MOBILE BANKING SERVICES AND FINANCIAL INCLUSION OF WOMEN ENTREPRENEURS IN BARDEGE LAYIBI DIVISION, GULU CITY

OLWOCH OCAYA PATRICK

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A DISSERTATION SUBMITTED TO THE FACULTY OF BUSINESS AND DEVELOPMENT STUDIES IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF DEVELOPMENT MANAGEMENT DEGREE OF GULU UNIVERSITY

OCTOBER, 2026

DECLARATION

I, Olwoch Ocaya Patrick, hereby affirm that the dissertation titled "Impact of Mobile Banking Services on Financial Inclusion of Female Entrepreneurs in Bardege Layibi Division, Gulu City" is my own work insofar as I know, and that the dissertation has never been submitted for examination in any other University or other institution of higher learning for any award.

Olwoch Ocaya Patrick	.....	..20th/10/2026.....
Student	Signature	Date

APPROVAL

It is hereby certified that the above dissertation titled "The Relationship between Mobile Banking Services and Financial Inclusion of Women Entrepreneurs in Bardege Layibi Division, Gulu City" has been written under our supervision and is hereby approved for submission.

Signature.....**Date**...19/10/2026.....

Rev. Fr. Dr. Kyaligonza Lawrence

(Supervisor)

Signature.....**Date:** 21/10/2026.....

Mr. Ocaya Patrick

(Supervisor)

DEDICATION

This research is dedicated to my wife, Laker Getrude, who through her endless love, encouragement, patience, and support has constantly motivated me to carry out my scholarly works. Her personal sacrifices, understanding, and belief in my capabilities have been the motivating factors that have enabled me to undertake this research. This research is also dedicated to my daughter, Atim Mirriam, who through her constant presence has been a great source of happiness, inspiration, and hope for me. I wish that this accomplishment can motivate her to cherish her education and work hard towards achieving her dreams.

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LIST OF ABBREVIATIONS

AI-	Artificial Intelligence
ATM-	Automated Teller Machine
APP-	Applications
BNPL-	Buy Now, Pay Later
CDO-	Community Development Officer
CO-	Commercial Officer
COVID 19-	Coronavirus Disease 2019
DeFi-	Decentralized Finance
DFS-	Digital Finance Services
DOI-	Diffusion of Innovations
ESG-	Environmental, Social and Governance
FinTech-	Financial Technology
GPFI-	Global Partnership for Financial Inclusion
GSMA-	GSM Association
ICT-	Information and Communication Technology
IMF-	International Monetary Fund
IoT-	Internet of Things
ITU-	International Telecommunication Union
M-Banking-	Mobile Banking
OECD-	Organization for Economic Co-operation and Development
PR-	Perceived Risk
SDGs-	Sustainable Development Goals
SHGs-	Self Help Groups
SMEs-	Small and Medium Enterprises
SMS-	Short Message Services
UCC-	Uganda Communications Commission
UNESCO-	United Nations Educational, Scientific and Cultural Organization
UPI-	Unified Payments Interface
USSD-	Unstructured Supplementary Service Data
UTAUT-	Unified Theory of Acceptance and Use of Technology
WB-	World Bank

ABSTRACT

This research examined the influence of mobile banking on financial inclusion of women entrepreneurs in Bardege-Layibi Division, Gulu City, with moderating effect of digital literacy. Four objectives guided the research. The first one was aimed at examining how women entrepreneurs utilize mobile banking services; the second – determining their level of financial inclusion; the third exploring the association between mobile banking services and financial inclusion; the fourth identifying the role of digital literacy in this association. Descriptive survey design was used with cross-sectional timeframe and mixed methods. Quantitative and qualitative data were collected from women entrepreneurs, Community Development Officers, Commercial Officers, and market leaders in Bardege-Layibi Division. Sample size of 384 women entrepreneurs was computed based on Cochran's formula for population size, while 12 key informants were purposefully selected for interview. Data gathering involved questionnaires and interview guide. Quantitative data analysis involved descriptive statistics, correlation and regression analysis using SPSS software, while qualitative data analysis used thematic analysis. The instrument validity was assessed with the Content Validity Index (CVI = 0.911), while its reliability was established with Cronbach's Alpha coefficients which ranged from 0.716 to 0.801. Results showed that women entrepreneurs have high utilization of mobile banking services in terms of payment, withdrawal, savings, and inquiry services while the utilization of credit services is low. In addition, women entrepreneurs have a high level of financial inclusion as indicated by improved access, affordability and service quality of financial services. Correlation and regression analysis indicated that payment, withdrawal, savings, and inquiry services have significant positive relationships with financial inclusion, while credit services do not have a significant influence. Furthermore, the study found out that digital literacy significantly moderates the relationship between mobile banking services and financial inclusion such that women entrepreneurs with high level of digital literacy benefit more with financial inclusion from mobile banking services compared to women with low level of digital literacy. The study concludes that mobile banking services greatly enhance financial inclusion of women entrepreneurs particularly with regard to payment, withdrawal, savings, and inquiry services. Digital literacy plays an important role in enhancing the influence of mobile banking services on financial inclusion. The study recommends that governments, banks and mobile money service providers should increase efforts on improving digital literacy of women entrepreneurs, providing affordable digital financial services and designing user-friendly financial products for them.

CHAPTER ONE:

INTRODUCTION

1.0 Introduction

The present research examines the impact of mobile banking services on the financial inclusion of women entrepreneurs in BarDege-Layibi Division of Gulu city. Specifically, the paper aims to measure the level of financial inclusion among women entrepreneurs. The paper further analyzes the role of mobile banking in the financial inclusion of women in urban and peri-urban parts of northern Uganda. Digital literacy will be considered as an intervening variable between the variables of interest.

Mobile banking has become increasingly popular and has started to penetrate more deeply into the field of finance and banking by providing access to financial services via mobile phones to individuals and business people (Nicholas & Kasekende, 2024). Mobile banking enables women entrepreneurs in northern Uganda to gain easy access to the formal financial sector.

Financial inclusion is a critical issue as far as empowering marginalized people is concerned. In the developing economies like Uganda, the formal financial sector excludes women owing to various economic and social constraints (Nicholas & Kasekende, 2024). Even when mobile banking revolutionizes the whole scenario and provides numerous opportunities to women entrepreneurs to save and earn income, there is not enough knowledge about the impact of mobile banking on financial inclusion (Nicholas & Kasekende, 2024). Indeed, women entrepreneurs in the developing world face specific challenges, particularly in remote rural areas and impoverished urban locations due to mobility issues, low digital literacy, and property constraints.

Mobile banking services have become a means of bridging the financial exclusion gap as it allows people, including women entrepreneurs, to save, borrow, and conduct transactions in the formal financial system (Haider, 2018). Therefore, the current study will explore the effect of mobile banking on the promotion of financial inclusion for women entrepreneurs in BarDege Layibi Division of Gulu City.

