HIGHER EDUCATIONAL INSTITUTIONS IN A DEVELOPING COUNTRY ENVIRONMENT.

This letter serves to confirm that this project as described in your submitted protocol has been approved.

Please note that if you make any substantial change in your research procedure that could affect the experiences of the participants, you must submit a revised protocol to the Committee for approval.

Regards,

Professor Harold Kincaid

A handwritten signature in black ink that reads 'H. Kincaid'.

Commerce Faculty Ethics in Research Committee

*"OUR MISSION is to be outstanding teaching and research university,
educating for life and addressing the challenges facing our society."*

Appendix B: A letter seeking permission to conduct study



Department of Information Systems

Leslie Commerce Building
Engineering Mall, Upper Campus
OR

Private Bag X3 - Rondebosch - 7701

Tel: +27 (0) 21 650 2261 Fax: +27 (0) 21 650 2280

Internet: <http://www.commerce.uct.ac.za/informationssystem/>

07 April 2015

The Officer for Research Activities
Ministry of Higher Education and Technology
Harare, Zimbabwe

Dear Sir/ Madam

RE: APPLICATION FOR PERMISSION TO CONDUCT RESEARCH IN SOME UNIVERSITIES IN ZIMBABWE

I am a PhD student enrolled in the Information Systems Department with the University of Cape Town, South Africa. As part of the fulfilment of the programme, I am required to carry out research work. The title of my study is **“Resistance to the Implementation of Educational Technologies in Higher Educational Institutions in a Developing Country Environment.”**

I hereby request permission to conduct research in Higher Educational Institutions (HEIs) in Zimbabwe. The sample of the study will be drawn from one public University. The research focus is to understand how user behaviours contribute to low uptake of ICTs in HEI. The aim is to investigate resistance to technology from academic staff during ICTs implementation. In addition, the study seeks to determine strategies used by project implementers and management to alleviate resistance behaviours in order to ensure future successful uptake of educational technologies.

The practical findings of the study may be useful in improving ICT uptake by academics with aim to improve students` performance when teaching is integrated with technology. ICT implementers and management could be informed on better strategies towards resistance behaviours. Participation of academic staff and implementers is voluntary. The University of Cape Town Research Ethics Committee has approved the study to ensure all research standards for academic research have been followed. For any queries, do not hesitate to contact my supervisor whose contact details are as follows:

Professor Wallace Chigona
Telephone: +27 21 650 4345
Email: Wallace.chigona@uct.ac.za

Thank you for your cooperation,

Yours Sincerely,

A handwritten signature in blue ink, appearing to read 'Lucy Sakala'.

Lucy Charity Sakala

Mobile: +263 772 352 551

Email: sklluc001@myuct.ac.za

Appendix C: Authorisation to conduct study in Zimbabwean HEIs

Telephone: +263(4)796441-9
Fax: 706516
Telegraphic address
"EDUCATION"



MINISTRY OF HIGHER AND TERTIARY
EDUCATION, SCIENCE AND
TECHNOLOGY DEVELOPMENT
P.O. BAG CY 7732
Harare

26 May 2015

Ms Lucy C. Sakala
141 Msasa Avenue
P.O. Mufakose
Harare

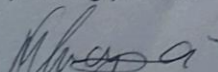
Dear Ms Lucy C. Sakala

PERMISSION TO CONDUCT RESEARCH ON "RESISTANCE TO THE IMPLEMENTATION OF EDUCATIONAL TECHNOLOGIES IN HIGHER EDUCATIONAL INSTITUTIONS IN A DEVELOPING COUNTRY ENVIRONMENT"

Reference is made to your letter, in which you request for permission to carry out an educational research on: *"Resistance To The Implementation Of Educational Technologies In Higher Educational Institutions In A Developing Country Environment"*.

Accordingly, be advised that the head of Ministry has granted permission for you to carry the research at *Higher Education Institutions in Zimbabwe*.

It is hoped that your research will benefit the ministry. Accordingly, it would be appreciated if you could supply the office of the permanent secretary with a final copy of your study, as the findings would be relevant to the Ministry's strategic planning process.


