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Benefits and barriers to digitalisation of loan bursary repayment in the National Manpower Development Secretariat (NMDS) of Lesotho

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Benefits and barriers to digitalisation of loan bursary repayment in the National Manpower Development Secretariat (NMDS) of Lesotho

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A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management in the field of Digital Business

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ABSTRACT

The National Manpower Development Secretariat (NMDS) in Lesotho continues to face critical challenges in recovering disbursed student loan bursaries, largely due to its reliance on outdated, manual repayment methods such as cash payments, unenforced stop orders, and bank deposits. These inefficiencies contribute to persistently low recovery rates, affecting the sustainability of the NMDS fund and the country's broader goals for higher education access. This study explored how digital payment systems can be adopted to improve the operational efficiency of loan bursary repayments and enhance recovery outcomes.

Guided by the Unified Theory of Acceptance and Use of Technology (UTAUT) and the Diffusion of Innovations (DOI) theory, the research employed an interpretivist paradigm and a qualitative case study design. Data was collected through semi-structured interviews with seven purposively selected participants, including NMDS administrators and IT personnel. Thematic analysis revealed that while digitalisation offers transformative benefits—such as enhanced repayment tracking, reduced fraud, and streamlined administrative processes—it is hindered by low digital literacy, infrastructural gaps, funding constraints, and lack of regulatory enforcement.

The study incorporated a comparative analysis of student loan repayment models in South Africa (NSFAS), Kenya (HELB), and Uganda (HESFB), revealing valuable lessons for phased implementation, automation of deductions, and strategic partnerships. The research concludes with a detailed implementation roadmap for NMDS, structured around short-, medium-, and long-term strategies. These include conducting a digital readiness assessment, piloting integrated systems, updating legal frameworks, and building digital capabilities. The findings offer practical guidance for policy reform and digital transformation in higher education financing and contribute to the growing body of knowledge on public-sector innovation in developing countries.

KEYWORDS

Digitalisation, Loan Bursary Repayment, NMDS, Technology Adoption, UTAUT, DOI, Financial Efficiency, Digital Payment Systems, Higher Education Financing

DECLARATION

I, Makhauhelo Hlaele, declare that this research report is my work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the Master of Management degree in Digital Business at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Name: Makhauhelo Hlaele Signature: 

Signed at Maseru, Lesotho

On the 13th day of June 2025.

DEDICATION

This research is dedicated to my family, whose unwavering love, encouragement, and belief in my dreams have been my greatest source of strength. Your support has been the foundation of my academic journey, and I am forever grateful.

To my parents, who instilled in me the values of hard work, perseverance, and the pursuit of knowledge—this achievement is as much yours as it is mine.

To my friends and loved ones**,** who have stood by me through every challenge, offering words of motivation and moments of laughter that kept me going.

And finally, to all students and professionals striving for excellence in digital transformation**,** may this work contribute to the advancement of knowledge and inspire meaningful change in the world of digital finance

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TABLE OF CONTENTS

LIST OF TABLES x

LIST OF ACRONYMS xi

CHAPTER 1. INTRODUCTION 1

1.1 STATEMENT OF PURPOSE 1
1.2 BACKGROUND OF THE STUDY 1
1.3 RESEARCH PROBLEM 5
1.4 RESEARCH OBJECTIVES 6
1.5 RATIONALE 6
1.6 DELIMITATIONS OF THE STUDY 7
1.7 DEFINITION OF TERMS 7
1.8 ASSUMPTIONS 8

CHAPTER 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK 9

2.1 INTRODUCTION 9
2.2 DEFINITION OF TOPIC BACKGROUND DISCUSSION 9
2.3 DIGITAL PAYMENT SYSTEMS IN LOAN REPAYMENTS 10
2.3.1 AUTOMATION AND EFFICIENCY IN LOAN PROCESSING 10
2.3.2 IMPLEMENTATION STRATEGIES 11
2.3.3 CASE STUDIES OF SUCCESSFUL DIGITALISATION 11
2.3.4 COMPARATIVE ANALYSIS OF AFRICAN STUDENT LOAN MODELS 12
2.3.5 RELEVANCE TO NMDS AND LESOTHO'S CONTEXT 13
2.3.6 PROPOSITION1 14
2.4 IMPACT OF DIGITALISATION OF LOAN REPAYMENT 14
2.4.1 BENEFITS 15
2.4.2 BARRIERS 15
2.4.3 PROPOSITION 2 17
2.5 ANALYTICAL FRAMEWORK 17
2.5.1 THEORETICAL FRAMEWORK 17
2.6 CONCLUSION OF LITERATURE REVIEW 20
2.6.1 PROPOSITION 1 21
2.6.2 PROPOSITION 2 21

CHAPTER 3. RESEARCH METHODOLOGY 23

3.1 RESEARCH PARADIGM 23

3.2 RESEARCH APPROACH 24
3.3 RESEARCH DESIGN 24
3.4 DATA COLLECTION METHODS 25
3.5 POPULATION AND SAMPLE 26
3.5.1 POPULATION 26
3.6 THE RESEARCH INSTRUMENT 28
3.7 PROCEDURE FOR DATA COLLECTION 28
3.8 DATA ANALYSIS STRATEGIES AND INTERPRETATION 30
3.9 QUALITY ASSURANCE 31
3.9.1 TRANSFERABILITY 31
3.9.2 CREDIBILITY 32
3.9.3 DEPENDABILITY 33
3.10 ETHICAL CONSIDERATIONS 34
3.11 PROPOSED SCHEDULE AND TIMELINES 34

CHAPTER 4. PRESENTATION OF FINDINGS 36

4.1 INTRODUCTION 36
4.2 BACKGROUND INFORMATION OF PARTICIPANTS 36
4.2.1 GENDER, RACE, AGE PROFILE OF PARTICIPANTS 37
4.3 EMERGENT THEMES 37
4.4 FINDINGS PERTAINING TO PROPOSITION 1 38
4.4.1 ROLES AND RESPONSIBILITIES IN NMDS 41
4.4.2 TRADITIONAL REPAYMENT METHODS 41
4.5 FINDINGS PERTAINING TO PROPOSITION 2 43
4.5.1 PROBLEMS IN LOAN REPAYMENT 46
4.5.2 DIGITALISATION: EXPECTED BENEFITS AND EXISTING GAPS 48
4.6 SUMMARY OF THE FINDINGS 51

CHAPTER 5. DISCUSSION OF THE FINDINGS 52

5.1 INTRODUCTION 52
5.2 DISCUSSION PERTAINING TO OBJECTIVE 1 52
5.2.1 LIMITATIONS OF TRADITIONAL REPAYMENT METHODS 52
5.2.2 DIGITAL SYSTEMS AS A CATALYST FOR EFFICIENCY 53
5.2.3 BARRIERS TO IMPLEMENTATION 53
5.3 DISCUSSION PERTAINING TO OBJECTIVE 2 54
5.3.1 BENEFITS OF DIGITALISATION 54
5.3.2 BARRIERS TO DIGITAL TRANSFORMATION 54
5.4 CONCLUSION 55

CHAPTER 6. CONCLUSIONS AND RECOMMENDATIONS 56

6.1 INTRODUCTION 56
6.2 CONCLUSION PERTAINING TO RESEARCH OBJECTIVE 1 56
6.3 CONCLUSION PERTAINING TO RESEARCH OBJECTIVE 2 56
6.4 IMPLEMENTATION ROADMAP 57
6.5 RECOMMENDATIONS 58
6.5.1 RECOMMENDATIONS FOR NMDS LEADERSHIP 58
6.5.2 RECOMMENDATIONS FOR STAKEHOLDERS 59
6.6 SUGGESTIONS FOR FUTURE RESEARCH 61
6.7 TABLE 2. CONSISTENCY TABLE: RESEARCH OBJECTIVES, PROPOSITIONS, DATA COLLECTION AND DATA ANALYSIS 62

REFERENCES 64

APPENDIX A 72

APPENDIX B 74

APPENDIX C 75

APPENDIX D 76

APPENDIX E 77

LIST OF TABLES

Table 1: Proposed schedule and timelines 34

Table 2. Consistency table: research objectives, propositions, data collection and data analysis 62

LIST OF ACRONYMS

AAHEFA	Association of African Higher Education Financing Agencies
EFT	Electronic Funds Transfer
DBR	Development Bank of Rwanda
DOI	Diffusion of Innovations
GDP	Gross domestic product
GOL	Government of Lesotho
HELSB	Higher Education Loans Scholarship Board
HELB	Higher Education Loans Board
HESFB	Higher Education Students' Financing Board
HESLGB	Higher Education Students Loans & Grants Board
HESLB	Higher Education Students' Loans Board
HR	Human Resources
HRDC	Human Resource Development Council
NMDS	National Manpower Development Secretariat
NSFAF	Students' Financial Assistance Fund
NSFAS	National Student Financial Aid Scheme
SLTF	Students Loan Trust Fund
UTAUT	Unified Theory of Acceptance and Use of Technology

CHAPTER 1. INTRODUCTION

1.1 Statement of purpose

This qualitative study explores how the NMDS can leverage digital payments systems to increase the recovery rate of loans disbursed to Basotho students pursuing priority fields of study at Tertiary and Vocational schools locally, regionally, and internationally. It seeks understanding the benefits and barriers to digitalising the loan bursary re-payment within the Secretariat.

1.2 Background of the study

Encircled by its much larger neighbour, South Africa, Lesotho is a small, mountainous, landlocked country with a population of about two million and a per capita gross domestic product (GDP) of $999.7 as of 2022. It is classified as a lower-middle-income country. However, economic growth of 1.8% was witnessed in 2022, whereby the main drivers were construction, mining, manufacturing, business services, public administration, and agriculture, (*Overview*, n.d.) Lesotho is ruled by a king as Head of State and governed by a Prime Minister. The Government's Senior structure is comprised of twenty (20) ministries. The National Manpower & Development Secretariat (NMDS) is a Department under the Ministry of Finance and Development Planning mandated through the National Manpower Development Council Act of 1978 to provide loan bursaries to deserving Basotho students wishing to pursue higher education and training. The NMDS specifically administers partially reimbursable loan bursaries on behalf of the Government of Lesotho (GoL) for students pursuing priority fields of study at Tertiary and Vocational schools locally, regionally, and internationally, (*National Manpower Development Secretariat Sponsorship Portal*, n.d.). The total sum disbursed to each student is regarded as a loan and is expected to be repaid after the student graduates, (“Student Portal,” n.d.),

The NMDS is a member of the Association of African Higher Education Financing Agencies (AAHEFA). AAHEFA is an entity that unites institutions from around Africa and handles loan recovery, grants, scholarships, bursaries, and awarding of loans to students pursuing higher education (*AAHEFA Members – Association of Higher Education Financing Agencies*, n.d.) The main objective was to serve as the apex organisation and principal forum for sharing information and experiences on common matters and to increase students' access to higher education within and outside Africa (Chirwa et al., 2022).

There are currently 11 African countries that offer student loan programs to pay for higher education as members of AAHEFA: Higher Education Loans Board, Kenya (HELB), Higher Education Students' Loans Board, Tanzania (HESLB), Students Loan Trust Fund, Ghana (SLTF), Higher Education Students' Financing Board (HESFB), Uganda, Human Resource Development Council (HRDC), Botswana, National Student Financial Aid Scheme (NSFAS), South Africa, National Manpower Development Secretariat (NMDS), Lesotho, Students' Financial Assistance Fund (NSFAF), Namibia, Development Bank of Rwanda, Higher Education Loans Scholarship Board (HELSB), Zambia, Higher Education Students Loans and Grants Board (HESLGB), Malawi (*AAHEFA Members – Association of Higher Education Financing Agencies*, n.d.).