1.1 Background to the study

The background to this study is presented from four major perspectives, namely the historical, theoretical, conceptual and contextual dimensions, to provide a comprehensive understanding of the research problem. The historical perspective traces the evolution of mobile banking services and their role in promoting financial inclusion over time. The conceptual perspective clarifies the key concepts underpinning the study, particularly mobile banking services, financial inclusion and digital literacy. The theoretical perspective clarifies on which theories this study is grounded upon. The contextual perspective examines the practical situation of women entrepreneurs within Bardege–Layibi Division in Gulu City, highlighting the relevance of mobile banking services in enhancing their participation in formal financial systems. Together, these perspectives provide a foundation for understanding the relationship between mobile banking services and financial inclusion among women entrepreneurs in the study area.

1.1.1 Historical Background

Financial inclusion has historically been recognized as an important mechanism for promoting economic empowerment and reducing poverty, particularly among marginalized groups such as women. For decades, access to formal financial services such as savings accounts, credit facilities and financial advisory services was largely limited to individuals with stable incomes, formal employment and proximity to banking institutions (Demirguc-kunt & Ruiz-ortega, 2022). As a result, many women, especially in developing countries, remained excluded from the formal financial system and relied heavily on informal saving and lending mechanisms (Okello et al., 2026) . Over time, global development agendas and financial sector reforms increasingly emphasized the need to broaden access to financial services as a means of fostering inclusive economic growth.

Historically, financial inclusion refers to the effort to make financial services accessible to all, particularly marginalized populations who have faced numerous challenges. Traditional financial systems, heavily reliant on physical bank branches and formal credit, often excluded large portions of the population, particularly in rural and underserved areas. In many developing countries, high transaction costs, lack of physical infrastructure and rigid financial systems led to significant portions of the population remaining unbanked (Okello, Bongomin, Malinga, Manzi, et al., 2023).

Globally, mobile banking services have rapidly transformed financial systems, particularly in the developing world. According to the World Bank (2025), over 1.7 billion people globally remain unbanked, but the advent of mobile money and digital financial services is narrowing this gap. In Africa, the role of mobile banking has been particularly pronounced. The continent is home to the largest number of unbanked people globally, yet it has also seen some of the most innovative uses of mobile money and digital finance solutions. As of 2022, approximately 60% of adults in sub-Saharan Africa had access to mobile money, a key avenue for financial inclusion (Junianta & Suratman, 2025). M-Pesa, launched in Kenya in 2007, remains the gold standard for mobile money, influencing similar models across the region, from Nigeria's Paga to Ghana's MTN Mobile Money (Rodrigues et al., 2023).

One of the main drivers of mobile banking adoption in Africa is the high mobile telephone penetration in many countries, often outpacing traditional banking infrastructure. The African Development Bank (2023) highlighted how mobile banking innovations have enabled access to savings accounts, microcredit and even insurance, thus providing a platform for millions to access financial services that were previously unavailable to them. Uganda has made significant strides in the digital finance sector, particularly through mobile money services. The Bank of Uganda (2023) notes that Uganda's mobile money services, which include platforms like MTN Mobile Money and Airtel Money, have contributed to improving financial inclusion in the country. As of 2022, about 48% of adults in Uganda had access to mobile money, compared to only 28% having access to formal bank accounts (Demirgüç-kunt, 2022). The government of Uganda has been keen to use digital finance to drive economic development and financial inclusion. The National Financial Inclusion Strategy (NFIS) of Uganda, established in 2017, emphasizes increasing access to digital financial services, aiming for 80% of Ugandans to have access to formal financial services by 2025 (Okello et al., 2026).

Despite progress, several barriers remain. Challenges such as digital literacy**,** internet connectivity and regulatory issues continue to impede the full potential of digital finance in Uganda. Rural populations, in particular, face challenges in accessing reliable internet and mobile services. Furthermore, issues of cyber security and fraud have become increasingly significant as mobile money and digital platforms grow in popularity (Lee et al., 2023).

1.1.2 Theoretical Background

This study is grounded in relevant theoretical perspectives that explain the relationship between mobile banking services and financial inclusion. The use of theory provides a conceptual basis for understanding how digital financial services influence access to formal financial systems, particularly among underserved groups such as women entrepreneurs. In line with the objectives of the study, the research is guided by two key theories: Financial Intermediation Theory and Social Cognitive Theory. Financial Intermediation Theory explains the role of financial institutions and digital financial platforms in facilitating access to financial services, thereby promoting financial inclusion. On the other hand, Social Cognitive Theory emphasizes the role of individual capabilities, knowledge and environmental influences in shaping behavioral outcomes, such as the adoption and effective use of mobile banking services. Together, these theories provide a comprehensive framework for examining how mobile banking services influence financial inclusion among women entrepreneurs in Bardege–Layibi Division, Gulu City and how digital literacy may shape this relationship.

The Financial Intermediation Theory helps explain the role of financial institutions in facilitating the flow of funds between savers and borrowers in an economy. The theory is commonly associated with economists such as Gurley John and Edward S. Shaw, who emphasized the importance of financial intermediaries in promoting efficient financial systems. This theory is relevant to the study titled "Mobile Banking Services and Financial Inclusion of Women Entrepreneurs in Bardege Layibi Division, Gulu City." Financial intermediation theory suggests that financial institutions, such as banks, microfinance institutions and mobile money service providers, act as intermediaries that connect individuals who need financial services with the financial system (Konstantopoulos, 2023).

In the context of this study, mobile banking services provided by financial institutions and mobile network operators serve as a modern form of financial intermediation. Through mobile banking platforms, women entrepreneurs can access financial services such as saving money, transferring funds, making payments and sometimes accessing credit without physically visiting bank branches. This helps reduce traditional barriers to financial access, such as distance, high transaction costs and complex banking procedures.

By facilitating easier and more convenient financial transactions, mobile banking services strengthen the connection between women entrepreneurs and the formal financial system. As a result, financial intermediation theory helps explain how mobile banking platforms function as intermediaries that enhance financial inclusion and support the economic activities of women entrepreneurs in Bardege Layibi Division, Gulu City.

Social cognitive theory is a contemporary theory of learning that reflects this self-regulating emphasis and emphasizes the idea that much human learning occurs in social environments. By interacting with others, people learn knowledge, skills, strategies, beliefs, rules and attitudes. Through their observations and interactions with other people, individuals also learn about the appropriateness, usefulness and consequences of behaviours (Bandura, 2001). People act in accordance with their beliefs about their capabilities and the expected outcomes of actions, (Laar et al., 2017).

The Social Cognitive Theory, developed by Albert Bandura in 1970, helps explain how individuals learn and adopt new behaviors through the interaction of personal factors, environmental influences and behavior. This theory is relevant to the study titled "Mobile Banking Services and Financial Inclusion of Women Entrepreneurs in Bardege Layibi Division, Gulu City."