M. J. Chirapa (Ms)
For: PERMANENT SECRETARY

cc Mrs M. Muguti –Director Higher Education Programmes

Appendix D: Participant consent form



Department of Information Systems

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Internet: <http://www.commerce.uct.ac.za/informationssystemsf/>

PARTICIPATION CONSENT FORM

I would like to invite you to participate in an academic research case study on assessing Resistance as a factor influencing the implementation of ICT in Higher Educational Institutions in a developing environment. The University of Cape Town Ethics in Research Committee has approved this research and the Registrar from Omega University granted permission to conduct the study.

The aim of this study is to gain insight into how and why various forms of resistance behaviours manifest in academic staff members during the implementation of ICTs. The study seeks to identify possible practical strategies for use by ICT implementers when trying to alleviate such resistance behaviours for future successful uptake of ICTs taking into consideration system aspects that may be causing resistance. This can be achieved by conducting one-on-one interviews with the selected participants across the institution.

Your participation in this research is voluntary. All information will be treated in a confidential manner and will be used exclusively for the purpose of this study. No individual names will be recorded or published. You will not be requested to supply any identifiable information, ensuring anonymity of your responses. The interviews will take approximately 45 minutes on Omega premises.

Should you have any questions regarding this research, please feel free to contact me on +263 772352551 or email: lsakala@gmail.com or sklluc001@myuct.ac.za.

If you are willing to participate in this research, kindly sign the consent form below. Thank you for your time and participation.

By signing this participant consent, you are agreeing to participate in a research project entitled “**Resistance to the Implementation of ICTs in HEIs in a developing country environment**” conducted by **Lucy Charity Sakala** as requirement for the course entitled PhD in Information Systems.

You can choose to withdraw from the research at any time for whatever reason, in accordance with ethical research requirements.

Signature

Date

PHD THESIS
UNIVERSITY OF CAPE TOWN

Organizational Culture and Implementation of ICT projects in HEIs

1. Briefly, describe your Institution and its management structure?
2. What is your Organization/Faculty/Department culture regarding Educational Technologies?
3. Describe the Moodle implementation process.
4. Which LMS have been implemented in your institution and which ones do you use?
5. What value is there in implementing Educational Technologies for Teaching and Learning?

B. Implementation and Use of Educational Technologies (Moodle)

6. What is the Moodle?
7. How often do you use Moodle compared to other technologies?
8. Tell me about your classes how their nature may influence usage of Moodle?
9. Explain how you use Moodle if you do?
10. How much trust and confidence do you have in the system?
11. Describe the features of Moodle and how they influence your rate of usage?
12. Tell me how the implementation of Moodle has influenced your work?
13. What role did you play in the implementation of Moodle?
14. What could be the reasons for you to consider not using Moodle?
15. Which processes have you used to air your concerns about Moodle usage for teaching?
16. How is the rate of response from implementers for Moodle concerns?

C. Factors that Influence Implementation and Use of Educational Technologies (Moodle)

17. How much experience do you have regarding the use of Moodle compared to your colleagues?
18. How much training have you received for use of Moodle?
19. What extra skills do you think are required for one to be able to successfully use Moodle?
20. How much training is enough for one to be able to use Moodle?
21. How would you rate the trainers and or ICT support staff?
22. Which supporting documentation comes with the training?
23. How do ICT implementers monitor lecturer Moodle usage?
24. How has the use of Moodle influenced carrying out of you duties?
25. What differences are there teaching before and after the implementation of Moodle?
26. Which areas of expertise or fields do you feel could be exempted from use of Moodle?
27. What most do you value in your line of work?
28. Describe, to your knowledge, the ICT Infrastructure set up and resources of the Institution?
29. Describe the reliability of your department's internet connection compared to others?

D. Resistance to the Implementation and Use of Educational Technologies (Moodle)

30. How may one's position, title, age, qualifications, area of expertise and status of employment influence use of Moodle?
31. What mechanisms does the University have in place to incentivise lecturer usage?
32. How would you define resistance?
33. Tell me about any types of resistance behaviours that you know of that manifest from lecturers regarding use of Moodle.
34. How does management react to lecturer resistance behaviours regarding use of Moodle?
35. What do you think should be done pertaining to manifestation of resistance behaviours?
36. What are your perceptions regarding lecturer resistance behaviours towards usage of Moodle?
37. If departments resist using Moodle, what could be the reasons for that?
38. What are your views regarding process of implementation of educational technologies in future?