Financial assistance for education through institutional loans serves as the key element for human development, and loan repayment without default makes the education loan product self-sustainable (Bhandary, R., Shenoy, S.S., Shetty, A, 2023) In recent years, the financial services industry has experienced a profound shift towards digitalisation, particularly in the realm of loan repayments, driven by technological advancements and changing consumer behaviours, (The Internation Labor Organisation)).

Traditional methods of loan repayment, characterised by manual processes and paper-based documentation, are rapidly being replaced by digital solutions that offer greater convenience, efficiency, and accessibility (Khando et al., 2023a). This transformation is fuelled by the widespread adoption of mobile banking apps

and digital payment platforms, which empower borrowers to make payments conveniently from their smartphones or computers (Qadri, 2023). Moreover, regulatory developments have played a significant role in driving digitalisation in loan servicing, with regulatory bodies emphasising the importance of data security and consumer protection in digital payment platforms. As a result, financial institutions are increasingly investing in digital solutions to streamline the loan repayment process, enhance customer experiences, and improve operational efficiency (Harish & Saal, 2021).

This study is among the first to comprehensively explore the digitalisation of loan bursary repayments within Lesotho's NMDS, addressing a critical yet under-researched aspect of higher education financing. Unlike existing studies that focus on loan disbursement, (Wanjiru1, 2021), this research shifts attention to loan recovery challenges, highlighting inefficiencies in manual repayment processes, fraud risks, and enforcement gaps. It provides practical, country-specific recommendations tailored to Lesotho's regulatory and technological landscape, offering a structured framework for implementing digital repayment solutions. By leveraging technology adoption models, the study presents a unique approach to understanding how digital transformation can enhance compliance, improve financial sustainability, and modernise NMDS operations. Its findings contribute to both academic research and policy development, bridging the gap between theory and practice in higher education funding management.

In the context of Lesotho and the National Manpower Development Secretariat (NMDS), the interplay between socioeconomic and technological factors significantly influences the digitalisation of loan bursary repayments. Lesotho faces socioeconomic challenges such as high unemployment rates, limited financial literacy, and income disparities, which affect students' and graduates' ability to engage with digital financial systems. Additionally, internet penetration and access to digital tools remain uneven, particularly in rural areas, impacting the feasibility of fully digital repayment solutions. While digital transformation

presents opportunities for NMDS to enhance efficiency and transparency, constraints such as inadequate digital infrastructure, low technological literacy, and limited financial inclusion must be addressed. A successful digitalisation strategy must therefore consider these factors, ensuring accessibility, user-friendly digital platforms, and financial education initiatives to encourage adoption while leveraging available technologies to improve service delivery.

A comparative analysis with similar contexts provides insights into best practices and potential challenges that may arise when implementing strategic recommendations. By examining how digital transformation initiatives have been executed in regions with similar socioeconomic and technological constraints, NMDS can identify key success factors and common barriers. In Lesotho, challenges such as limited digital infrastructure, financial constraints, and regulatory requirements must be considered when digitalizing loan bursary repayments. Lessons from other countries or institutions with similar economic and technological conditions can help refine strategies to ensure feasibility.

To implement recommendations effectively, NMDS must assess local constraints, including financial limitations, regulatory compliance, and the availability of skilled personnel to manage digital systems. Additionally, cultural and social factors, such as digital literacy and trust in digital financial services, influence adoption. Addressing these barriers through targeted financial education, phased implementation, and stakeholder engagement will enhance the likelihood of successful digital transformation while ensuring that solutions are practical and aligned with Lesotho’s unique context.

1.3 Research problem

As mandated, the NMDS fails to fulfil its obligation to provide loan bursaries to deserving Basotho students. Key issues include inadequate funding resulting from the high rate of loan bursary repayment defaults from beneficiaries. Failure to address this problem will affect students' education continuity and performance, leading to slow economic growth and fewer employment opportunities for citizens (Wanjiru1, 2021). Therefore, the secretariat must implement effective strategies to increase the loan recovery rate.

Considering the perceived contribution of traditional loan repayment methods currently in use, the digitalisation of this process needs to be explored in collaboration with financial institutions, employers, and regulatory bodies. Digitalising loan bursary repayment involves replacing manual, paper-based, or traditional systems with automated, electronic processes, (Bhandary et al., 2023)

Some members of the AAHEFA have already taken the first step into the digitalisation of the loan bursary repayment process and are reaping positive results. For instance, the Higher Education Loans Board (HELB) declared the migration of its operations to the e-citizen gateway Under the government's unified digital payment system. Payments to HELB are channelled through the HELB systems (USSD, mobile app, loaner portal, or employer portal) to the e-citizen gateway (“Student Portal,”))

1.4 Research objectives

1. To explore how digital payment systems can be adopted to improve loan bursary repayment efficiency and enhance the recovery rate
2. To understand the benefits and barriers to digitalising loan bursary repayment in the NMDS.

1.5 Rationale

In recent years, there has been a national outcry that the NMDS is failing to respond to the increasingly high demand for education sponsorships in the country's higher education sector; not even half of the applicants get to be sponsored. The program covers only 19,500 beneficiaries, and this affects the economic growth rate and employment opportunities. (Dept, 2022). Those lucky enough to get the sponsorship are experiencing many challenges because the government struggles to pay staggering millions of dollars in tuition for tertiary students on state bursaries in local colleges and universities. The said universities resort to not releasing students' assessment results until the NMDS has cleared off all the debts due; this seriously negatively impacts students' performance and stress levels (*NMDS Owes Colleges M350 Million*, 2021).

The main challenge is inadequate funding from the secretariat, which can be mitigated by improving the loan bursary repayment process as it will increase the recovery rate. The motivation for this study lies in the urgent need to address the loan bursary repayments challenge, which has prevailed in the NMDS since its establishment in 1978. This challenge has negatively affected the fund's sustainability, resulting in minimal disbursements of loan bursaries to disadvantaged citizens. This study aims to contribute to the current paucity of published studies on challenges within the NMDS (Nchaka, 2009); (Morongoe)).

In the past years, the use of debt collectors and voluntary stop orders proved ineffective, leading to exploring other options. All these options were explored using traditional loan repayment methods, characterised by manual processes

and paper-based documentation, which have many limitations that hinder the ability to provide a fast, efficient repayment process. Therefore, with a thorough understanding of the benefits and barriers to digitalisation, a study needs to be conducted on the digitalisation of the loan bursary repayment in the NMDS to increase the recovery rate.

1.6 Delimitations of the study

1. This study will focus on NMDS's internal processes only, not on borrowers. It will be restricted to public-private employers, Telecoms, Financial Institutions, and regulatory bodies only, not any other government agencies.

1.7 Definition of terms

(i) **Loan Bursary**: A financial aid award that combines a loan and a bursary, typically requiring repayment under certain conditions, such as upon graduation or employment.

(ii) **Digital Payment Systems**: Electronic methods of transferring money or processing payments without physical cash or checks, including online banking, mobile payment apps, and digital wallets.

(iii) **Sponsorship Contract:** A formal agreement outlining the terms and conditions of financial support between a sponsor (such as an organisation or government) and a recipient (such as a student).

(iv) **Recovery Rate:** The percentage of loan or bursary amounts successfully collected or repaid by recipients.

(v) **Debt Collectors:** Individuals or agencies hired to recover outstanding debts on behalf of creditors, often involving contacting debtors and negotiating repayment plans

1.8 Assumptions

- It is assumed that borrowers and relevant stakeholders have access to the necessary digital technology, such as smartphones, computers, and internet connectivity, to participate in digital repayment processes and also assuming the existence of reliable technological infrastructure, including secure payment gateways, databases, and communication networks, to support the digitalisation of loan bursary repayment.
- Assuming borrowers are willing to adopt and use digital payment systems based on perceived benefits such as convenience, efficiency, and accessibility. There is also an assumption that adopting digital repayment processes may lead to changes in borrower behaviour, such as increased engagement with loan servicing platforms, more timely payments, and improved financial management practices.
- There are no constraints related to access to relevant data sources, including privacy concerns or limitations imposed by participating departments. The respondents are further assumed to be willing to share the required information. Should they wish not to disclose certain information, they will inform the researcher of this.

CHAPTER 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This literature review critically examines existing research related to the digitalisation of loan bursary repayments, focusing on benefits, challenges, technological advancements, and theoretical perspectives. It further incorporates a comparative analysis of student loan repayment models in other African countries, particularly South Africa, Kenya, and Uganda, to contextualise the NMDS's digital transformation journey within broader continental efforts

2.2 Definition of topic background discussion

The shift towards digitalisation in financial services has been transformative, impacting various sectors, including the administration of educational loans and bursaries. Traditionally, loan bursary repayments were managed through manual processes involving physical paperwork, in-person consultations, and manual tracking (Kanchepu, 2023). These methods were often time-consuming, prone to errors, and inconvenient for borrowers. The digitalisation of loan bursary repayments aims to address these inefficiencies by leveraging digital payments to streamline and enhance repayment.

Recent research highlights that the adoption of digital financial services in developing countries is influenced by factors such as digital literacy, internet accessibility, and trust in digital platforms. (Mpofu, 2024) emphasizes that inadequate digital infrastructure and literacy challenges hinder DFS adoption in many African nations. These insights are pertinent to Lesotho, where rural communities often face limited internet access and digital literacy, posing challenges to implementing digital repayment systems for bursary loans. By referencing Lesotho-specific data on mobile money penetration and financial

inclusion, the literature review can demonstrate how these broader challenges manifest locally.

Studies on e-government adoption in developing countries underscore the importance of government policies, infrastructure, and citizen readiness. (S & Perdana, 2024) identify that effective government policies and technological support are crucial for successful e-government implementation. In Lesotho, government-driven digital initiatives, such as those by the National Manpower Development Secretariat (NMDS), must navigate regulatory constraints and capacity limitations. Citing local case studies or government reports on digital public service adoption can further reinforce the relevance of these theoretical perspectives. The following points highlight key aspects of this transformation;

2.3 Digital payment systems in loan repayments

According to (Theodos et al., n.d.), loan servicing requires communication with borrowers and clear guidance and information for making loan repayments and fulfilling other loan terms and conditions. Technology can facilitate this process through automated systems, such as email or SMS, that communicate with borrowers when loan payments are due or other servicing activities must occur. It can also improve the process through online and automated payments.

2.3.1 *Automation and efficiency in loan processing*

In the study conducted by (Panetta et al., 2023) on the development of digital payments, it was concluded that most investigated digital payments are mobile payments. According to, (Varsha Menon & Avinash Aslekar, 2022) Robotic Process Automation (RPA) also has the potential to significantly improve the efficiency of loan processing in banks by automating the most time-consuming step, data entry. The study also highlights that RPA alone cannot replace human involvement entirely; combining both is essential for optimal performance. While this study by (Varsha Menon & Avinash Aslekar, 2022) focuses on the data entry

process, it must thoroughly explore other potential areas for RPA implementation in the banking sector.

2.3.2 *Implementation strategies*

This subsection outlines the strategies that can be employed to facilitate the implementation process, drawing on theoretical frameworks such as the UTAUT and DOI. These strategies are crucial for addressing potential challenges and ensuring that the system meets the needs of all stakeholders, including NMDS administrators, IT personnel, and borrowers in Lesotho. Research on digital transformation in the financial sector emphasises agile methodologies, customer-centric approaches, and the importance of cybersecurity. Successful implementations often involve cross-functional teams and iterative development, (Westerman et al., 2014). Implementing technological initiatives requires careful planning, strategic alignment, and strong leadership commitment (Henry Ejiga Adama & Chukwuekem David Okeke, 2024).