According to Bandura (2023) people are more likely to adopt a behavior when they observe others successfully performing it and when they believe they can perform it themselves (self-efficacy). In the context of this study, women entrepreneurs may learn to use mobile banking services by observing other businesswomen, mobile money agents, or community members who already use these services successfully.

The theory also highlights the role of self-efficacy, which refers to an individual's confidence in their ability to perform a task. Women entrepreneurs with higher digital literacy and confidence in using mobile phones are more likely to adopt and use mobile banking services for saving, payments and business transactions (Tam & Oliveira, 2017). This increases their participation in the financial system, thereby improving their level of financial inclusion. Therefore, Social Cognitive Theory helps explain how personal skills (digital literacy), environmental factors and observed behaviors influence the use of mobile banking services and ultimately affect the financial inclusion of women entrepreneurs in Bardege Layibi Division.

1.1.3 Conceptual Background

Researchers use various terms to refer to mobile banking, including mobile banking services (Shaikh & Karjaluoto, 2014) , branchless banking (Suri & Jack, 2016), mobile payments, mobile transfers, mobile finance (Tinmaz et al., 2021), or pocket banking (Baptista & Oliveira, 2016) .

Regardless of the terminology they use, other scholars generally define mobile banking services as an application of mobile commerce that enables customers to access bank accounts through mobile devices to conduct transactions such as checking account status, transferring money, making payments, or selling stocks e.g., (Tinmaz et al., 2021); and (Baptista & Oliveira, 2016) . In addition, a few studies (e.g., (Shaikh & Karjaluoto, 2014) cite mobile banking services as an innovative communication channel in that the customer interacts with a bank through a portable device. However, the dynamic markets for mobile devices and mobile banking services suggest the need for a fresh definition that captures recent advances in the field. Previous definitions have not, for example, explicitly stated which mobile devices qualify for use under the term mobile banking services. It is defined as "a channel whereby the customer interacts with a bank via a mobile device, such as a mobile telephone or smartphone" (Suri & Jack, 2016).

This study will adopt the definition given by Koomson et al. (2020) that mobile banking refers to a financial service provided by banks, microfinance institutions, or mobile network operators that allows customers to perform financial and non-financial transactions through mobile devices such as mobile phones or smartphones (Koomson et al., 2022).

One common definition of "financial inclusion" refers to the access that people have to mainstream financial services such as banking, savings, credit and insurance (Al-okaily & Alalwan, 2022), however, Koomson et al. (2022) defined financial inclusion as 'a process that ensures the ease of access, availability and usage of the formal financial system for all members of an economy' (Koomson et al., 2022) .

In another definition, financial inclusion aims at drawing the "unbanked" population into the formal financial system so that they could access financial services ranging from savings, payments and transfers to credit and insurance (David, 2025). Additionally, financial inclusion is the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low-income groups at an affordable cost. It

primarily represents access to a bank account backed by deposit insurance, access to affordable credit and the payments system (David, 2025).

This study will adopt the definition from Koomson et al., (2022), who define financial inclusion as the process of ensuring that individuals have easy access to, availability of and effective usage of formal financial services such as savings, credit and payment systems (Koomson et al., 2022).

The term digital literacy can be defined as the mastery of simple and practical skills which bring a profound enrichment and transformation of human thinking capabilities (Laar et al., 2017). Digital literacy refers to the ability to understand and use information in multiple formats from a wide variety of sources when it is presented via computers and, particularly, through the medium of the internet (Suri & Jack, 2016) suggested that having digital literacy requires more than just the ability to use software or to operate a digital device; it includes a large variety of complex skills such as cognitive, motoric, sociological and emotional that users need to have in order to use digital environments effectively.

This study will adopt the definition provided by (Tinmaz et al., 2021) that, "Digital literacy refers to the ability to understand and use information in multiple formats from a wide variety of sources when it is presented via computers, particularly through the internet." This definition stresses that digital literacy refers to the ability of individuals to understand, access and effectively use digital information and services through devices such as mobile phones and internet-based platforms. This adaptation connects digital literacy to financial inclusion.

Women entrepreneurs are referred to as women who own and control businesses in which they make key managerial decisions and take responsibility for the business operations and risks (Adeyinka et al., 2022).

1.1.4 Contextual Background

Entrepreneurship among women in Uganda has gained increasing attention due to its role in promoting economic participation and improving livelihoods. In a study on rural women's

entrepreneurship in Uganda, entrepreneurship was described as an activity undertaken with the intention of generating income, often involving creativity, innovation and risk-taking (Ogundana et al., 2021). However, the study also observed that many businesses in Uganda operate in similar sectors such as salons, restaurants and butcheries, which limits the uniqueness often associated with entrepreneurship. Importantly, entrepreneurship is not simply about starting a business due to financial hardship; rather, it involves the ability to identify a need in society and create a sustainable solution that generates income over time (Ogundana et al., 2021).

Women entrepreneurs play an important role in Uganda's economic development through their participation in small and micro-enterprises that support household incomes and local economies. Despite their contributions, women entrepreneurs often face a "double burden" as they operate in a challenging business environment while also fulfilling domestic and social responsibilities. Despite these challenges, mobile telephone usage can enable women entrepreneurs to access business information and conduct transactions at lower operational costs, highlighting the potential of mobile banking services to enhance enterprise performance (Güz, 2024).

Research focusing specifically on the role of mobile phones in promoting economic empowerment among women entrepreneurs in developing countries remains limited (Adeyinka et al., 2022). In many cases, women entrepreneurs lack adequate knowledge of the opportunities presented by mobile banking technologies. At the same time, evidence from Uganda shows that women-owned microenterprises generate approximately 30 percent lower profits than those owned by men (Adeyinka et al., 2022). These disparities are associated with factors such as lower levels of innovation, reduced use of labor and capital and limited access to financial resources. Women entrepreneurs often face additional constraints due to domestic responsibilities and limited ownership of assets that could serve as collateral for loans.

Asset ownership remains a major barrier, as many women have limited control over land and other fixed assets. The Uganda National Panel Survey indicates that a large proportion of rural land parcels are held under customary tenure systems, where women typically have secondary usage rights rather than ownership (Koomson et al., 2022).This situation makes it difficult for women entrepreneurs to access formal credit needed for business expansion. Some emerging financial innovations, such as alternative credit assessment approaches, have been suggested as possible solutions to address this challenge.

1.4 The problem statement

With widespread adoption of mobile banking services, women entrepreneurs should be financially included. However, despite numerous efforts to improve financial inclusion for women entrepreneurs, such as provision of low interest loans, access to savings and quality financial services, the level of financial inclusion for women entrepreneurs has remained low (Ogundana et al., 2021). If this low level of financial inclusion among women entrepreneurs is not addressed, it could undermine government efforts to ensure equality, gender equity and social protection. However, studies reveal that mobile banking services provide avenue and mechanism to improve financial inclusion among women entrepreneurs (Güz, 2024). This study therefore investigates the influence of mobile banking services to the financial inclusion of women entrepreneurs in Bardege Layibi Division, Gulu City.