A. Organizational Culture and Implementation of ICT projects in HEIs.

1. Briefly describe your Institution and its management structure?
2. What is your organization and Faculty/Departments` culture regarding Educational Technologies?
3. Describe the implementation process of LMS.
4. Which LMS have been implemented in your Institution - which ones do your Faculty/Departments use?
5. What value is there in implementing LMS for teaching and Learning?

B. Implementation and usage of ICT projects (Moodle)

6. What is Moodle?
7. How long and often do you use Moodle compared to other technologies?
8. Tell me about your Faculty/Departments and how their nature may influence usage of Moodle?
9. Explain how your Faculty/Departments uses Moodle?
10. How do you enforce/monitor usage of the Moodle in your Faculty/departments?
11. How much trust and confidence do you have in the system?
12. Describe the features of Moodle and how they influence rate of usage?
13. Tell me how the implementation and use of Moodle has influenced your Faculty/Departments
14. What administrative roles do you play in the implementation of Moodle?
15. What could be the reasons for your departments to consider not using Moodle?
16. Which processes do you use to air concerns about Moodle usage for teaching?
17. How is the rate of response from implementers for Moodle concerns?

C. Factors that Influence Implementation and Use of Educational Technologies (Moodle)

18. How much experience does your Faculty/Departments have in use of Moodle compared to others?
19. How much training have you received as a Faculty/Departments for use of Moodle?
20. What extra skills do you think are required for one to be able to successfully use Moodle?
21. How much training is enough for one to be able to use Moodle?
22. How would you rate the trainers and or ICT support staff?
23. How do you to rate your Faculty/Departments usage of Moodle?
24. How does management and ICT implementers monitor lecturer Moodle usage?
25. How has the use of Moodle influenced carrying out of your duties?
26. What differences are there before and after the implementation of Moodle?
27. Which areas of expertise or fields do you feel could be exempted from using Moodle?
28. What most do you value in your line of work?
29. Describe the ICT Infrastructure set up and resources of the Institution and your Faculty/Departments?
30. Describe the reliability of your departments` internet connection compared to others?

D. Resistance to the Implementation and Use of Educational Technologies (Moodle)

31. How does one`s position, title, age, qualifications, area of expertise and status of employment influence use of Moodle?
32. What are the awards available for being innovative, for example, use of Moodle in teaching?
33. How would you define resistance?
34. Tell me about any types of resistance behaviours that manifest from HODs/lecturers?
35. How does the Faculty/Departments react to lecturer resistance behaviours regarding use of Moodle?
36. What should be done pertaining manifestation of resistance behaviours?
37. If departments resist using Moodle, what could be the reasons for that?
38. What are your perceptions regarding lecturer resistance behaviours towards Moodle?
39. How should management react to lecturers resisting implementation of Moodle?
What are your views regarding the process of implementing any educational technologies in future?

Interview guide for Senior Management and ICT Implementers

This interview is part of a Thesis being conducted by Lucy Charity Sakala, a PhD in Information Systems student at the University of Cape Town (UCT). The interview questions will be focused on **“Resistance to the Implementation of ICT projects/educational technologies in Higher Educational Institutions (HEIs) with focus on Lecturers, ICT Implementers and Management”**. In particular, the ICT project is the Learning Management System (LMS) (Moodle).

The interview will take approximately 45 minutes and some questions will be guided and directed by participant’s responses. Your responses and identity are confidential and will not be used in any way against you. You are allowed to withdraw from this interview at any given time.

Thank you very much for you time, cooperation and support.

Respondent Number:

Tick and Fill in where applicable

1. Age (Years): 20-35 36-45 46-55 56-65 65 and Above

2. Gender: F M

3. Highest Qualifications Attained: Honours Masters PhD

4. Title: Mr/Mrs/Miss/Ms Doctor Professor

5. Status of Appointment: Temporary(Acting) Permanent

6. Current Post:

7. Department and Academic Area of Expertise:

8. Date of Appointment to University.....

Outline of Major Duties of the Department:

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.....
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.....

Organizational Culture and Implementation of ICT projects in HEIs.

1. What is your University perceptions regarding Educational Technologies?
2. Explain the reasons we should be having Educational technologies?
3. When was the Moodle implemented?
4. Describe the procedures or processes undergone in order to implement Moodle?
5. What was the experience like during the implementation of Moodle?