In the context of this study, implementation strategies are essential for understanding how digital payment systems in loan repayment process can be effectively introduced and utilised within the NMDS. These strategies provide a roadmap for overcoming barriers to adoption, enhancing user acceptance, and maximising the benefits of digital tools. By identifying and employing appropriate implementation strategies, the study aims to facilitate a smooth transition from traditional to digital loan repayment methods, ultimately improving operational efficiency and financial inclusion.

2.3.3 *Case Studies of Successful Digitalisation*

Examining successful digitalisation initiatives in various sectors provides valuable insights and lessons that can be applied to of digital loan repayment systems in Lesotho's NMDS. These case studies highlight digital transformation efforts'

strategies, challenges, and outcomes, offering a roadmap for similar projects. Below is a case study of successful digitalisation and its relevance to this study.

M-Pesa, launched by Safaricom in 2007, revolutionised financial services in Kenya by providing a mobile-based money transfer and micro-financing service, (Jack & Suri, 2011) The platform allows users to deposit, withdraw, transfer money, and pay for goods and services via a mobile phone. Key strategies deployed include user-centric design, robust agent network and strategic partnerships, (Mas & Radcliffe, 2010). However, it must be noted that challenges like regulatory hurdles and security concerns were experienced.

The M-Pesa case demonstrates the potential for mobile technology to transform financial services, particularly in increasing financial inclusion. For NMDS, adopting a similar user-centric approach, establishing a robust support network, and forming strategic partnerships with financial institutions, employers, and telecommunications could facilitate the successful implementation of a digital loan repayment system.

2.3.4 *Comparative Analysis of African Student Loan Models*

To enrich understanding and generate relevant insights for NMDS, this study compares loan repayment models from three African countries: South Africa (NSFAS), Kenya (HELB), and Uganda (HESFB).

South Africa – NSFAS

The National Student Financial Aid Scheme (NSFAS) in South Africa represents one of Africa's most advanced and centralised financial aid systems. It has fully digitalised its operations, enabling online applications, disbursements, and repayments via direct debit and employer payroll systems. However, NSFAS also faces challenges such as system downtimes, fraud risks, and a high default rate, despite digitalisation, highlighting the need for robust compliance enforcement and graduate employment tracking, (Chirwa et al., 2022)

Kenya – HELB

Kenya's Higher Education Loans Board (HELB) provides a strong example of integration with digital government platforms. HELB operates via the eCitizen portal and offers multiple digital payment channels (USSD, mobile app, employer portal), ("Repay Loan," n.d.). This multi-channel approach has increased repayment compliance, especially among urban borrowers. Yet, challenges persist in reaching rural borrowers and enforcing repayments from informal sector workers

Uganda – HESFB

Uganda's Higher Education Students' Financing Board (HESFB) combines digital and manual repayment systems. While the HESFB leverages mobile money and partnerships with commercial banks for collections, limited ICT infrastructure and borrower tracking hinder full-scale digitalisation. The gradual rollout approach adopted by HESFB offers a useful model for countries like Lesotho with constrained resources and digital capacity.

2.3.5 *Relevance to NMDS and Lesotho's Context*

These comparative cases reveal common themes: the importance of integrating digital platforms with existing public finance systems, ensuring legislative support for enforcement, and building digital literacy among beneficiaries and employers.

For NMDS, adopting lessons from NSFAS's automation, HELB's multichannel access, and HESFB's phased implementation can inform a tailored, context-sensitive approach to digitalisation. These models underscore the need for strategic partnerships, phased rollouts, and capacity-building interventions to overcome the infrastructural and regulatory hurdles specific to Lesotho

2.3.6 *Proposition1*

The implementation of digital payment systems has the potential to significantly improve the efficiency and effectiveness of loan bursary repayment processes by addressing key operational inefficiencies inherent in traditional methods. Existing literature highlights that manual repayment systems are prone to delays, fraud risks, and non-compliance, all of which hinder effective loan recovery (Ong, 2018), (Khando et al., 2023b). Furthermore, studies on financial digitalisation (Gomber et al., 2017) & (Panetta et al., 2023) emphasise the role of automation in reducing administrative burdens, enhancing real-time tracking, and improving user experience.

However, there is a notable gap in the literature regarding how digitalisation can be specifically applied to government-administered bursary repayment systems, particularly in developing economies such as Lesotho. This study seeks to fill this gap by examining the extent to which digital payment technologies can streamline NMDS loan recovery processes and enhance overall financial sustainability.

2.4 Impact of digitalisation of loan repayment

(Enebeli-Usor & Mukhtar, 2024) conducted a comparative analysis between banks with high levels of digital adoption and those with lower levels, to assess the differential impacts on performance. The study revealed a positive correlation between digitalisation and improved performance in the banking industry and further highlights the need for a robust regulatory framework that can keep pace with rapid technological changes in the banking sector. (Gomber et al., 2017) argue that while digitalisation offers numerous benefits, it also introduces new risks related to data security, privacy, and regulatory compliance, It recommends developing comprehensive regulations to address these challenges

On the other hand, (Ranabhat et al., 2022) , found that digitalisation in financial services leads to significant cost reductions and operational efficiencies. The study highlights how automation and digital platforms reduce manual errors and

processing times. This directly applies to loan bursary repayment as it suggests that digital tools can streamline processes, reduce errors, and enhance operational efficiency, leading to better repayment outcomes.

2.4.1 Benefits

(Ong, 2018) reveals that using digital tools offers numerous benefits, including time savings, improved data analysis, better communication, and overall optimisation of the loan disbursement and repayment process. These technologies help gather relevant information and improve the efficiency and quality of decisions. However, this study is based on a single case study of Stopanska Banka, which limits the generalisability of the findings to other banks or regions. Future research could explore a broader scope to validate these findings across different contexts.

The study conducted by (Md. Mahedi Hasan Refat, 2023) investigated the integration of digital payment systems into microcredit operations in Bangladesh, focusing on the transformative potential of mobile banking technology and digital payment systems. Data was collected through in-depth interviews with seven microcredit sector professionals. All participants agreed that digital payment systems could be a game changer for microcredit operations in Bangladesh. The study suggests that digital payment systems can significantly enhance microcredit operations. However, similar to (Ong, 2018), there is a need for broader research to confirm these benefits across different regions and contexts.

2.4.2 Barriers

In the research conducted by (Waheire, 2013), on implementation of an Automated Payment System at the Mombasa Tea Auction Centre in Kenya, regulatory restrictions are one of the factors that poses challenges to the success of the implementation of Automated Payment Systems. According to (Nakhumwa, 2013)major factors affecting the adoption of digital payment

systems include security status, perceived level of trust, and infrastructure capability to manage the systems. However, the study does not delve deeply into specific security measures that could be implemented to enhance trust. Additionally, longitudinal data is needed to assess how changes in security measures over time impact user trust and adoption rates.

In the study (Gathumbi, 2015) , they agree with (Waheire, 2013) that government policies and legal and institutional frameworks pose challenges to the adoption of e-payments; however, they emphasised the capacity of implementers as another factor that inhibits the success of adoption within institutions. To understand the barriers associated with the integration of digital payment systems, Khando et al., (2023) conducted a study to provide a comprehensive literature review on the emerging digital payment technologies and associated challenges. By systematically reviewing existing empirical studies, (Khando et al., 2023a) the state-of-the-art classification of digital payment technologies presents four categories: card payment, e-payment, mobile payment and cryptocurrencies. Subsequently, the paper presented the key challenges in digital payment technologies categorised into broad themes: social, economic, technical, awareness and legal, but there need to be specific examples of how different regions or sectors have successfully addressed these challenges.

The regulatory environment seems to be the major key factor that poses challenges to the success of the implementation of digital payment systems as (Refat, 2023) also emphasised, agreeing with (Waheire, 2013) and (Nakhumwa, 2013) and (Khando et al., 2023a). He further provided additional factors, including the competitive landscape and target clientele. While these three studies highlight regulatory restrictions as barriers to digital payment adoption, they lack detailed analyses and comprehensive suggestions for policymakers to modify legal frameworks, which is important.

2.4.3 Proposition 2

The successful adoption of digital loan repayment systems is influenced by several key factors, including digital literacy, regulatory frameworks, and financial infrastructure, which collectively present both opportunities and barriers to digitalisation. Research indicates that challenges such as low digital literacy, insufficient regulatory support, and infrastructure limitations hinder the effectiveness of digital financial solutions (Nakhumwa, 2013); (Waheire, 2013); and (Md. Mahedi Hasan Refat, 2023). While prior studies have extensively explored these barriers within banking and mobile money services (Ranabhat et al., 2022); (Enebeli-Uzor & Mukhtar, 2024), limited attention has been given to their implications in the context of public-sector student loan repayment systems. This study addresses this gap by assessing how these challenges manifest in NMDS and identifying practical, context-specific strategies to mitigate them, ensuring a sustainable and effective transition to digital repayment solutions.

2.5 Analytical framework

The digitalisation of loan bursary repayment has gained significant attention recently as financial institutions and educational organisations seek more efficient, secure, and user-friendly methods to manage loan repayments. This literature review aims to synthesise the existing research on this topic, highlighting key findings, methodologies, theoretical frameworks, and gaps in the literature.

2.5.1 *Theoretical Framework*

This study is underpinned by two complementary theories: the Unified Theory of Acceptance and Use of Technology (UTAUT) and the Diffusion of Innovations (DOI) theory. Both frameworks offer valuable lenses for understanding the adoption of digital payment systems within the National Manpower Development Secretariat (NMDS) in Lesotho.

Unified Theory of Acceptance and Use of Technology (UTAUT

Developed by, (Davis (1989), UTAUT has been widely adopted to analyse technology acceptance across sectors. The model posits that technology adoption is influenced by four key constructs:

- **Performance Expectancy**: The degree to which using the system enhances job performance.
- **Effort Expectancy**: The ease associated with using the system.
- **Social Influence**: The degree to which individuals perceive that important others believe they should use the new system.
- **Facilitating Conditions**: The perceived organisational and technical support available.

This framework is particularly relevant to this study, as it helps to understand the acceptance of digital loan repayment technologies by NMDS administrators, IT personnel, and borrowers. Research such as (Arianita et al., 2023) confirms the framework's applicability to digital payments in emerging markets. However, a key limitation of UTAUT is its limited consideration of organisational culture, institutional resistance, and power dynamics within public institutions. In NMDS, decisions around system adoption are not solely influenced by perceived usefulness or ease of use but also by bureaucratic inertia, political will, and institutional hierarchies. Moreover, UTAUT may not fully capture concerns related to job security and change fatigue, factors that can significantly affect public-sector staff responses to innovation.

Diffusion of Innovations (DOI) Theory

On the other hand, DOI Theory has been widely used to examine how new technologies spread within a society or organisation (Sahin, 2006). The theory identifies five characteristics influencing adoption: **Relative Advantage, Compatibility, Complexity, Trialability, Observability**

DOI provides a macro-level perspective, making it ideal for understanding how digital repayment innovations are perceived and adopted within NMDS and among borrowers. It enables exploration of how institutional communication, visibility of innovation outcomes, and system readiness affect diffusion.

However, DOI has its own constraints in this context. It assumes a degree of innovation readiness and autonomy among adopters that is often lacking in centralised, hierarchical public systems. In NMDS, for instance, digitalisation is not just a matter of innovation attributes but also of compliance with rigid procurement, ICT, and financial regulations. DOI's assumption of voluntary adoption also does not fully account for the top-down mandate-driven change process typical in government institutions.