1.5 Purpose of the Study

To examine the influence of mobile banking services on the financial inclusion of women entrepreneurs in Bardege-Layibi Division, Gulu City, with digital literacy as a moderating factor.

1.5.1 The specific objectives of this study

i. To examine the usage of mobile banking services among women entrepreneurs in Bardege Layibi Division, Gulu City.
ii. To determine the level of financial inclusion among women entrepreneurs in Bardege-Layibi Division, Gulu City.
iii. To determine the relationship between mobile banking services and financial inclusion.
iv. To examine the moderating effect of digital literacy and the relationship between mobile banking services and financial inclusion.

1.5.2 Research Questions

i. What is the level of usage of mobile banking services among women entrepreneurs in Bardege-Layibi Division, Gulu City?
ii. What is the level of financial inclusion among women entrepreneurs in Bardege-Layibi Division, Gulu City?
iii. What is the relationship between mobile banking services and financial inclusion among women entrepreneurs in Bardege-Layibi Division, Gulu City?
iv. Does digital literacy moderate the relationship between mobile banking services and financial inclusion among women entrepreneurs in Bardege-Layibi Division, Gulu City?

1.6 Scope of the study

The study scope covered two major components comprising specifically of content, geographical and time scope.

1.6.1 Content Scope

The content scope of this study focused on examining the influence of mobile banking services on the financial inclusion of women entrepreneurs in Bardege-Layibi Division, Gulu City, while assessing the moderating role of digital literacy in this relationship. This choice was guided by the growing recognition that mobile banking services are critical enabler of financial participation, especially in the context of emerging digital financial services. The study specifically examined how women's knowledge and skills in using mobile technologies such as mobile money applications, mobile banking and online banking systems affect their ability to save, borrow and access financial services.

1.6.2 Geographical scope

The study was geographically limited to Bardege-Layibi Division in Gulu City, situated approximately 20 kilometers west of Gulu District located in Northern Uganda. This area was selected for several reasons: The choice of the geographical scope was based on its relevance to urban and peri-urban financial transformation. Bardege-Layibi represents a fast-growing division where both rural and urban characteristics coexist, making it ideal for studying digital adoption patterns among women of varying socio-economic backgrounds. Additionally, the area has

witnessed an increasing penetration of mobile banking services such as MTN Mobile Money, Airtel Money and Pearl Bank's Wendi platform making it a practical setting for assessing how digital literacy influences financial inclusion outcomes.

1.6.3 Time Scope

Based on the scope of time, the study covered information for a period of 5 years from 2021 to 2025. This period was chosen because it represents a time of rapid expansion and mainstreaming of mobile banking services in Uganda which accelerated digital adoption across sectors. It also aligns with the government's intensified implementation of digital and financial inclusion strategies, such as the National Financial Inclusion Strategy (2022-2026) and implementation of the Parish Development Model (PDM).

1.7 Significance of the study

The study is likely to make an important contribution to the existing body of knowledge on financial inclusion, with particular emphasis on women entrepreneurs in Bardege-Layibi Division, Gulu City. By examining the influence of mobile banking and the moderating role of digital literacy, the study is likely to deepen academic understanding of how digital financial service like mobile banking shape access to and use of formal financial systems in urban and peri-urban communities in northern Uganda contexts that remain underrepresented in empirical research.

The study is likely to also enhance understanding of the ways in which mobile banking services influence financial behavior such as savings, borrowing and making payments and how these effects vary depending on women's level of digital literacy. By unpacking this relationship, the research is likely to shed light on how mobile banking contributes to economic empowerment and improved decision-making among women operating small businesses.

For policy makers and regulators, the findings are likely to provide evidence-based insights into the opportunities and challenges associated with mobile banking adoption among women entrepreneurs. This knowledge is likely to be useful in designing targeted policies and interventions aimed at strengthening digital financial inclusion, improving digital literacy and addressing regulatory, infrastructural, or skills-related barriers that limit effective use of mobile

financial services. The study is likely to further inform policy makers of the broader economic benefits of enhanced financial inclusion, including increased entrepreneurship, reduced financial vulnerability and more inclusive local economic growth.

At the local level, the study would be particularly valuable to stakeholders in Bardege -Layibi Division and Gulu City. By Highlighting how mobile banking services and digital literacy interact to influence financial inclusion, the finding would likely support local government authorities, development partners and financial service providers in shaping context specific strategies to improve women's financial well-being.

This study is likely to provide several direct benefits to women entrepreneurs in Bardege–Layibi Division, Gulu City. By examining the use of mobile banking services and their relationship with financial inclusion, the findings are likely to help women entrepreneurs better understand how digital financial services can improve their participation in the financial system. In particular, the study is likely to highlight how mobile banking services can enhance women entrepreneurs' access to financial services such as savings, money transfers and credit facilities without necessarily requiring them to visit physical banking institutions. This convenience may help reduce barriers related to distance, time and cost that often limit women's access to formal financial services.

In addition, the findings of the study are likely to encourage women entrepreneurs to utilize mobile banking services to conduct business transactions more efficiently. The ability to send and receive payments, pay suppliers and manage customer transactions through mobile platforms is likely to improve the speed, convenience and security of their business operations. In addition, the study is likely to demonstrate how mobile banking platforms can support better saving practices and provide opportunities to access digital credit, which may enable women entrepreneurs to invest in and expand their businesses.

The study is also likely to contribute to improved financial management among women entrepreneurs. Through increased awareness of the benefits of mobile banking services, women entrepreneurs are likely to learn how to monitor their financial transactions, manage business income and expenditures and plan their financial activities more effectively. Moreover, by highlighting the role of digital literacy, the study is likely to increase awareness about the