B. Implementation and Use of Educational Technologies (Moodle)

6. Describe in detail the Implementation process that was undertaken with Moodle.
7. What is the status of the licence agreement or ownership structure of the Moodle?
8. How may the type of the University influence implementation and usage of Moodle?
9. How does the department monitor usage of the Moodle in the Institution?
10. How much trust and confidence does the department have in the Moodle?
11. Describe the features of Moodle and how they may influence usage?
12. Tell me how the Moodle implementation process may have influenced academic staff usage.
13. What roles did you play in the implementation of Moodle?
14. What roles do you play now?
15. What could be the reasons for lecturers to consider not using Moodle?
16. What is the procedure for handling queries coming from users?
17. What are the common questions posed by lecturers concerning Moodle?

C. Factors that Influence Implementation and Use of Educational Technologies (Moodle)

18. Discuss factors that influence the implementation process and use of Moodle.
19. Describe the Moodle training process to lecturers and departments?
20. What extra skills do you think lecturers should have for one to be able to successfully use Moodle?
21. How much training is enough someone to be able to successfully use Moodle?
22. What do you think of the quality of training that you give to lecturers?
23. What do you think of the quality of ICT support you give to lecturers?
24. What are the differences across departments regarding use of Moodle?
25. Describe the effect of ICT infrastructure and resources on use of Moodle.
26. Describe the reliability of your internet connection across departments and the institution as a whole?

D. Resistance to the Implementation and Use of Educational Technologies (Moodle)

27. How may one`s position, title, age, qualifications, area of expertise and status of employment influence use of Moodle?
28. What mechanisms does the University have in place to incentivise lecturer usage?
29. How would you define resistance?
30. Tell me about any forms of resistance behaviours that you know of that manifest from lecturers regarding use of Moodle.
31. How does management react to lecturer resistance behaviours regarding use of Moodle?
32. What do you think should be done pertaining to manifestation of resistance behaviours?
33. If departments resist using Moodle, what could be the reasons for that?
34. What are your perceptions regarding lecturer resistance behaviours towards usage of Moodle?
35. What are your views regarding the process of implementing any Educational Technologies in future?

Appendix F: Sample analysis table

Sample of the Data Analysis Tables

Category	Sub-category	Theme	Code extracts from the transcripts
Forms of resistance behaviours	Apathy	Disinterest	'I am the only one who is behind in my department...I am not even interested in this Moodle. I see them do this and that and I just say to myself it is their time...when I want something I just shout, come and help me'.
		Prioritisation	'Lecturers can just sabotage saying the system is down even if its working because sometimes there are lots of deadlines which needs to be met so sometimes they give priority to the other work and not prioritise Moodle'.
	Passive	Under use / minimal use	'So if I'm clever enough I make sure I only do the minimum expected'.
	Covert	Delegation	'I still remember an experience with someone who was older...most of the time he would delegate if there was any duty that needed the use of a computer...he would actually delegate those duties and say 'Ah, we were born before computers''.
		Pessimism	'It's complicated. They handle ICT like its rocket science. I have heard this sentiment from a number of individuals. You go to ICT when you have problems with your computer; it takes ages to get fixed. They give long complicated excuses so in the end you just give up'.
	Active	Avoidance	'I think it's more of avoidance, people avoid Moodle. They run around to trying to use IUMS because it's for examinations and they are compulsory but they avoid Moodle because teaching is rather secondary compared to examinations'.
		Withdrawal	'We need proper training which will assist me when I want to use Moodle on my own so that I don't give up. Due to lots of work, when I try it alone and it doesn't work then I move on to the next thing - I just give up'.
		Refusal to use	'I think the challenges have to do with training issues and also partially inertia, those that refuse to change or use the new systems'.
	Triggers of lecturer resistance	Management	Top-down strategies
Use of threats			'Each time, we are forced to do that...there's a policy that we want you to use it...we want course outlines and materials to be uploaded, so we are forced to use it because it's university policy'.
Poor communication channels			'I think in future we need to involve everyone, this idea of a top-down approach doesn't work, and the channels of communication already in place should be followed... just working on better communication channels'.