Integration of UTAUT and DOI

Together, UTAUT and DOI provide a multi-level analytical lens: UTAUT addresses individual-level acceptance, while DOI captures institutional diffusion dynamics. Integrating UTAUT and DOI theories provides a comprehensive understanding of the adoption and diffusion of digital loan repayment systems, (Rahi & Ghani, 2018). This integrated approach is appropriate for a hybrid environment like NMDS, where both personal perceptions (e.g., trust in the system) and organisational structures (e.g., policy enforcement) shape adoption.

Nevertheless, both models require contextual adaptation. This study, therefore, complements these theories with insights from digital transformation literature in developing countries, highlighting the need to embed digital solutions within broader institutional reforms, capacity building, and regulatory alignment.

2.6 Conclusion of Literature Review

This study explored the benefits and barriers to digitalising loan bursary repayment processes within the National Manpower Development Secretariat (NMDS) in Lesotho, a critical step towards improving recovery rates and ensuring the sustainability of higher education financing. Guided by the Unified Theory of Acceptance and Use of Technology (UTAUT) and the Diffusion of Innovations (DOI) frameworks, the research provided a dual-level analysis, highlighting both individual user perceptions and institutional readiness for digital transformation.

The findings confirmed that traditional repayment methods currently used by NMDS, such as manual cash payments, bank deposits, and unenforced stop orders, are inefficient, prone to fraud, and lack enforcement mechanisms. These inefficiencies have contributed to persistently low recovery rates, undermining NMDS's ability to fund new bursary applicants and support national educational development. The study revealed strong stakeholder support for digitalisation due to its potential to improve tracking, reduce manual workload, and streamline compliance. However, key barriers were identified, including low digital literacy among stakeholders, infrastructural limitations, regulatory misalignment, and organisational resistance to change. These challenges underscore the importance of adopting a holistic approach to digital transformation, one that addresses not only technology adoption but also cultural, structural, and regulatory factors.

While UTAUT and DOI offered valuable insights into the adoption process, their limitations in public-sector contexts, such as assumptions of innovation readiness and neglect of bureaucratic dynamics, highlight the need for adapted or complementary frameworks when addressing government digitalisation initiatives. Ultimately, the study concludes that successful digitalisation of NMDS's loan repayment process is feasible but contingent on the alignment of technology, policy, and human capacity. Implementation should be phased and supported by strong leadership, stakeholder engagement, and public-private partnerships. These findings contribute meaningfully to the discourse on digital

financial transformation in public institutions and offer a roadmap for similar reforms in other developing countries. The comparative analysis provides NMDS with a practical reference point to inform policy design and operational strategy, ensuring that the digitalisation journey is evidence-based, contextually grounded, and feasible

2.6.1 *Proposition 1*

The implementation of digital payment systems has the potential to significantly improve the efficiency and effectiveness of loan bursary repayment processes by addressing key operational inefficiencies inherent in traditional methods. Existing literature highlights that manual repayment systems are prone to delays, fraud risks, and non-compliance, all of which hinder effective loan recovery (Ong, 2018), (Khando et al., 2023b). Furthermore, studies on financial digitalisation (Gomber et al., 2017) & (Panetta et al., 2023) emphasise the role of automation in reducing administrative burdens, enhancing real-time tracking, and improving user experience. However, there is a notable gap in the literature regarding how digitalisation can be specifically applied to government-administered bursary repayment systems, particularly in developing economies such as Lesotho. This study seeks to fill this gap by examining the extent to which digital payment technologies can streamline NMDS loan recovery processes and enhance overall financial sustainability.

2.6.2 *Proposition 2*

The successful adoption of digital loan repayment systems is influenced by several key factors, including digital literacy, regulatory frameworks, and financial infrastructure, which collectively present both opportunities and barriers to digitalisation. Research indicates that challenges such as low digital literacy, insufficient regulatory support, and infrastructure limitations hinder the effectiveness of digital financial solutions (Nakhumwa, 2013); (Waheire, 2013); and (Md. Mahedi Hasan Refat, 2023). While prior studies have extensively

explored these barriers within banking and mobile money services (Ranabhat et al., 2022); (Enebeli-Uzor & Mukhtar, 2024), limited attention has been given to their implications in the context of public-sector student loan repayment systems. This study addresses this gap by assessing how these challenges manifest in NMDS and identifying practical, context-specific strategies to mitigate them, ensuring a sustainable and effective transition to digital repayment solutions.

CHAPTER 3. RESEARCH METHODOLOGY

This study aims to explore how digital payment systems can be leveraged to improve operational efficiency in the loan bursary repayment process and to understand the benefits and barriers to digitalising this process in the NMDS. A qualitative research methodology is employed to achieve these objectives, focusing on gathering in-depth insights from various stakeholders involved in the loan repayment process. This chapter presents details of the research process to be used to conduct this study. It entails information about the research paradigm, approach, and design that will be adopted.

Data collection methods and procedures are also explained, including the population and sampling methods and the research instrument. The chapter also includes the data analysis strategies and interpretation, possible limitations and challenges of the study, and finally, ethical considerations to ensure the study's ethicality. This chapter of the study also focuses on the methodologies used to examine managing the digitalisation of loan repayments within the NMDS.

3.1 Research Paradigm

This study on the digitalisation of loan repayments adopted an interpretive paradigm with a qualitative research methodology. The interpretive approach is appropriate as it aims to gain in-depth insights into the experiences and perceptions of various stakeholders involved in the loan bursary repayment process within the NMDS, (Alharahsheh & Pius, 2020). A paradigm encompasses the ontological, epistemological, and methodological assumptions that a researcher brings to a study (Shah & Al-Bargi, 2013).

(Guba & Lincoln, 1994) assert that in a constructivist paradigm, reality is multiple and constructed by individuals. This approach aligns with the study's aim to explore personal and organisational experiences and perspectives on the digitalisation of loan repayments. According to (Schwandt, 1994) interpretivism focuses on the subjective meaning of social phenomena and the importance of

context in understanding human behaviour. This is particularly relevant for exploring the nuanced experiences of NMDS administrators and IT personnel. On the other hand, (Densin & Lincoln, 2011) argue that qualitative research is deemed suitable for examining natural processes and experiences, enabling detailed data collection through interviews and questionnaires, offering insights into digital loan repayments.

3.2 Research approach

The study used a qualitative research approach consisting of semi-structured interviews for data collection. Semi-structured interviews are commonly used, transitioning from unstructured to structured questions and involving collaboration between the investigator and informant, (Petrescu et al., 2017). This approach was selected over quantitative research because digitalisation of loan repayment involves various contextual factors, such as cultural, socioeconomic, and technological contexts. Qualitative research can explore how these factors influence user behaviour and acceptance of digital payment methods.

According to (Hollstein, 2011), qualitative approaches in network research offer opportunities for exploring new concepts, data collection, and analysis; qualitative approaches in network research offer opportunities for exploring new concepts, data collection, and analysis, as well as addressing challenges like agency, linkages, and dynamics of social networks. The most effective results are achieved when qualitative and standardised methods are used to describe network structures. The quantitative approach is not suitable for this study as the aim is to understand the underlying reasons for payment defaults

3.3 Research design

A research design provides the blueprint for conducting a study. It outlines how research questions will be answered, specifying the methods of data collection, analysis, and interpretation. This study adopted a qualitative exploratory case

study design, suitable for gaining in-depth insights into how digital payment systems can improve loan bursary repayment efficiency in the National Manpower Development Secretariat (NMDS) of Lesotho. According to, (Bickman & Rog, 2009), case studies offer contextual depth, enabling a detailed understanding of phenomena. They can use multiple data sources, such as documents, artefacts, interviews, and observations, to strengthen findings. The case study method is optimal for research that aims to provide a first-hand understanding of people and events through descriptive or explanatory questions, (Yin et al., 2012). It provides deep insights into participants' experiences, perceptions, and attitudes.

In this study, the case study enabled a deep examination of NMDS's internal operations, policy environment, and stakeholder perceptions relating to the digitalisation of loan repayment systems. The qualitative case study design offers significant advantages for exploring the digitalisation of loan bursary repayment processes in the NMDS, providing rich, contextual, and human-centred insights, (Bickman & Rog, 2009). However, it also presents challenges regarding time, resource demands, generalisability, and potential biases. Balancing these advantages and disadvantages is crucial for conducting a rigorous and impactful study.

3.4 Data collection methods

Primary data was collected using a semi-structured interview guide by face-to-face interviews, with a combination of structured and unstructured questions to allow for flexibility and in-depth exploration. To foster learning about individual experiences and perspectives on a given set of issues, the study focused on the widely used individual in-depth face-to-face interview (DiCicco-Bloom & Crabtree, 2006). This enabled the researcher to modify the questions as and when additional information was required.

Qualitative interviews are closely related to interpretative sociology, as they allow for open inquiry about situational meanings, collect everyday theories, and provide opportunities for empirical application of action-theory ideas in sociology and psychology, (Hopf, 2004) The interview questions were sent to the participants beforehand to allow them to consider their responses. Semi-structured interviews will enable the study to effectively explore the experiences and perceptions of both borrowers and administrators, leading to a deeper and more informed analysis of the benefits and barriers to digitalisation in the NMDS.

3.5 Population and sample

The data was gathered from the NMDS administrators and IT personnel involved in managing the loan repayment process to gain insights into their experiences and the operational aspects of digitalising loan repayment.

The chosen population and sampling methods are well-suited to the qualitative nature of this study, aiming to explore the benefits and barriers to digitalising loan bursary repayments within the NMDS. By selecting participants with direct experience and using methods that allow for in-depth exploration, the study is positioned to gather rich, detailed, and relevant data that can inform practical recommendations for improving the loan repayment process through digitalisation.

3.5.1 *Population*

NMDS Administrators and IT personnel are crucial in managing loan repayment processes, ensuring operational efficiency, and troubleshooting issues. They understand the challenges and potential benefits of transitioning to a digital model. These individuals can provide valuable insights into how digitalisation might streamline operations, reduce errors, enhance tracking and reporting, and ultimately improve the overall efficiency of the loan repayment process.

Sample and sampling method

This study used a purposive sampling method, (Rai & Thapa, n.d.) described it as a non-probability sampling method where the researcher selects participants based on specific characteristics and relevance to the research objectives. This method is particularly effective in qualitative research, (Hollstein, 2011), where the goal is to gain in-depth understanding and insights from participants who have substantial experience or knowledge about the subject being studied.

The research explored the digitalisation of loan repayments within the NMDS using purposive sampling. Participants included administrators and IT personnel, ensuring detailed data collection. This method efficiently uses resources by focusing on a smaller, targeted group with relevant experiences, (Rai & Thapa, n.d.)

NMDS Administrators and IT Personnel: Approximately 7-10 participants were selected from this group. Empirical studies have explored the point at which saturation is typically achieved, (Hennink & Kaiser, 2022). This number is deemed sufficient to cover the diversity of roles and responsibilities within the NMDS while also allowing for detailed, in-depth interviews. Participants were selected to represent a range of roles within the NMDS, including Junior and Senior administrators and IT Junior and Senior staff. This diversity helped capture different perspectives on the digitalisation process.

The planned sample size is sufficient to reach data saturation, where additional interviews are unlikely to yield new insights. This is critical in qualitative research to ensure the reliability and comprehensiveness of the findings. A smaller, targeted sample allows for more detailed and nuanced exploration of each participant's experiences and perspectives, providing richer data for analysis

The study conducted approximately 7 – 10 interviews in total, including 4 NMDS administrators and 3 IT personnel. Each interview served as a data point, with detailed notes and recordings being used to capture and analyse the information provided by participants.