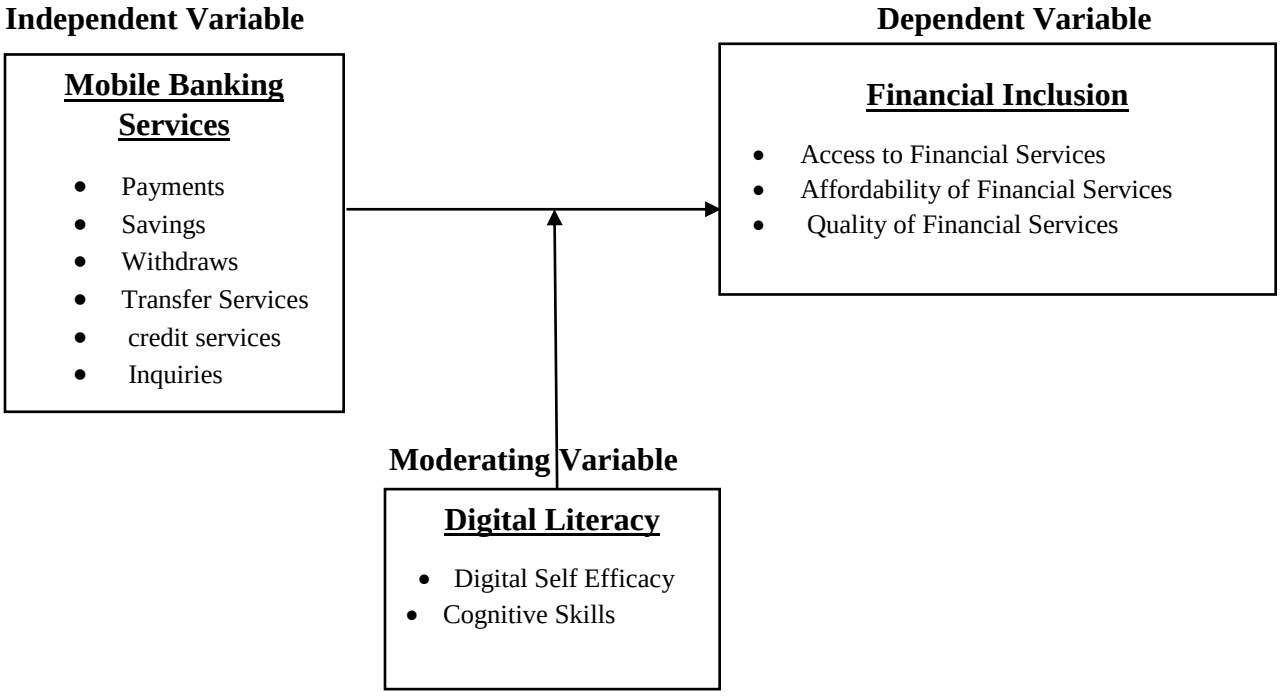
importance of developing the skills required to use digital financial technologies confidently and effectively.

Finally, the study is likely to contribute to the economic empowerment of women entrepreneurs in Bardege-Layibi Division by promoting greater participation in the formal financial system and encouraging the adoption of mobile banking services as a tool for improving financial inclusion and business sustainability.

Ultimately, the study would contribute to a clearer understanding of how digital financial innovations are transforming everyday financial practices and empowering women within the local business community and environment.

1.8 Conceptual framework

The conceptual framework below illustrates the relationship that exists between mobile banking services, financial inclusion and digital literacy.



Source: Adapted from (Bandura, 1986; Nicholas and Kasekende, 2024) and modified by the researcher.

Figure 1. Conceptual framework

This conceptual framework illustrates the relationship between mobile banking services, digital literacy and financial inclusion among women entrepreneurs in Bardege–Layibi Division, Gulu City. Mobile banking services serves as the independent variable, representing the digital channel through which women entrepreneurs' access financial services such as savings, cash withdraws, transfers, payments and credit. Increased access to mobile banking services is expected to enhance women's financial inclusion. Financial inclusion is the dependent variable and refers to women's access to, affordability of and quality of financial services. Digital literacy here is positioned as the moderating variable that influences how effectively mobile banking services contributes to financial inclusion of women entrepreneurs. Higher levels of digital literacy strengthen

entrepreneurial women's ability to use mobile banking services, while low digital literacy may limit its impact, even when services are available.

1.9 Operational Definitions

1.9.1 Mobile Banking Services

Mobile banking refers to a financial service provided by banks, microfinance institutions, or mobile network operators that allows customers to perform financial and non-financial transactions through mobile devices such as mobile phones or smartphones (Siano et al., 2020)

1.9.2 Financial Inclusion

Financial inclusion refers to the process of ensuring that individuals have easy access to, availability of and effective usage of formal financial services such as savings, credit and payment systems (Nicholas & Kasekende, 2024).

1.9.3 Digital Literacy

Digital literacy refers to the ability of individuals to understand, access and effectively use digital information and services through devices such as mobile phones and internet-based platforms (Dijk, 2020).

1.9.4 Women Entrepreneurs

Refers to women who own and control businesses in which they make key managerial decisions and take responsibility for the business operations and risks (Ogundana et al., 2021).

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter illustrates a theoretical, conceptual and empirical review of the literature based on study objectives and a summary of the literature. The researcher used journals, textbooks, websites, internet, newspaper stories and abstracts to review the existing literature in relation to digital literacy and show how digital skills shape women's ability to access, adopt and confidently use mobile banking services for their financial inclusion. This chapter also lays out the theoretical, conceptual and empirical foundations of the research. It discusses key concepts including digital literacy, mobile banking adoption and financial inclusion and shows how different authors have described, measured and connected them. Through reviewing and synthesizing earlier studies, the chapter highlights trends, challenges and opportunities that influence women's participation in the digital financial space. In addition, it identifies the specific gaps that this study aims to address.

2.1 Theoretical Review

The theoretical review presents the theoretical foundations that this study is grounded upon. The study is anchored on two major theories namely Financial Inclusion Theory and Social Cognitive Theory (SCT) as presented.

2.1.1 Financial Intermediation Theory

Financial Intermediation Theory explains the role of financial institutions in facilitating the flow of funds between surplus economic units (savers) and deficit units (borrowers). The theory posits that financial intermediaries, such as banks and other financial institutions, exist to reduce transaction costs, manage risk and address information asymmetries that often arise between lenders and borrowers (Okello, Bongomin, Malinga, Amani, et al., 2023). Through these functions, intermediaries mobilize savings from individuals and channel them into productive investments, thereby promoting efficient allocation of financial resources within an economy.

According to Okello et al., (2023), financial intermediaries play a critical role in lowering the costs associated with financial transactions by pooling resources and providing specialized financial services, including savings facilities, credit provision and payment Similarly, the theory highlights that financial institutions help mitigate problems of information asymmetry by screening borrowers, monitoring investments and enforcing financial contracts. These mechanisms increase trust in the financial system and encourage greater participation in financial markets systems (Okello, Bongomin, Malinga, Amani, et al., 2023).

Financial Intermediation Theory explains the role of financial institutions in bridging the gap between savers and borrowers by reducing transaction costs, managing risks and addressing information asymmetry in financial markets (Okello et al., 2026). The theory posits that intermediaries enhance efficiency in the allocation of financial resources, thereby promoting access to financial services. In the context of developing economies, financial intermediaries such as banks, microfinance institutions and increasingly mobile banking platforms play a critical role in extending financial services to underserved populations systems (Okello, Bongomin, Malinga, Amani, et al., 2023). This is particularly relevant to women entrepreneurs who often face structural barriers such as limited collateral, low financial literacy and restricted access to formal banking systems. Mobile banking services, as a form of digital financial intermediation, help to overcome these barriers by providing convenient, affordable and accessible financial services, thereby improving financial inclusion (David, 2025). Furthermore, financial intermediation enhances the efficiency and performance of financial systems, which in turn supports business growth and sustainability among small-scale entrepreneurs, including women systems (Okello, Bongomin, Malinga, Amani, et al., 2023). Therefore, this theory underpins the current study by explaining how mobile banking services facilitate financial inclusion among women entrepreneurs through improved access, reduced costs and enhanced financial service delivery.