Triggers of lecturer resistance	Personal	Technophobia	'The inception phase is when they will be the most resistance because users have fear of the unknown and some people just have phobias of ICTs because for them, it is the more difficult option'.
		Age	'Age affects those in their 50s, 60s they won't bother about ICTs. They prefer hard copies to PowerPoints'.
	Infrastructure	National electricity outages	'Also in our country where we have problems with electricity, you wouldn't say at any given moment we have adequate ICT resources in the institution'
		Internet and connectivity issues	'Unfortunately on three occasions we failed to have training because of no internet connection. Last year I tried to use Moodle with my students but they failed to access the PowerPoint slides I put online. However, while others say they can access internet through Wi-Fi, my department cannot'.
Contextual factors	Habitus of lecturers	Pedagogical beliefs	'It's better for those who have done pedagogy to use Moodle because they know of aids such as charts and models and they understand the need of visual aids like how to prepare interactive PowerPoints most people just think it's easy. Some PowerPoints are good when you are there to present them yourself but for when you are not there, you need interactive slides'.
		Prior ICT skills	'...Computer Science people have ICT background and prior knowledge to use some of the applications...Also its easier for some who have had the chance to be exposed to these technologies...For young people it won't be much of exposure, but for older people, it's the lack of exposure'.
	Capital of lecturers	Academic titles	'Lecturers with high statuses, for example, Doctors and Professors, they are reluctant to take instructions from junior members of staff. They may resist Moodle if does not conform to their ways of doing work'.
		Area of expertise	'Generally, people with sound computer knowledge quickly realise the advantages of using technology hence may influence positively on the use of Moodle. This is evidenced by the Computer Department whose use of Moodle is generally above other departments'.
	Habitus of ICT experts	Implementation of ICT projects	'The ICT departments selected the product, employed an e-learning analyst to manage the LMS and organise and run workshops for academics. We thought it was going to be easy but the inception was very difficult'.
	Capital of ICT experts	Level of LMS expertise	'I worked with the then ODL Strategic Committee to adopt Moodle. I showed around the configurations, we sought help from departments to train people'.
	Habitus of management	Enforcement of usage of ICT projects	'We monitor usage of every lecturer. We have deadlines for material to be uploaded online and this need to be adhered to. If they don't abide we reprimand them; force them to be in line or face consequences like write them a warning letter'

Note: Due of word limitations for the thesis, single examples of quotations from the transcripts were used.

Appendix G: Moodle functionality module

MOODLE LEARNING MANAGEMENT SYSTEM FUNCTIONAL SPECIFICATIONS AND MODULES

INTRODUCTION

What is Moodle?

Moodle is a course management system (CMS) - software package designed using sound pedagogical principles, to help educators create effective online learning communities.

What Can Lecturers do with Moodle

- You can create assignments
- You can open a chat
- You can organize a choice (poll) for a selection or election
- You can post questions to a forum
- You can create lessons
- You can design and give a quiz
- You can initiate a wiki
- You can conduct a workshop
- You can keep track of all these activities

What Can Students Do with Moodle

- You can see all your enrolled classes at a glance
- You can work on assignment from any computer with an Internet connection and a compatible browser
- You can check your grades or results online for assignments, quizzes and other tasks
- You can contribute to forums wikis, and glossaries that your lecturer establishes
- You can check your course's calendar for important dates and upcoming course events.

OVERALL DESIGN

Moodle's overall design:

- Promotes a social constructionist pedagogy (collaboration, activities, critical reflection, etc.)
- Suitable for 100% online classes as well as supplementing face-to-face learning
- Simple, lightweight, efficient, compatible, low-tech browser interface
- Easy to install on almost any platform that supports PHP. Requires only one database (and can share it).
- Full database abstraction supports all major brands of database (except for initial table definition)
- Course listing shows descriptions for every course on the server, including accessibility to guests.
- Courses can be categorised and searched - one Moodle site can support thousands of courses
- Emphasis on strong security throughout. Forms are all checked, data validated, cookies encrypted etc.
- Most text entry areas (resources, forum postings etc.) can be edited using an embedded WYSIWYG HTML editor.