For NMDS administrators and IT personnel, participants were identified and approached through the NMDS management. Initial contact was via formal letters, explaining the purpose of the study and requesting their participation. Follow-up meetings were scheduled to conduct the interviews.

While the study relies on voluntary participation, small incentives such as transportation allowances or data might be offered to encourage participation. Interviews were scheduled at times and locations convenient for the participants to minimise disruption and encourage participation.

3.6 The research instrument

The primary instrument for this research was a semi-structured interview schedule, This type of interview allows for a balance between structured questions, which ensure that all relevant topics are covered, and open-ended questions, which enable participants to express their experiences and viewpoints in depth, (Turner III, 2010).

The semi-structured interview schedule is designed to align with the research objectives and the theoretical framework focusing on digitalising loan repayments within the NMDS. The questions are developed based on a review of relevant literature and aim to address specific issues identified in the research objectives.

3.7 Procedure for data collection

The data collection for this study involved conducting semi-structured interviews with NMDS administrators and IT personnel. The process was meticulously planned and executed to ensure comprehensive and reliable data collection. A list of potential participants from the NMDS was created, including administrators and IT personnel and the list was sourced from the NMDS directory.

Cover letters for different participant groups (NMDS administrators and IT personnel), explaining the purpose of the study, the voluntary nature of

participation, and confidentiality assurances were prepared. Initial contact emails to potential participants, attaching the cover letter and interview schedule was sent and follow up with phone calls to confirm participation will be made.

Through coordination with Participants, interviews were scheduled at times convenient to them, offering flexibility by providing options for face-to-face, telephone, or virtual interviews (e.g., Soom, teams). Reminders were sent to participants a day before the scheduled interview to confirm availability. Face-to-face interviews were conducted in a private, quiet setting to ensure confidentiality and minimise distractions. With the participant's consent, a digital recorder was used to capture the interview.

Interview Process started with an introduction, reiterating the study's purpose, confidentiality, and voluntary nature of participation. The semi-structured interview schedule was followed allowing flexibility to explore relevant topics that emerge during the conversation, detailed notes during the interview to supplement recordings were taken. The recorded interviews verbatim was transcribed with the use of transcription software to ensure accuracy, followed by manual review and corrections. Transcripts and recordings have been stored securely in password-protected files to ensure confidentiality and data was anonymised by removing identifying information. Finally, the transcripts were analysed by using thematic analysis to identify key themes and insights related to the research objectives.

By following this detailed procedure, the study ensured systematic, reliable, and comprehensive data collection, enabling future researchers to replicate the study with clear guidance. This approach also maximises participant engagement and data quality, providing robust insights into the digitalisation of loan repayments within the NMDS.

3.8 Data analysis strategies and interpretation

For this study, the analysis procedure followed a thematic analysis method. As described by (Braun & Clarke, 2012), the thematic analysis is an accessible, flexible, and increasingly popular method of qualitative data analysis. On the other hand, (Clarke & Braun, 2017) said it is a systematic approach used to identify, analyse, and interpret patterns of themes within the qualitative data. In the context of this study, this method applies to both objectives and will identify key themes and patterns in the qualitative data.

First, all recorded interviews were transcribed verbatim, manually reviewed for accuracy, and anonymised to maintain confidentiality. The transcriptions were then coded systematically using a predefined codebook, with multiple reviews conducted to refine emerging themes and ensure consistency in data interpretation. To enhance reliability, triangulation was employed by comparing findings across different participant groups, such as administrators and IT personnel, and through peer reviews to validate coding decisions. Peer debriefing was also used, where external experts reviewed the analysis to challenge assumptions and interpretations.

Additionally, negative case analysis was applied by identifying contradictory evidence to refine conclusions and strengthen objectivity. An audit trail was maintained to document every stage of data collection, coding, and interpretation, ensuring transparency and repeatability of the study. Reflexivity was also integrated, with the researcher keeping a journal to note potential biases and how they were managed. To support transferability, detailed descriptions of the research setting and participant roles were provided, allowing future researchers to assess the applicability of the findings to similar contexts

3.9 Quality Assurance

According to (Morse, 2015), Guba and Lincoln introduced trustworthiness qualitative research criteria in the 1980s, replacing rigor, reliability, validity, and generalisability with dependability, credibility, and transferability. Despite its significance, strategies for achieving trustworthiness have not been critically examined.

3.9.1 *Transferability*

(Guba, 1988) define transferability as the ability of a qualitative study's findings to be applied to different contexts or settings through rich, thick descriptions. This was addressed by:

- **Thick Description**: The study provided rich, detailed descriptions of the research setting, participant roles, organisational context (NMDS), and socio-technical factors affecting digitalisation in Lesotho. This enables readers and future researchers to assess the applicability of the findings to similar contexts.
- **Purposeful Sampling**: The selection of participants with direct experience in loan bursary administration and IT implementation ensured that insights were drawn from those most involved in the process, increasing the relevance and transferability of the results to comparable government agencies or developing-country contexts.

This study meets the transferability criteria because it will provide detailed descriptions of the NMDS, the digital repayment system, and its specific setting, including the implementation process, user experiences, and operational efficiency. It will include a diverse sample of stakeholders, ensuring relevance to organisations with similar structures. The research methods will be meticulously documented, allowing for adaptation in different contexts.

This study provides valuable insights for practitioners, researchers, and policymakers on the adoption and adaptation of digital repayment systems. It provides a foundation for further research and highlights best practices for broader adoption in financial management. The findings can also be used for policy development

3.9.2 *Credibility*

According to (Patton, 1999), Credibility in qualitative research refers to the confidence in the truth of the findings and how well these findings represent the participants' perceptions and experiences. Achieving credibility involves rigorous methodological practices and thorough validation of the data, (Stahl & King, n.d.)

The study may not meet the credibility criteria because of the researcher bias, subjective interpretations, and self-reported data reliance can affect the accuracy of the study's findings. (Lub, 2015) emphasised that peer debriefing, negative case analysis, and an audit trail are strategies to enhance the credibility of qualitative research, peer debriefing provides an external review, challenging assumptions and interpretations, while negative case analysis seeks out contradicting evidence Clear documentation of the research process, including data collection, coding, and analysis, creates an audit trail, allowing for verification. The study enhanced credibility through:

- **Member Checking**: After interviews were transcribed, participants were invited to review their transcripts to verify accuracy and ensure their views were correctly captured and interpreted. This process helped correct any misrepresentations or misunderstandings and confirmed the authenticity of participants' responses.

- **Peer Debriefing**: The researcher engaged in regular discussions with academic peers and the research supervisor to challenge assumptions, reflect on interpretations, and refine thematic analysis. This external input helped to minimize personal bias and maintain objective analytical rigor.

- **Triangulation**: Methodological triangulation was used by collecting data from two participant groups—NMDS administrators and IT personnel—providing diverse perspectives on the issue. This cross-verification strengthened the credibility of the emerging themes by ensuring they were consistently observed across different data sources.

3.9.3 *Dependability*

Dependability in qualitative research ensures stability, consistency, repeatability of findings, and documented process through systematic data collection, analysis, and documentation, (Shenton, 2004). The study will meet the dependability criteria as it will maintain an audit trail, documenting all stages of the research process, including data collection, coding, and analysis, to enhance the dependability of qualitative research. Dependability focuses on the consistency and repeatability of the study's findings, to achieve this:

- **Audit Trail**: A comprehensive audit trail was maintained, documenting each step of the research process from research design and participant recruitment to data collection, transcription, coding, and analysis. This allowed for external review and verification of the procedures followed and decisions made.

- **Code-Recode Strategy**: The researcher employed a code-recode procedure during thematic analysis, whereby initial coding was revisited and refined after a time interval to ensure stability and consistency in theme identification.

- **Peer Review**: Consistent feedback from academic mentors and peers was used to validate data interpretations and ensure the logical coherence of the analytical process.

A code-recoding procedure will ensure consistency and reliability in the coding process. Peer review and debriefing will provide an external evaluation,

identifying inconsistencies and improving the rigor of the research. Reflexive journals will document the researcher's thoughts, decisions, and potential biases, ensuring transparency and managing their influence. Triangulation, which involves collecting data from multiple sources, will ensure robustness and consistency of the findings.

3.10 Ethical considerations

Informed consent was obtained from all participants to ensure willingness, confidentiality, and anonymity will be maintained, (Wiles et al., 2008). Participants had the right to withdraw from the study at any time should they have change of heart. The research proposal was submitted to Wits Ethics Committee for review and approval and the study commenced once the ethical approval was obtained.

3.11 Proposed schedule and timelines

Table 1: Proposed schedule and timelines

Phase	Tasks	Timeline
1. Preparation		
Literature Review	Conduct a comprehensive literature review	May - June
Research Proposal	Finalise and submit the research proposal	22nd July
Research proposal presentation	Present the proposal before the panel	29 Jul- 01 Aug
Ethical Approval	Obtain Ethics Committee approval	5 Aug
2. Instrument Design		
Interview Design	Develop and pilot the interview schedule	2 weeks
Interview Guide Development	Develop and pilot test interview guide	1 month
3. Data Collection		
Participant Recruitment	Recruit participants for the study	1 month
Data Collection	Administer conduct interviews	2 months

4. Data Analysis		
Data Cleaning	Transcribe and clean collected data	1 month
Data Coding	Code and organise data for analysis	1 month
Data Analysis	Perform data analysis and interpretation	1 month
5. Reporting		
Draft Report	Write the first draft of the research report	1 month
Review and Revision	Review, revise, and finalise the research report	1 month
6. Submission	Submit to supervisor for sign off	26th Feb 2025
Final Submission	Submit the final research report	28th Feb 2025
7. Dissemination		
Presentation Preparation	Prepare presentations and disseminate findings	1 month
Presentation and Feedback	Present findings to stakeholders and gather feedback	1 month

CHAPTER 4. PRESENTATION OF FINDINGS

4.1 Introduction

This chapter presents the findings of the study based on the qualitative data collected from NMDS administrators and IT personnel. The results are analysed thematically, aligning with the study's objectives and propositions. The chapter is structured to address the research propositions: the inefficiencies of traditional repayment methods and the potential benefits and barriers of digitalisation. It provides conclusions pertaining to each proposition and lastly summary of overall findings.

4.2 Background information of participants

The demographic profile for respondents included wide-ranging representation, such as from loan bursary administrators down to junior computer operators and the IT personnel at large. The experience ranged from four months to over ten years, mixing the views from veterans and novice staff. Tenure is diverse in that while more experienced staff, especially those within a longer institutionally held place, have deeper experiences with the long-term practices held, the recent ones may still be able to give fresh information.

These demographic facts are important to interpreting the results because they indicate unique experiences and concerns that shape perceptions regarding the processes of loan repayment as currently implemented and through digitisation. For instance, IT people pointed to system stability, while administrators pointed to the issues of manual follow-up and compliance. Even these differences in experience point to a complexity of issues identified.

4.2.1 *Gender, race, age profile of participants*

The sample of participants was made up of four (4) males, of which two (20 of them are autarchies and three (3) females. The distribution across the race groups was predominantly Lesotho native participants as this study was neutral on gender and race. Some participants were between 40 to 45 years, while others were from 25 to 35 years, with a different number of years involved in the loan bursary repayment process. Only one participant held a post-graduate qualification and had an average tenure of 12 years in NMDS. These participants had been exposed to the challenges regarding the loan bursary repayment and will have direct participation in the digitalisation of such a process. Although the participants' demographics were captured, it is confirmed they had no bearing on the results derived.