In the context of financial inclusion, Financial Intermediation Theory suggests that the expansion of financial service channels such as digital and mobile banking platforms can enhance access to financial services among previously underserved populations. By reducing barriers related to distance, cost and information, financial intermediaries enable individuals, particularly small entrepreneurs and marginalized groups, to access savings, credit and payment services more easily.

Consequently, financial intermediation plays a fundamental role in promoting inclusive financial systems and supporting economic development.

2.1.2 Social Cognitive Theory

Albert Bandura developed Social Cognitive Theory (SCT) to explain how human behavior is shaped through the dynamic interaction of personal factors, environmental influences and individual actions. The theory emphasizes that learning occurs not only through direct experience but also through observation, social interaction and cognitive processes such as beliefs, attitudes and self-efficacy (Laar et al., 2017). According to Bandura (2001), individuals develop the confidence and skills to perform certain behaviors by observing others, receiving feedback and gradually building a belief in their own ability to perform specific tasks. This concept of self-efficacy is central to theory, as it influences how people approach new technologies, challenges and opportunities (Bandura, 2001) .

Within the context of digital and financial technologies, Social Cognitive Theory helps explain how individuals adopt and use new systems such as mobile banking (Güz, 2024). People are more likely to adopt technological innovations when they believe they possess the necessary knowledge and skills to use them effectively and when their social environment encourages such behavior (Laar et al., 2017). The theory also highlights the importance of social learning, where individuals gain knowledge through observing peers, community members, or training programs that demonstrate how technologies can be used.

In relation to this study, SCT provides a useful framework for understanding how women entrepreneurs learn to adopt and utilize mobile banking services. Women's ability to effectively use mobile banking platforms depends on factors such as their level of digital literacy, exposure to training, confidence in using mobile technologies and the influence of peers or business networks. In communities such as Bardege–Layibi Division within Gulu City, women entrepreneurs may adopt mobile banking more readily when they observe other businesswomen successfully using these services for saving, transferring money, or managing business transactions. Therefore, Social Cognitive Theory helps explain how behavioral capability, social influence and self-efficacy can shape the adoption and effective use of mobile banking services, ultimately enhancing the financial inclusion of women entrepreneurs (Sahay et al., 2025).

Mobile banking services could significantly enhance financial inclusion, educational opportunities, healthcare access and social participation, all of which are central to improving people's capabilities. However, for mobile banking services to achieve its full potential, challenges such as digital literacy, infrastructure gaps and security concerns must be addressed (Okello, Bongomin, Malinga, Manzi, et al., 2023). In applying the Capability Approach to mobile banking, it is clear that this technology has the potential to be a transformative tool in promoting human development, provided its limitations are carefully managed (Onsongo et al., 2017).

According to (Siano et al., 2020), “Mobile banking services is seen as a key driver of financial inclusion, particularly in developing countries like Uganda, where traditional banking infrastructure is limited. The Social Cognitive Theory aims to ensure that all individuals, particularly marginalized and unbanked populations, have access to and can effectively use financial services. Mobile banking plays a crucial role in achieving financial inclusion by leveraging technology to provide banking services to underserved communities. For example, according to the Bank of Uganda, over 60% of Ugandans now use mobile money, with platforms like MoKash (MTN) and Wewole (Airtel) offering savings and credit services to low-income earners (Demirgüç-kunt, 2022) .

2.2 Mobile Banking Services

Mobile banking service is defined as an innovative banking service offered to consumers by financial services firms, such as banks, credit unions and microfinance institutions, for conducting various transactions via a portable device, such as a mobile telephone, smartphone, or tablet anytime anywhere systems (Okello, Bongomin, Malinga, Amani, et al., 2023). .

Mobile banking services also refers to the services provided by financial institutions or banks and is considered one of the most important strategic changes to occur in retail banking in more than a decade (Al-okaily & Alalwan, 2022). Changes in technological interfaces have made it possible for the financial industry to delight its customers with instant solutions to their problems through the use of self-service technologies. The services provide customers with the convenience of remotely conducting financial transactions on mobile devices such as tablets and smartphone (Al-okaily & Alalwan, 2022). Contrary to internet banking, m-banking incorporates the use of an application that is developed and designed by the service provider. The shift to online transactions

led to the evolution of financial institutions, especially banks, that need to meet contemporary needs to conduct operations online. The new venture is beneficial for the service providers, with an array of advantages, including expanding the scope of operations past international borders, penetrating new markets, increasing trust in customers, significantly reducing operational costs, broadening delivery options and enhancing performance levels. Customers enjoy a wide range of advantages from m-banking, including personalized and customized services and increased convenience since m-banking saves time and money for the customer (Al-sabaawi et al., 2021).

Mobile banking can be traced back to the 19th century during the launch of the German company Paybox in collaboration with Deutsche Bank. It was launched and tested in European countries such as Spain, Germany, Austria, the United Kingdom and Sweden. In the United States, M-Banking services first started in the 1990s (Demirguc-kunt & Ruiz-ortega, 2022). Since that date, the change has taken off and almost all types of banking services can now be performed through mobile applications. Kenya was among the pacesetting countries in Mobile banking in 2007 after introducing m-banking services that were based on text messaging, M-PESA. At least 7 million people had registered for the service by 2012. The authors in provide that the prime motivating factor for the fast acceptance and adoption of mobile services is due to their opportunity created to run applications to obtain services at any given location while participating in other activities (Al-okaily & Alalwan, 2022).

One of the key barriers to financial inclusion in rural Uganda has been limited access to traditional banking infrastructure, including physical bank branches and ATMs. According to a study by (Nicholas & Kasekende, 2024) the majority of Ugandans live in rural areas where banking facilities are scarce, making it difficult for individuals to access essential financial services such as savings, loans and insurance. Mobile Banking, facilitated through mobile phones and internet banking, has improved accessibility by providing a platform for people to conduct financial transactions from the comfort of their homes.

For example, mobile money services like MTN Mobile Money and Airtel Money have become instrumental in reaching rural populations, allowing users to send and receive money, pay bills and access savings accounts through their mobile device (Onsongo et al., 2017). According to the Onsongo (2017), mobile money usage has expanded exponentially, with over 22 million registered users in the country, most of whom are in rural areas. This widespread mobile network penetration

has effectively bridged the geographic gap, making financial services more accessible to remote populations.