SITE MANAGEMENT

- Site is managed by an administrator user
- Site is defined during setup. Defaults can be edited during setup or globally accepted
 - Site can be modified by a robust Site administration block.
- Plug-in "themes" allow the administrator to customize the site colours, fonts, layout etc. to suit local needs
- Plug-in activity modules can be added to existing Moodle installations
- Plug-in language packs allow full localization to any language. These can be edited using a built-in web-based editor. Currently there are language packs for over 70 languages.
- The code is clearly-written PHP under a GPL license - easy to modify to suit your needs

USER MANAGEMENT

Overview

- Goals are to reduce admin involvement to a minimum, while retaining high security
- Supports a range of user authentication mechanisms through plug-in authentication modules, allowing easy integration with existing systems.
 - Standard email method: students can create their own login accounts. Email addresses are verified by confirmation.
 - LDAP method: account logins can be checked against an LDAP server. Admin can specify which fields to use.
 - For example, IMAP, POP3, NNTP: account logins are checked against a mail or news server. SSL/TLS certificates are supported.
- Students are encouraged to build an online Edit profile including photos, description. Email addresses can be protected from display if required.
 - Every user can specify their own time zone, and every date in Moodle is translated to that time zone (e.g. posting dates, assignment due dates etc.)
 - Every user can choose the language used for the Moodle interface (English, French, German, Spanish, Portuguese etc.)

Enrolment

- After a user has been authenticated by the site or allowed in as a guest, they can self enrol in courses.
- Courses can limit enrolment in several ways. Student self enrolment can be turned off.
- An "enrolment_key" in a course, only allows certain students to enter. These keys can be given out face-to-face or via email and can be changed
- Teachers, with permissions, can manually enrol students or unenrol students in their courses.
- Course completion is a course prerequisite feature of Moodle 2.0 that allows scaffolding of courses.
- Course and site settings have options for automatic removal of users
- There are many Enrolment_plugins
 - Includes: LADP, IMS, PayPal, Moodle Network to name a few
 - Any External database that has least two fields can be used as an external authentication source
 - Flat file or CSV files can automatically authenticate and enrol students in specific courses
- Each person needs only one account for the Moodle site. Each account can have access to different courses, and the courses resources and activities.
- Meta courses get their enrolment information from one or more other courses.

Roles

- Roles combine specific permissions for specific types of participants. A user can be assigned a different role for each contexts, such as a specific course.
- The administrator (admin) user account controls the creation of courses and creates teachers by assigning users to courses and giving them a role in that context
- New roles can be created, copied from existing roles and edited. Some standard roles include:
 - Course creator can create courses, teach in them, and assign others to teacher roles.
 - Teachers are a role in a specific course.
 - Non-editing teacher roles are available for adjuncts, and part-time tutors.
 - Students can participate and view activities but not create them
 - Guests are view only users.

COURSE MANAGEMENT

Overview

- Typically, a teacher has full control over all settings for a course.
 - This can include assigning other teachers roles with less privileges
- Choice of Course formats settings such as by week, by topic or a discussion-focused social format
- An individual course theme and layout can be created for any course.
- Flexible array of course activities - Forums, Quizzes, Glossaries, Resources, Choices, Surveys, Assignments, Chats, Workshops
- Groups - teacher(s) and students can be placed in one or more groups
- Recent changes to the course since the last login can be displayed on the course home page - helps give sense of community
- Content areas (things seen by students) have an HTML editor tool bar with many standard editing functions, including an html code view.
- Mail integration - copies of forum posts, teacher feedback etc. can be mailed in HTML or plain text. Users can set a preference for daily emails in their profile.
- Custom scales - teachers can define their own scales to be used for grading forums and assignments
- Courses can be packaged as a single zip file using the Backup function. These can be restored on any Moodle server.
- Specific course activities and resources can be imported from another existing course
- Conditional activities in Moodle 2.0 allow the teacher to set completion standards and conditions for entry into any specific activity, based upon several criterion.

Course reports

- All grades for many kinds of activities can be viewed on one page and downloaded in several formats.
- Graded activities can be further calculated or manually entered in the Gradebook, which is separated from the initial activity calculation. Additionally, categories of graded activities and display functions allow for custom reports.
- Full user logging and tracking - activity reports for each student are available with graphs and details about each module (last access, number of times read) as well as a detailed "story" of each students' involvement including postings etc. on one page.