4.3 Emergent themes

The purpose of this study was to explore how the NMDS can leverage digital payment systems to increase the recovery rate of loans disbursed to Basotho students pursuing priority fields of study at Tertiary and Vocational schools locally, regionally, and internationally. The study investigated the benefits and barriers to digitalising the loan bursary re-payment within the NMDS. The study further addressed the below outlined objectives:

1. To explore how digital payment systems can be leveraged for improved operational efficiency, focusing on the loan bursary repayment process.
2. To understand the benefits and barriers to digitalising loan bursary repayment in the NMDS.

The following themes with sub-themes, codes and frequency emerged from the study findings, which were then structured to the two propositions that the study addresses and are unpacked in detail in below tables:

4.4 Findings pertaining to Proposition 1

Participant 1

Themes	Sub-Themes	Codes	Frequency
Roles and Responsibilities	IT Personnel Role	Ensure system functionality	2
	Support Loan Repayment Process	Maintain operational systems	2
Traditional Loan Repayment	Payment Patterns	Payments made during further studies	1
	Forced Payments	Civil servants pay during pension	1
	Manual Follow-ups	Department visits debtors	2
	Challenges with Manual Methods	Cost of follow-ups	3

Participant 2

Themes	Sub-Themes	Codes	Frequency
Role and Responsibilities	Overview of responsibilities	Assistant loan bursary administrator	1
	Loan repayment responsibilities	SS Mass Implementation, debt recovery, budget	3
Traditional Repayment Methods	Description of current methods	Manual processes, contractual repayment rates	2
	Public sector cooperation	Employer-provided lists, stop orders	2
	Limitations	Salary deductions constrained by SIDAs	1

Themes	Sub-Themes	Codes	Frequency
	Challenges	Non-compliance with deductions	2

Participant 3

Theme	Sub-theme	Code	Frequency
Current Role	Role Description	Loan bursary administrator assistant	1
	Duration in Role	Four months	1
Traditional Payment Methods	Payment Methods Used	Stop orders, debit orders, cash	1
	Effectiveness of Traditional Methods	Effective but with challenges	1

Participant 4

Theme	Sub-Theme	Code	Frequency
Current Role and Experience	Role Responsibilities	Loan bursary applications, debt recovery management	1
	Experience	10 years in loan repayment	1
Traditional Repayment Methods	Methods Used	Cash payment, stop orders, bank deposits	1
	Challenges	Lack of enforcement, non-compliance, fake receipts, robbery risk	4
	Limitations	Manual processes, inefficiency	2

Participant 5

Theme	Sub-theme	Code	Frequency
Role in NMDS	Job title	Junior computer operator	1
	Designation	Assistant loan bursary	3
	Experience duration	Two years in loan repayment	1
Responsibilities	Loan statement preparation	Preparing loan bursary statements	2

Theme	Sub-theme	Code	Frequency
	Deduction management	Deducting on public servant files	2
	Stop order issuance	Issuing stop orders for government/public sectors	3
Traditional Methods	Cash payment	Previously used cash payments (yellow sheet)	2
	Bank deposit	Using bank account for repayments	4
	Stop orders	Non-compulsory and unenforced stop orders	4
	Debt collection	Historical use of Jamale debt collector	2

Participant 6

Theme	Sub-theme	Code	Frequency
Role in Loan Repayment	Responsibilities in the system	Supporting loan repayment systems	2
	Duration in role	10 years	1
Current Methods	Traditional repayment methods	Cash	1
		Stop order	1

Participant 7

Theme	Sub-theme	Code	Frequency
Role in Loan Repayment	Responsibilities in IT support	Ensuring internet stability	1
	Duration in role	Four months	1
Current Methods	Traditional repayment methods	Cash payments	1

The analysis of the responses from participants has revealed key insights into the prevailing situation of loan repayment procedures within the NMDS. These findings centre on the roles and responsibilities of employees, the inadequacy of methods used in traditional repayments, problems associated with debt recovery, and the eventual advantages of digitisation on repayment systems. Results are presented in thematic paragraphs in detail in this part.

4.4.1 *Roles and Responsibilities in NMDS*

Roles were different among NMDS participants. The roles included loan bursary administration, IT support, and system management. Those in loan bursary administration prepared loan statements, issued stop orders, and managed public servants' deductions, placing them at the heart of loan recovery operationalisation.

The IT staff also offered support and maintained systems that collect data on student loans, including the amount owed, guarantor information, and repayment history. They ensured the operation and stability of the systems to allow NMDS to perform its loan management duties. The IT staff still recognised the absence of digital systems for repaying loans, which would not have allowed them to operate at full efficiency.

The results indicated a fractured responsibility and also the dispersal nature of departments with regard to repayment enforcement. Such a silo setup might be one of the reasons for inefficient operation and lack of accountability in repayment processes.

4.4.2 *Traditional repayment methods*

Participants shared immense experiences on traditional repayment arrangements offered by NMDS, such as cash payments, deposits through banks, debt collectors and stop orders. Traditionally, most people used cash repayment, which involved putting money in yellow sheets. Although this method was commonly used, it was unfortunately so insecure because money would either be stolen or embessled. Today, deposit through the bank is widely used, whereby the loan repayment should be deposited directly in an NMDS account, however, one of the participants highlighted how inefficient this method is and shared his views as follows;

“And also, the other challenge is that of the repayment through the bank. Manpower was scammed a lot, where people faked the receipts. They faked the receipts and came here and someone scammed us that they have paid 40,000 whereas they just duplicated, they just fabricated the payment” ***Participant 5***

Participant 1 mentioned another traditional method that is also not effective, rather too expensive to manage, debt collector, and shared her views as below:

“While Jamale was here, it was doing that, going to individuals and arranging for payments accordingly. Indeed, there was a lot of money coming in. Unfortunately, Jamale also charged a hell lot of money for those services because you would find them charging 20%. You would find them being paid close to R500 000.00 a month” ***Participant 1***

Stop orders was the second widely used mode of repayments. These stop orders were also extensively used among civil servants. Stop orders, however applied inconsistently, thus inconsistency in the execution of repayment. Also, inefficiency and delay of human resource systems not only limited public sector cooperation but also resulted in delayed salary deductions either not being enforced or processed. According to the participants, once an employee agreed to stop orders, nothing was done on his part to ensure execution of the repayment, this was confirmed by a number of participant as stated below:

“The challenges are after arranging such, the stop orders, some do not submit them to their employers” ***Participant 3***

“*Our methods lack an enforcement element, I say this because most of the time people come here to initiate payments, which they do only when they want to further their studies or loved ones to be sponsored. They fill in stop orders to submit to their employers but they don’t do the submission, sometimes employers are the ones who do not implement stop orders as submitted”* ***Participant 4***

“Even the stop order that we are issuing, you can find that some of the HRs, they don't even enforce it to start deducting. Yes. Only after some years that a person

who went there to initiate their stop orders will come and say, I thought I gave them the stop order commitment and they did not enforce it. So, it's not effective either". ***Participant 5***

Another significant disadvantage was the time-consuming nature of the traditional approach. Follow-ups were done manually, and departmental visits to trace debtors were expensive and time-consuming. Besides, repayment behaviours were mainly driven by short-term needs, such as sponsoring family members, rather than a sense of financial responsibility. This reactive approach defeats the sustainability of NMDS's loan recovery. This was supported by participant 1 as stated below:

"So sometimes the department itself send people to go out there to the public to search for people who owe the department to request them to pay. It does not happen often because it requires resources, those people need to be paid so the financial muscle of the department does not allow for many visits" ***Participant 1***

4.5 Findings pertaining to Proposition 2

Participant 1

Themes	Sub-themes	codes	Frequency
Challenges	Lack of Automation	Dependency on manual efforts	3
	Financial Barriers	Lack of funding for module implementation	2
Potential Benefits	Increased Recovery	More funds for sponsorship	2
	Self-Sustainability	Reduced dependency on government funding	1
	Benefits of Digitalisation	Automate stop orders, enhance recovery	2

Participant 2

Themes	Sub-themes	Codes	Frequency
Challenges in Recovery Process	Compliance issues	Employees' failure to fulfil commitments	1
	Operational constraints	Inadequate salary deductions, HRS delays	2
Digitalisation	Current status	No digital methods in place	2
	Perceived benefits	Streamlined processes, tax-like automation	2
	Anticipation and expectations	Support for proposed digitalisation	1

Participant 3

Themes	Sub-themes	codes	Frequency
Challenges	Bank Issues	Lack of bank statements	1
	Non-compliance by Users	Signing but not implementing stop orders	2
	Service Queues	Long queues for services	2
Digitalisation Benefits	Queue Reduction	Digital methods reduce queues	2
	Improved Payment Compliance	Automated payments ensure adherence	1
Suggestions	Digital Methods	Mpesa as an effective method	1
	General Digitalisation	Improve overall service delivery	1

Participant 4

Themes	Sub-themes	codes	Frequency
Digitalisation Benefits	Efficiency	Increased collection rate, transparency	2
	Convenience	No queues, convenience for payers	2
	Sustainability	Fund sustainability	1
Lack of Digital Systems	Manual Processes	Entire process is manual	2
	Absence of Automation	No digital repayment system in place	1
Recommendations	Legal Support	Automated stop orders, government support for legal framework	1

Participant 5

Themes	Sub-themes	codes	Frequency
Digitalisation	Absence of digital methods	No digital repayment systems in place	3

Participant 6

Themes	Sub-themes	codes	Frequency
Challenges	Effectiveness of traditional methods	Ineffective voluntary repayments	1
		Laborious process	1
	Customer behaviour	Repayment only when services needed	2
Digitalisation	Current status	No digital repayment system	1
	Suggestions for improvement	Integration with banks, employers, IDs	2
	Automation benefits	Improved convenience	2

Participant 7

Themes	Sub-themes	codes	Frequency
Challenges	Effectiveness of traditional methods	Lack of trust in cash payments	1
	Security risks	Hijacking and theft during cash transit	1
	Accessibility issues	Long travel distances to NMDS	1
	Voluntary compliance	Low willingness to voluntarily pay in cash	1
Digitalisation	Current status	No digital repayment systems	1
	Comments or suggestions for digitalisation	No additional comments provided	1

4.5.1 *Problems in Loan Repayment*

The challenges with loan repayment cases were more multilevel; they touched at the operational, behavioural, and systemic levels. On the operational level, it was characterised as a wholly paper-intensive form of practice that entailed inefficiency and additional costs towards administration. Documented fraud cases involved fictitious bank receipts for which workloads on verification were heavy and drained away the already lean resources, as stated below by one participant:

“Because in the loan bursary, we also compile the receipts book for those who paid via cash. Now, we had to bring all the receipts that we have to the accounts office to verify if those receipts are legit, and multiple of them were fraud. ***Participant 5***

Behavioural issues included the lack of voluntary repayment compliance by borrowers. More people started repayments only when they or their family

members needed more sponsorships. This opportunistic behaviour indicates a larger issue of account about the system. A number of participants emphasised this as stated below:

"People only want to pay their loan bursaries when they know that their loved ones or their children are yet to get sponsored. So they don't want to get on their way. Yeah, when they feel they need to further their studies, or their loved ones, or children. That is the only time they volunteer to come and pay". ***Participant 5***

"An individual comes when they need to further their studies, most of the time people pay only when they want to go to school. Also, civil servants pay when they go for pension because they are forced to". ***Participant 1***

"*I think for most people only come for repayments if they need service most, not all anyways. For most who come only because they would need another loan".* ***Participant 6***