In rural Uganda, access to traditional banking services is a significant barrier to financial inclusion. According to the Bank of Uganda (2021), only a small percentage of Ugandans living in rural areas have access to physical banking infrastructure such as banks and ATMs. However, mobile money platforms like MTN Mobile Money and Airtel Money have become widespread, allowing individuals in even the most remote areas to access financial services. This shift to digital finance has enabled rural populations to engage in basic financial services such as transferring money, saving and paying bills without the need for a bank branch (Nicholas & Kasekende, 2024). The use of mobile phones, with a high penetration rate in Uganda, has effectively addressed the geographic barriers that have traditionally excluded rural dwellers from financial services (Al-okaily & Alalwan, 2022)

Mobile Banking also facilitates access to financial services for marginalized groups, including women and the youth, who might not have been able to access formal banking in rural areas. A study by Okello (2022) shows that mobile money has empowered women in rural Uganda by providing them with a platform to receive remittances and savings, thus enhancing their financial independence.

2.2.1 Payments

Mobile payment and transfer technologies have significantly transformed the financial ecosystem, providing users with convenient, secure and efficient methods of conducting transactions. The literature on this topic explores various dimensions, including technological frameworks, adoption factors, security issues and socio-economic impact (Tinmaz et al., 2021). Technologically, mobile payment systems have evolved from SMS-based platforms to advanced app-based solutions like PayPal, Apple Pay and Google Pay, as well as region-specific platforms like M-Pesa in Kenya. Emerging technologies such as blockchain and cryptocurrencies are also influencing the future of mobile payments by enabling decentralized and transparent systems (Olaiya et al., 2025).

For women entrepreneurs, mobile payments provide a practical tool for managing business-related financial activities such as receiving payments from customers and paying suppliers. This reduces reliance on cash transactions and enhances the efficiency and security of business operations.

Research also indicates that digital payment systems contribute to financial inclusion by enabling individuals, particularly those in the informal sector, to participate more actively in the financial system (Okello et al., 2026). In contexts such as Uganda, mobile payments therefore play an important role in supporting the financial participation and economic empowerment of small-scale entrepreneurs.

User adoption of mobile payments is often studied through frameworks like the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT), which highlight factors such as ease of use, usefulness, trust and social influence (Alghizzawi, 2021). Additionally, adoption patterns vary across cultural and regional contexts, reflecting differences in technology access and financial literacy. Despite their convenience, mobile payments face significant security and privacy challenges. Concerns about fraud, phishing and data breaches are prevalent, prompting researchers to advocate for robust encryption, biometric authentication and multi-factor security measures to enhance user trust.

The socio-economic impact of mobile payments is profound, particularly in developing regions where these technologies have fostered financial inclusion by providing banking access to unbanked populations. They have also enabled small and medium enterprises (SMEs) to participate in the digital economy, reducing transaction costs and increasing efficiency. However, barriers such as limited smartphone penetration, inadequate internet infrastructure, regulatory differences and low digital literacy persist in hindering widespread adoption.

Emerging trends in mobile payments include the integration of artificial intelligence for fraud detection and personalized financial services, the use of Internet of Things (IoT) devices for seamless transactions and the development of cross-border payment systems for international remittances. Collectively, these advancements highlight the dynamic and transformative role of mobile payment systems in the global financial landscape (Rodrigues et al., 2023).

2.2.2 Savings

Empirical studies conducted in Uganda indicate that mobile banking services play a significant role in enhancing financial inclusion. Mobile banking adoption has been found to improve access to financial services such as savings, credit and insurance, while also promoting positive financial behavior among users (Olaiya et al., 2025). Similarly, studies on small and medium enterprises

reveal that mobile banking enhances access to financial resources and facilitates efficient business transactions (Okello et al., 2026). In addition, digital financial services have been shown to contribute to business growth and sustainability by improving access to credit and financial management tools among Ugandan enterprises (Siano et al., 2020). Evidence from microfinance institutions suggests that mobile banking improves operational efficiency and service delivery, thereby expanding financial access (Dergisi & Cilt, 2025). Earlier findings also confirm that increased adoption of mobile banking services is positively associated with higher levels of financial inclusion in Uganda (Agyei & Kilika, 2013).

A series of smaller-scale studies have also highlighted the positive impacts of mobile money on women's financial inclusion and empowerment. According to Agyei (2013), mobile banking service has provided women in Migori County, located on the Kenyan side of Lake Victoria, with greater capability to save money in a safe place and has enabled them to preserve their savings more successfully than when money is stored within the home. In addition, compared to the past when their husbands often used family savings to buy alcohol or other personal items and left them with no money to be able to purchase food the following day, women have been able to use mobile money accounts to securely store their money away from their husband. These changes gave women confidence in financial activity; many women now consider accessing more financial services including a bank account (Junianta & Suratman, 2025).

Savings services represent an important component of mobile banking, as they provide users with a convenient and secure platform for storing and managing money using mobile devices. Through mobile banking systems, individuals can deposit, transfer and monitor their savings without the need to visit a physical bank branch. According to World Bank, digital financial services such as mobile banking have significantly improved the ability of individuals in developing countries to save money by reducing barriers related to distance, transaction costs and documentation requirements (Olaiya et al., 2025). These services therefore play an important role in extending formal and semi-formal savings opportunities to populations that were previously excluded from the traditional banking system.

For women entrepreneurs, mobile banking savings services provide a flexible mechanism for managing business income and setting aside funds for future investments or emergencies (Lee et al., 2023). The availability of mobile-based savings options can encourage financial discipline by

allowing users to securely store small but frequent deposits generated from daily business activities. Studies have shown that access to digital savings platforms can improve financial resilience and strengthen the capacity of small-scale entrepreneurs to plan and expand their enterprises (Al-sabaawi et al., 2021). In developing economies such as Uganda, where many women operate informal businesses, mobile savings services offer a practical pathway to financial inclusion by enabling them to accumulate capital and participate more actively in the financial system.

2.2.3 Withdrawal Services

Withdrawal services are an important feature of mobile banking that enable users to access their money conveniently through mobile money agents or authorized service points. Through mobile banking platforms, individuals can withdraw cash from their mobile wallets without necessarily visiting a traditional bank branch. This service has significantly improved access to financial resources, particularly for populations in areas where banking infrastructure is limited. According to Lee (2023) , mobile money withdrawal services have played a critical role in expanding the usability of digital financial systems by allowing users to easily convert electronic money into physical cash when needed (Al-sabaawi et al., 2021). The availability of agent networks further enhances accessibility, making financial services more widely available to individuals in both urban and peri-urban communities.

For women entrepreneurs, withdrawal services through mobile banking platforms provide a flexible way of accessing business funds to support daily operations. The ability to withdraw money quickly enables them to purchase stock, pay suppliers and meet other immediate financial obligations without delays associated with traditional banking systems (Dawadi & Giri, 2021). Studies indicate that the expansion of mobile money agent networks has significantly improved financial inclusion by providing easier access to financial services for small-scale entrepreneurs and individuals operating in the informal sector (Agyei & Kilika, 2013). In countries such as Uganda, mobile withdrawal services therefore contribute to improving liquidity and financial accessibility for women entrepreneurs, thereby strengthening their participation in economic activities and supporting the broader goal of financial inclusion.