Assignment Module

- Assignments can be specified with a due date and a maximum grade.
- Students can upload their assignments (any file format) to the server - they are date stamped.
- Late assignments are allowed, but the amount of lateness is shown clearly to the teacher

- For each particular assignment, the whole class can be assessed (grade and comment) on one page in one form.
- Teacher feedback is appended to the assignment page for each student, and notification is mailed out.
- The teacher can choose to allow resubmission of assignments after grading (for regrading)
- Allowing resubmissions can allow the teacher to progress monitor student projects/assignments as they evolve.
- Advanced assignments can allow multiple files to be uploaded. This could keep together preplanning maps, outlines, research papers and presentations. (Not for beginners)

Chat module

- The Chat module allows smooth, synchronous text interaction
 - They can be limited to group members or roles, or be for anyone in the course
- Includes profile pictures in the chat window
- Supports URLs, smilies, embedded HTML, images etc.
- All sessions are logged for later viewing, and these can also be made available to students

Choice module

- The Choice module is like a single question poll. It can either be used to vote on something, or to get feedback from every student
- Teacher sees intuitive table view of who chose what
- Students can optionally be allowed to see an up-to-date graph of results

Forum Module

- Different types of forums are available, such as course news, open-to-all, one thread-per-user and question/answers types.
- Forum posts can be emailed in several ways, some controlled by the student.
- Posts can have the author's photo attached.
- Discussions can be viewed nested, flat or threaded, oldest or newest first.
- Robust subscription methods for each forum
 - Individual forums can be subscribed to by each person
 - Teacher can force subscription for all members of the course, either initially or permanently.
- Groups' features allow options for more entry and viewing limitations for students.
- The teacher can choose not to allow replies to their posts (announcements).
- Discussion threads can be moved between forums or split by the teacher.
- Attachments can be made to posts and shown as part of message.
- Forum ratings can be used. These can be restricted to a range of dates and included as part of a student's grade.

Glossary Module

- The Glossary module is one of the modules that best illustrates the way that Moodle can fundamentally improve upon the experience of a traditional classroom
- When students contribute to a course in a public place like the glossary, their ideas are given weight and attention and often result in a greater pride or ownership of the assignment
- Allows participants to create and maintain a list of definitions, like a dictionary
- Student entries can be previewed by instructors before publishing
- Entries can be searched or browsed using alphabet, category, date, and author
- A glossary of terms can be easily referenced by students
- Almost any module of Moodle can be set to hyperlink - automatically - to any word or phrase that is stored in or added to the glossary
- Glossary items can be grouped in categories
- Participants can comment on glossary entries
- Entries can be rated using teacher-defined scales
- Glossaries can be easily exported and imported via xml
- Glossaries can be fully searched

- Glossaries can be viewed with different display formats

Lesson Module

- A lesson is a single activity where a series of pages are presented to the student, usually based upon a student's choice.
- Content seen by the student is created with Moodle's HTML editor tool.
- Students make choices by their answers to questions or by selecting a button with a description. Their choices are linked to other pages in the lesson.
 - This allows for a simple slide show type of presentation, with content and questions.
 - It allows for a branching, adaptive presentation based upon a student's specific choice.
 - Navigation through the lesson can be straight forward or complex, logical or random.
- Jumps are associated with each choice that link to other lesson pages.
 - Jumps can be to a specific page or to a random page or a page not seen by the student.
- Choices that are answers to questions and can be scored and given individual feed back.
 - Question pages include Multiple choice, Multi-answer, T/F, numeric, short answer and essay.
- Lesson settings offer the teacher many options such as:
 - Different scoring and grading potentials
 - Lessons can build upon each other through conditional dependencies upon one another
 - Student attempts, time limits, minimum score and retakes can be set for each lesson
 - Students may see progress bars, running score, and feedback on their answers.
 - Password, start and end times, and other restrictions can be placed on students.
- Pages can be created one at a time or imported.

Quiz Module

- There are many types of standard questions formats that can be used in the Quiz module. Quiz offers many scoring methods and ways to present itself to students.
- Quizzes are automatically graded when a student finishes. An entire quiz or specific questions be regraded at any time, should the teacher change an answer's score.
- There are many quiz settings options, such as:
 - Quizzes can have a limited time window outside of which they are not available
 - At the teacher's option, quizzes can be attempted multiple times, and can show feedback and/or correct answers
 - Quiz questions and quiz answers can each be shuffled (randomised) to reduce cheating
 - Quizzes can be attempted multiple times, if desired
 - Attempts can be cumulative, if desired, and finished over several sessions
- Questions are stored in categories that are part of a robust Question bank/database for easy access.
 - Categories of questions can be arranged in the database so they can only be used in a specific quiz, or in a specific course or in any quiz on the site.