Systemically, the absence of digital repayment mechanisms was a critical barrier. In the absence of automation, NMDS had to rely heavily on manual interventions, which were not only inefficient but also error-prone and time-consuming. Financial constraints added to these problems since there was no funding for implementing a digital repayment module that would help modernise the processes of NMDS. In confirmation to this, the below was an extraction made by one participant:

"There is a system, but it is not working, it's module has never worked at all. No, the module has been incorporated in one already in use system but it never worked because it was not paid for, the repayment module" ***Participant 1***

4.5.2 *Digitalisation: Expected Benefits and Existing Gaps*

The inability of having an effective digital system to handle repayment forms part of the common themes of the responses from participants. Still, most participants were all agreed on the support of the digitalisation of the processes for repaying through viewing it as the only solution to overcome most of the NMDS challenges faced. Below is what they said in support of the above:

"Indeed, if it can be digitalized we can be able to collect a lot of money, more especially if immediately when one gets employed automatically stop orders starts, we can collect a lot of money because a lot people are defaulting" ***Participant 1***

"It will benefit a lot because in the contract, there is a clause stating that the employers, is their responsibility to deduct the loan from them, just like tax, So I think that one will work. ***Participant*** *2*

"The digital can help to reduce the ques. the digital may help to ensure that the payments are done, unlike the manual where……." ***Participant 3***

These systems are going to be expected to make loan repayment easier through the removal of complexities associated with stop orders and even the banks integration. The participants further noted that such systems would increase efficiency, reduce default rates, and improve compliance levels. This automation will also benefit the NMDS staff, as their administrative burdens would be relieved, and a sustainable approach to loan recovery would be adopted. One participant weighted in on the effect the digitalisation of loan repayment process will have on the recovery rate and defaults:

if we can have that repayment system, we can be able to collect a lot, we already have problems that there are many students needing to go to school, but the recovery rate from beneficiaries is so low. If everyone immediately after being employed can manage to pay, a lot of students can be able to be sponsored, there will never be students left outside the quota. ***Participant 1***

The study findings align with the Unified Theory of Acceptance and Use of Technology (UTAUT) by demonstrating how performance expectancy, effort expectancy, social influence, and facilitating conditions impact digital loan repayment adoption at NMDS. Digital repayment systems enhance efficiency, reduce fraud, and streamline processes, reinforcing the perceived usefulness of technology. However, some participants expressed scepticism about the transition, citing concerns over system reliability and operational disruptions. This scepticism could stem from past experiences with failed or poorly implemented digital initiatives, leading to a general distrust of new technological solutions. Additionally, while some participants viewed automation as beneficial, others feared job losses or increased workload due to the need for new skills, highlighting the nuanced nature of effort expectancy.

The role of social influence in technology adoption was also evident, as stakeholder collaboration among NMDS, financial institutions, and employers was perceived as crucial for promoting digitalisation. However, variations in participant responses suggest that social influence might not be uniformly strong across all levels of the organisation. Senior administrators tended to emphasize regulatory support and strategic alignment, while lower-level personnel focused on operational challenges and a lack of hands-on experience with digital systems. This divergence suggests that social influence is shaped by institutional hierarchy and exposure to digitalisation processes. Furthermore, infrastructure gaps and regulatory constraints highlight the need for external support systems to ensure successful implementation, but the perception of these constraints varied based on access to resources and technological literacy.

The findings also support the Diffusion of Innovations (DOI) theory by showing that digital repayment systems provide a clear relative advantage over traditional methods through increased transparency and efficiency. Despite these benefits, institutional reliance on manual processes and low digital literacy present compatibility challenges that slow adoption. However, alternative explanations could suggest that resistance to digitalisation is not solely due to technological

unfamiliarity but also to a broader reluctance to change entrenched financial management practices. Participants who had been with NMDS for a longer period were more resistant to digitalisation, potentially due to an institutional culture that prioritises stability over innovation. Additionally, regulatory concerns may not only be about compliance but also about a lack of clear guidelines or incentives for transitioning to digital platforms, making stakeholders hesitant to fully commit.

Concerns over system implementation, cybersecurity, and user training add to the complexity of transitioning to digital repayment systems. While participants cited fears about security vulnerabilities, this could also reflect a deeper mistrust in institutional capacity to manage data privacy effectively. Observing successful digital repayment models in other regions and piloting within NMDS could improve trialability and observability, encouraging broader adoption, yet there remains a risk that contextual differences could limit direct applicability. For instance, countries with stronger digital infrastructures may not face the same challenges as Lesotho, making a simple replication of best practices insufficient.

Overall, the study validates UTAUT and DOI by illustrating how performance, ease of use, stakeholder influence, and external support contribute to digital adoption. However, alternative explanations for participant responses suggest that digitalisation is not solely a matter of technological readiness but also deeply intertwined with organisational culture, historical experiences with technology adoption, and broader policy uncertainties. While digitalisation offers significant advantages, overcoming barriers such as infrastructure limitations, regulatory constraints, and digital literacy gaps remains crucial. A phased implementation approach, along with strong stakeholder engagement and continuous support, will facilitate smooth adoption and enhance financial sustainability at NMDS. Additionally, addressing underlying institutional resistance and ensuring clear regulatory guidelines will be key to sustaining long-term digital transformation efforts.

4.6 Summary of the findings

Proposition 1: Traditional Loan Repayment Methods

The analysis revealed that traditional repayment methods at NMDS are inefficient and ineffective. Key challenges include insecurity and inefficiency brought by manual cash payments, bank deposits, and inconsistent stop orders, which are prone to fraud, embezzlement, and delays. Costly and Time-Consuming emanating from manual follow-ups and departmental visits for debt collection are which are very resource-intensive. Compliance Issues leading to Borrowers often delaying or avoiding making repayments unless motivated by immediate personal needs.

Roles and Responsibilities within NMDS are fragmented, with limited cross-functional collaboration. IT personnel ensure system stability but face challenges due to the absence of a digital repayment system. Loan bursary administrators are central to recovery operations but are constrained by manual processes and lack enforcement authority. Traditional repayment methods are inadequate for sustainable loan recovery, highlighting the urgent need for digitalisation.

Proposition 2: Benefits and Challenges of Digitalisation

Digitalisation is crucial for addressing inefficiencies in loan repayment despite operational barriers, behavioural issues, and systemic gaps. Benefits include efficiency, automation, reduced fraud, improved compliance, and enhanced recovery rates.

CHAPTER 5. DISCUSSION OF THE FINDINGS

5.1 Introduction

This chapter discusses the research findings in relation to the literature reviewed and the theoretical frameworks adopted. The discussion is structured according to the two research objectives, with each section linking the findings to relevant theoretical constructs, particularly the Unified Theory of Acceptance and Use of Technology (UTAUT) and the Diffusion of Innovations (DOI). Transitional summaries are included to ensure a logical flow of ideas.

5.2 Discussion pertaining to objective 1

Objective 1: *To explore how digital payment systems can be adopted to improve loan bursary repayment efficiency and enhance the recovery rate.*

5.2.1 *Limitations of Traditional Repayment Methods*

The study revealed widespread inefficiencies in the traditional repayment mechanisms used by NMDS, including cash payments, stop orders, and bank deposits. These methods were fraught with fraud, delay, manual tracking burdens, and non-compliance. These findings are aligned with Waheire (2013), who observed similar issues in Kenya's manual systems, and Gomber et al. (2017) who noted operational bottlenecks in legacy financial systems.

The lack of enforcement by HR departments and poor coordination among departments mirrors Nakhumwa (2013), assertion that weak institutional frameworks undermine repayment compliance. These patterns support the DOI concept of “system readiness,” where an organisation’s structural gaps hinder innovation adoption.

5.2.2 *Digital Systems as a Catalyst for Efficiency*

Respondents expressed a strong preference for digital repayment systems. Key perceived benefits included automation of stop orders, improved accuracy, real-time tracking, and enhanced transparency. This reflects the UTAUT construct of performance expectancy, the belief that a system improves job performance. Panetta et al. (2023) emphasise that digital platforms streamline financial workflows, reduce manual errors, and enhance compliance, findings echoed by participants in this study. Integrating repayments into payroll systems and leveraging mobile-based platforms like M-Pesa (Jack & Suri, 2011) also aligns with DOI's observability and compatibility characteristics, which suggest innovations are more readily adopted when they align with users' needs and show visible benefits.

5.2.3 *Barriers to Implementation*

Despite the advantages, barriers such as inadequate infrastructure, financial constraints, and lack of digital literacy pose significant challenges. Khando et al. (2023) classify such issues into technical, financial, and social domains. These findings also align with UTAUT’s facilitating conditions, which stress the importance of organisational and technical support for technology adoption.

Transition Summary

In summary, the findings affirm the inefficiency of traditional systems while strongly supporting the case for digital solutions. However, systemic and contextual barriers must be addressed before any digital transformation can succeed. This sets the stage for further examining how these benefits and barriers balance out under the second objective.

5.3 Discussion pertaining to objective 2

Objective 2: *To understand the benefits and barriers to digitalising loan bursary repayment in the NMDS*

5.3.1 *Benefits of Digitalisation*

Digitalisation is seen as a means to improve borrower compliance, ensure real-time monitoring, reduce service queues, and enhance transparency. These outcomes are supported by Ong (2018), Enebeli-Usor and Mukhtar (2024), who found digital tools to improve financial behaviour and system efficiency.

From a theoretical lens, these findings resonate with UTAUT's effort expectancy, the perceived ease of using technology, and DOI's relative advantage, which stresses the value gained by switching to an innovation. Digitalisation enables self-service, real-time updates, and data integrity, key for strengthening loan recovery processes.

5.3.2 *Barriers to Digital Transformation*

The study identified four major barriers:

- *Digital Literacy Deficits*: Low user proficiency impedes system uptake. (Panetta et al., 2023) suggest that structured training can overcome this, highlighting the role of user empowerment in successful transformation.
- *Resistance to Change:* Concerns over job displacement and operational uncertainty emerged. UTAUT's social influence is applicable here, as endorsement from respected peers and leaders can ease resistance.
- *Financial and Infrastructure Limitations:* Lack of funding and ICT infrastructure were common themes. (Khando et al., 2023b) advocate for public-private partnerships, a strategy NMDS could pursue.
- *Regulatory Uncertainty*: Without a supportive legal framework, digital adoption is risky. Literature shows that reforms mandating automated

salary deductions and enforcing digital contracts are essential for sustainability.

Transition Summary

Overall, the expected benefits strongly justify a shift to digital repayment, but overcoming the barriers requires a comprehensive implementation strategy, stakeholder training, regulatory alignment, and phased adoption—all grounded in literature and theoretical insights.

5.4 Conclusion

The discussion confirms that digital payment systems offer substantial promise in enhancing the NMDS's loan recovery process. Through the UTAUT and DOI frameworks, this study illustrates how user perceptions, organisational conditions, and contextual readiness shape adoption success. While digitalisation has transformative potential, its success is conditional on resolving structural and behavioural challenges.

CHAPTER 6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter synthesises the research findings in alignment with the two research objectives and proposes practical recommendations based on empirical evidence and literature. It concludes with a phased implementation roadmap for NMDS and suggestions for future research.

6.2 Conclusion pertaining to research objective 1

The findings of this study provide a comprehensive understanding of the potential for digitalisation in improving loan bursary repayments at NMDS. In relation to Research Objective 1, the study confirms that traditional repayment methods—such as cash payments, bank deposits, and stop orders—are inefficient, prone to fraud, and challenging to enforce. These findings align with previous research by (Waheire, 2013) and (Ong, 2018), which identified similar inefficiencies in manual financial processes. The study further highlights that digital payment systems, particularly those integrated with employer payrolls and banks, can significantly reduce errors and processing times, supporting the findings of (Panetta et al, 2023) on financial digitalisation transformations.