Database activity module

The database activity module allows the teacher and/or students to build, display and search a bank of record entries about any conceivable topic. The format and structure of these entries can be almost unlimited, including images, files, URLs, numbers and text amongst other things.

This module will create one table per instance, but you may create as many instances you need. The records can be linked to other tables and all resources in the course, if you allow auto-link in a name field, but you cannot build a SQL query.

The table is not created in the SQL database, it is just stored there in lines of other SQL tables (mdl_data*).

Appendix H: A list of respondents for semi-structured interviews

ID No.	Respondents	Group	Main focus of the interviews
Lecturer-1	Lecturer 1	Academic department 1	Uptake of LMS
Lecturer-2	Lecturer 2	Academic department 1	Uptake of LMS
Lecturer-3	Lecturer 3	Academic department 1/ ICT committee	Uptake of LMS/ Feedback link for departments and ICT committee
Lecturer-4	Lecturer 4	Academic department 1	Uptake of LMS
Lecturer-5	Lecturer 5	Academic department 1	Uptake of LMS
Lecturer-6	Lecturer 6	Academic department 2	Uptake of LMS
Lecturer-7	Lecturer 7	Academic department 2	Uptake of LMS
Lecturer-8	Lecturer 8	Academic department 2 ICT/ committee	Uptake of LMS/ Feedback link for departments and ICT committee
Lecturer-9	Lecturer 9	Academic department 3	Uptake of LMS
Lecturer-10	Lecturer 10	Academic department 3	Uptake of LMS
Lecturer-11	Lecturer 11	Academic department 3	Uptake of LMS
Lecturer-12	Lecturer 12	Academic department 3	Uptake of LMS
Lecturer-13	Lecturer 13	Academic department 4/ ICT committee	Uptake of LMS/ Feedback link for departments and ICT committee
Lecturer-14	Lecturer 14	Academic department 4	Uptake of LMS
Lecturer-15	Lecturer 15	Academic department 4	Uptake of LMS
Lecturer-16	Lecturer 16	Academic department 4	Uptake of LMS
Lecturer-14	Lecturer 14	Academic department 4	Uptake of LMS
Lecturer-18	Lecturer 18	Academic department 5	Uptake of LMS
Lecturer-19	Lecturer 19	Academic department 5	Uptake of LMS
Lecturer-20	Lecturer 20	Academic department 5	Uptake of LMS
HOD-1	Lecturer 21	Academic department 4	Monitor uptake of LMS by lecturers
HOD-2	Lecturer 22	Academic department 2 ICT committee	Monitor lecturers uptake / Feedback link for departments & ICT committee
HOD-3	Lecturer 23	Academic department 5	Monitor uptake of LMS by lecturers
HOD-4	Lecturer 24	Academic department 3	Monitor uptake of LMS by lecturers
HOD-5	Lecturer 25	Academic department 1	Monitor uptake of LMS by lecturers
Dean-1	Dean of Faculty A	Academic faculty 1/ ICT committee	Monitor departments uptake/Feedback link for departments and ICT committee
Dean-2	Dean of Faculty B	Academic faculty 2	Monitor departments` uptake of LMS
Dean-3	Dean of Faculty C	Academic faculty 3	Monitor departments` uptake of LMS
Dean-4	Dean of Faculty D	Academic faculty 4	Monitor departments` uptake of LMS
Dean-5	Dean of Faculty E	Academic faculty 5	Monitor departments` uptake of LMS
Implementer-1	ODL Director	ODL department/ ICT committee	Implementation, monitor and evaluation of ICT projects- LMS
Implementer-2	ICT Director	ICT department/ ICT committee	Implementation, monitor and evaluation of ICT projects- LMS
Implementer-3	e-Learning analyst	ODL and ICT departments	Implementation, monitor and evaluation of ICT projects- LMS
Implementer-4	Operations manager	ICT department/ ICT committee	Implementation, monitor and evaluation of ICT projects- LMS
Manager-1	Deputy-Vice Chancellor	Project implementer/ ICT committee	Implementation, administration and evaluation of ICT projects- LMS
Manager-2	Deputy Registrar Academic	Project implementer/ ICT committee	Implementation, administration and evaluation of ICT projects- LMS
Manager-3	Librarian	Project implementer/ ICT committee	Implementation, administration and evaluation of ICT projects- LMS
Manager-4	Bursar	Project implementer/ ICT committee	Funding and evaluation of budgets for ICT projects -LMS