6.3 Conclusion pertaining to research objective 2

For Research Objective 2, the study underscores the benefits of digitalisation, including enhanced borrower compliance, real-time monitoring, and improved financial transparency. These findings resonate with studies by (Jack & Suri, 2011) on the effectiveness of M-Pesa in Kenya. However, the study also highlights significant barriers such as low digital literacy, financial constraints, poor infrastructure, and regulatory hurdles. These challenges are consistent with

the work of (Khando et al, 2023b)who emphasised that digital adoption barriers fall within technical, financial, and social domains.

A critical comparison of this study's findings with the literature reveals both alignment and divergence. While prior research extensively discusses the benefits of digitalisation, this study uniquely identifies institutional resistance and infrastructure gaps as major hindrances to adoption at NMDS. Unlike M-Pesa, which thrived in Kenya due to an established mobile infrastructure, NMDS faces limitations in technological penetration, requiring tailored digital solutions.

6.4 Implementation Roadmap

To operationalise the digitalisation of loan repayment at NMDS, the following roadmap is proposed:



6.5 Recommendations

Based on the findings of this study, specific, actionable recommendations are provided for each of the key stakeholders identified in the 'Significance of the Research' section. These recommendations focus on overcoming the challenges of digitalisation in loan bursary repayments and ensuring effective implementation.

6.5.1 *Recommendations for NMDS Leadership*

1. NMDS must take the lead in driving digital transformation in loan repayment processes. To achieve this, they should:
2. Invest in Digital Infrastructure: Develop and deploy a robust digital repayment system with features such as real-time tracking, an automated stop order system, and a borrower self-service portal to enhance compliance and reduce administrative workload.
3. Secure Funding for Digitalisation: Establish strategic partnerships with financial institutions, development agencies, and government entities to fund technological upgrades and infrastructure improvements.
4. Enhance Internal Coordination: Improve interdepartmental collaboration, particularly between HR and collections teams, to facilitate the smooth enforcement of stop orders and payroll deductions.
5. Strengthen Compliance Mechanisms: Introduce policies that make digital repayments mandatory for all loan beneficiaries and integrate enforcement measures such as automatic salary deductions.

6.5.2 *Recommendations for Stakeholders*

Public Sector Employers

As key facilitators of salary-based repayments, public sector employers must ensure:

1. Timely Processing of Salary Deductions: Upgrade HR payroll systems to automatically process stop orders, reducing errors and delays.
2. Collaboration with NMDS: Establish a direct communication channel with NMDS to resolve repayment-related discrepancies efficiently.
3. Regular Compliance Audits: Implement periodic checks to ensure all eligible employees have their loan repayments deducted in line with the agreement with NMDS.

Private Sector Employer:

Given their role in borrower employment, private sector employers should:

1. Facilitate Payroll Integration: Work with NMDS to integrate repayment deductions directly into their payroll systems, ensuring seamless loan recoveries.
2. Encourage Employee Participation: Raise awareness among employees regarding the benefits of automated digital repayments and the importance of compliance.
3. Implement Automated Deduction Agreements: Establish formal agreements with NMDS to ensure borrowers' repayments are deducted before salaries are processed.
4. Coordinate with NMDS for implementing loan repayments in the pay roll systems. This will increase their compliance rate.

Regulatory Bodies

Regulatory authorities must create an enabling environment for digital loan repayments by:

1. Developing Digital Finance Policies: Introduce regulations that mandate all financial institutions and employers to support digital loan repayments.
2. Enhancing Data Protection Frameworks: Strengthen cybersecurity policies to ensure borrower data is safeguarded within digital repayment platforms.
3. Facilitating digital payment adoption: Provide incentives such as tax benefits or reduced compliance burdens for employers and institutions that fully integrate digital repayment systems.
4. Pass enabling legislation to support automation and borrower tracking

Borrowers

Loan beneficiaries must also play an active role in ensuring successful repayment digitalisation by:

1. Utilising digital repayment platforms: Engage with the digital tools provided, such as borrower portals, to track repayment progress and avoid default.
2. Committing to timely repayments: Adopt responsible financial habits by setting up auto-deductions or standing orders to prevent missed payments.
3. Seeking financial literacy support: Take advantage of NMDS-led financial education programs to better understand repayment obligations and the benefits of digital finance.

6.6 Suggestions for future research

This research leaves the following issues of future research questions:

1. Borrower Perspective: Attitudes of the borrowers toward digital repayment system should be further work in future for understanding behavioural barriers and motivators for compliance.

2. Longitudinal impact studies: How the electronic payment systems have an effect on loan recovery and the financial viability of NMDS

3. Technological innovations: Developing of new technologies including block chain or AI to improve efficiency and security for the electronic repayment

4. Assess the cost-benefit impact of digitalising student loan repayment systems

5. Investigate the scalability of mobile repayment solutions in informal sectors

6.7 Table 2. Consistency table: research objectives, propositions, data collection and data analysis

Table 2. Consistency table: research objectives, propositions, data collection and data analysis

RQ #	Research Objectives	Pro #	Proposition	Data collection detail	Data analysis method
1	To explore how digital payment systems can be leveraged for improved operational efficiency with a focus on the loan bursary repayment process.	1	The implementation of digital payment systems has the potential to significantly improve the efficiency and effectiveness of loan bursary repayment processes by addressing key operational inefficiencies inherent in traditional methods. Existing literature highlights that manual repayment systems are prone to delays, fraud risks, and non-compliance, all of which hinder effective loan recovery.	Interview guide questions 1, 2, 3, 4, 5, 6, 7, 8,9,10	Thematic analysis
2	To understand the benefits and barriers to the digitalisation of loan bursary repayment in the NMDS.		The successful adoption of digital loan repayment systems is influenced by several key factors, including digital literacy, regulatory frameworks, and financial infrastructure, which collectively present both opportunities and barriers to digitalisation. Research indicates	Interview guide questions 1, 2, 3	Thematic analysis

RQ #	Research Objectives	Pro #	Proposition	Data collection detail	Data analysis method
			that challenges such as low digital literacy, insufficient regulatory support, and infrastructure limitations hinder the effectiveness of digital financial solutions		

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APPENDIX A - The participant information sheet

Dear Sir / Madam

My name is Makhauhelo Hlaele. I am a Masters student in Management in the field of Digital business at the University of the Witwatersrand, Johannesburg. My supervisor is Dr. Ayanda Magida and I am conducting a research study about digitalization of processes. The study title is Benefits and barriers to digitalisation of loan bursary re-payments in the National Manpower Development Secretariat (NMDS) of Lesotho

I am inviting you to take part in an interview activity. If you decide to take part, your participation in this research study will last about 45 minutes. The interview activity will be conducted at any place and time of your convenience.

With your permission, I would like to audio record the interview. This data will be stored securely in password-protected files to ensure confidentiality and data will be anonymised by removing identifying information and deleted after two (2) years. Only the researcher will have access to the data.

The interview will be confidential and anonymous. When I share the results of the research study, I will not include your name or anything else that could identify you. With your permission, other researchers may use the data collected from this research study, but your name and any personal information will not be used or passed on.

If you decide to take part in the research study, it should be because you want to volunteer, you will be allowed to stop being in the study at any time you wish to. You do not have to answer any questions if you do not want to. You will not get any direct benefits if you choose to join the research study. You will not lose any services, benefits or rights you would normally have if you decide not to join. Taking part in the research study will not

cost you anything. You will not be paid for being in this research study. Your travel/data costs to attend the interview will be reimbursed to a maximum of R150.

The risks for this research study are no more than what happens in everyday life OR some of the questions asked may make you feel sad or upset. If this happens, I will stop the interview and continue another time. This research study will be written up as a research report. The report will be available on the university library website. If you would like to receive a summary of this report, I will be happy to send it to you.

If you have any questions during or afterwards about this research study, feel free to contact me or my supervisor on the details listed below. If you have any concerns or complaints about the ethical procedures of this research study, you are welcome to contact the University Human Research Ethics Committee (Non-Medical), telephone +27(0) 11 717 1408, email hrecnon-medical@wits.ac.za.

Yours sincerely,

Researcher:

Makhauhelo Hlaele,

2448241@students.wits.ac.za

+266 62209131

Supervisor:

Dr. Ayanda Magida

ayanda.magida@wits.ac.za

+27 11 717 3953

APPENDIX B – Participant agreement form

Consent Form

Title of project: Benefits and barriers to digitalisation of loan bursary re-payments in the National Manpower Development Secretariat (NMDS) of Lesotho

Participant title: ……..……

I, ……..., agree to participate in this research project.

I agree to the following:

(Please circle the relevant options below)

The research study was explained to me, understand what this study is about. YES NO

I understand that I can volunteer to take part in the study YES NO

I agree that the interview activity may be audio recorded YES NO

I agree that direct quotations from my interview activity may be used by the researcher in their research report/ manuscript/book chapter YES NO

I agree that my participation will remain anonymous (my name or other identifying data will not be used by the researcher in their research report/manuscript/book chapter)

YES NO

I agree that other researchers may use the information I provide in my interview activity (depending on their own ethics clearance being obtained) but my name and any personal information will not be used or passed on YES NO

Name of participant……

Date……

Name of researcher……

Date…….....

APPENDIX C – Research Instrument

Interview Schedule

Introduction:

2. Could you please describe your role within the NMDS?
3. How long have you been involved in the loan repayment process?

Section 1: Background Information

1. Can you provide an overview of your responsibilities related to loan repayments?

Section 2: *Current Loan Repayment Methods*

1. How would you describe the current (traditional) loan repayment methods used by the NMDS?
2. What are the main challenges or limitations you face with the traditional repayment system?

Section 3: *Digitalisation of Loan Repayments*

1. Have you used the digital repayment methods introduced by the NMDS? If so, can you describe your experience?
2. What do you see as the main benefits of digitalising loan repayments?
3. What challenges or issues have you encountered with the digital repayment system?
4. How does the digital repayment system compare to the traditional methods in terms of efficiency and user satisfaction?

Section 4: Impact of Digitalisation

1. How effective do you think the digital repayment system is improving repayment rates?
2. How satisfied are you with the ease of use of the digital repayment methods?
3. What suggestions do you have for further improving the digital repayment system?

Conclusion: Are there any additional comments or suggestions you would like to share regarding the digitalisation of loan repayments?

Thank you for your time and insights.

APPENDIX D – Ethics clearance certificate

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg

Wits Business School Ethics Committee
Constituted under the University Human Research Ethics Committee (Non-Medical)

Ethics Clearance Certificate

Ethics protocol number: WBS/DB2448241/297

This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below).

This certificate is only valid if accompanied by formal permission from the relevant stakeholder(s).

Project title	Benefits and barriers to digitalisation of loan bursary re-payments in the national manpower development secretariat of Lesotho
Investigator / Researcher	Mrs Makhauhelo Hlaele
Nature of Project	MM (Digital Business)
Decision of the Committee	Approved, provided stakeholders and participants are guaranteed anonymity and confidentiality.
Issue Date of Certificate	02/09/2024
Expiry date	Date of submission of the project / research report
Chairperson	Dr Ayanda Magida ☎ +27 11 717 3953 ✉ ayanda.magida@wits.ac.za

Declaration by Researcher

One copy must be signed by the Researcher and returned to the Chairperson of the Wits Business School Ethics Committee.

I fully understand the conditions under which I am authorized to carry out the abovementioned research and I guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I undertake to resubmit the protocol to the Committee.

Signature

09/09/2024
Date:

APPENDIX E – Turnitin report

Makhauhelo Hlaele - MMDB Research Report.docx

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