2.2.4 Transfer Services

Mobile transfer services are a core feature of mobile banking that enable users to send and receive money instantly using their mobile phones. These services have transformed how financial transactions are conducted, especially in areas with limited access to traditional banking infrastructure. By allowing individuals to transfer funds between accounts, mobile wallets, or to other users quickly and securely, mobile transfers reduce the need for physical cash and minimize transaction costs and time (Al-sabaawi et al., 2021). Such accessibility is particularly important for small-scale entrepreneurs who need reliable and efficient ways to manage their business finances.

For women entrepreneurs, mobile transfer services provide a practical and convenient method to pay suppliers, receive payments from customers and manage day-to-day business transactions. The ability to transfer funds electronically not only improves operational efficiency but also enhances financial security by reducing the risks associated with handling cash (Olaiya et al., 2025). In developing contexts such as Bardege–Layibi Division, these services have the potential to strengthen women's participation in economic activities by giving them better control over their financial resources and fostering inclusion in the formal financial system. As such, mobile transfer services are a critical pathway through which mobile banking can contribute to the financial empowerment of women entrepreneurs.

2.2.5 Credit Services

Credit services are transformative areas within financial technology, leveraging digital platforms to facilitate credit and fund transfers. Digital lending refers to the use of online platforms to provide loans and credit, often bypassing traditional financial institutions, while digital transfers encompass services such as mobile payments, peer-to-peer (P2P) transactions and online fund transfers. Both are driven by advancements in technology, including artificial intelligence (AI), blockchain and mobile applications, which enhance efficiency and accessibility (Al-okaily & Alalwan, 2022).

Several factors drive the growth of digital credit services and transfer. Technological innovations such as AI enable more accurate credit risk assessments, while blockchain ensures secure and

transparent transactions. These platforms promote financial inclusion by reaching unbanked and underbanked populations. Regulatory initiatives, like India's Digital India campaign, further support adoption by fostering an ecosystem conducive to digital transformation (Amin, 2006).

Credit services and transfer offer numerous benefits, including convenience, speed and cost efficiency. By leveraging data-driven decision-making, these platforms improve credit assessment and tailor financial products to user needs. However, challenges persist, such as concerns about data privacy, cybersecurity and over-indebtedness due to easy access to credit (Dijk, 2020). Additionally, regulatory uncertainty across jurisdictions poses barriers to scaling these services globally.

Case studies highlight the real-world impact of digital lending and transfer. For instance, Ant Group's MYbank in China uses big data to extend credit to small and medium enterprises (SMEs), while platforms like PayPal and Venmo revolutionize everyday transactions through simplified digital transfers. Mobile-based systems like M-Pesa in Kenya illustrate how these technologies drive financial inclusion in emerging markets (David, 2025).

Emerging trends include embedded finance, where financial services are integrated into non-financial platforms and the rise of Buy Now, Pay Later (BNPL) models, which offer short-term credit solutions. Decentralized finance (DeFi) is also gaining traction, using blockchain to provide loans and transfers without intermediaries. These trends signal a shift toward more accessible, decentralized and integrated financial ecosystems (Chikumba, 2024).

Future directions in digital lending and transfer call for harmonized regulatory frameworks to enable cross-border operations, robust consumer protection measures to guard against fraud and predatory practices and sustainability initiatives to encourage responsible financial behavior. Research from institutions like the World Bank and International Monetary Fund highlights the need for balanced approaches to foster innovation while mitigating risks. Digital lending and transfer are poised to reshape global finance, offering significant opportunities and challenges in equal measure (Xxi, 2021).

2.2.6 Inquiries

Inquiry services are a vital aspect of mobile banking that allow users to access real-time information about their accounts, transactions, balances and other financial activities directly through their mobile devices. These services empower users to monitor and manage their finances without visiting a physical bank, thereby increasing convenience and reducing time and costs associated with traditional banking (Adeyinka et al., 2022). By providing immediate access to account information, inquiry services enhance transparency and help users make informed financial decisions.

For women entrepreneurs, inquiry services play a critical role in managing business finances. Access to up-to-date account balances and transaction histories enables them to track daily income, monitor payments from customers and plan expenditures efficiently. This functionality is particularly important in contexts where business resources are limited and financial decisions must be made quickly to sustain operations (Nicholas & Kasekende, 2024). In developing countries such as Uganda, inquiry services through mobile banking strengthen financial inclusion by giving women entrepreneurs greater control over their funds, enhancing their confidence in using digital financial tools and supporting more efficient business management (Okello et al., 2026). In this way, mobile banking inquiries contribute to both financial empowerment and the broader participation of women in the formal financial system.

2.3 Financial Inclusion

One of the most critical drivers of economic growth and sustainable development is financial inclusion, which refers to the availability and accessibility of financial services to all individuals, particularly the underprivileged. Access to financial resources enables individuals and businesses to save, invest and manage risks effectively, ultimately contributing to overall economic prosperity. However, traditional banking systems have often excluded low- income groups, leaving them financially underserved (Olaiya et al., 2025). This exclusion is primarily due to barriers such as high transaction fees, stringent documentation requirements, geographical limitations and limited banking infrastructure in remote areas. In recent years, Financial Technology (FinTech) has emerged as a transformative force, reshaping the financial landscape by leveraging digital innovation to overcome these barriers. Through mobile banking services,

digital wallets, peer-to-peer lending platforms and online investment services, FinTech has significantly reduced costs, enhanced convenience and expanded financial access to marginalized communities (Siano et al., 2020).

The traditional definition of financial inclusion is providing un-banked and vulnerable people with appropriate, adequate, affordable and timely financial services, such as remittances, savings and loans through formal financial institutions; services from informal financial providers are excluded from the standard definition of financial inclusion (Nicholas & Kasekende, 2024). There is growing interest in financial inclusion worldwide, which is reflected in the Global Partnership for Financial Inclusion (GPFI). At the G20 Summit in Seoul, the leaders of the G20 recognized financial inclusion as one of the main pillars of the global development agenda, endorsed a concrete Financial Inclusion Action Plan and announced the creation of the GPFI. GPFI is the main action plan to advance financial inclusion globally by increasing quality access to, as well as usage of, sustainable formal financial services, thereby expanding opportunities for under-served and excluded households and enterprises (Tam & Oliveira, 2017). The World Bank (2008) also underlines the importance of encouraging the growth of financial access and financial inclusion, providing additional evidence to support claims that financial access boosts economic performance. They focus particularly on women's financial inclusion, considering it as a key enabler for gender equality and women's empowerment, which is one of the Sustainable Development Goals (Al-sabaawi et al., 2021).

One of the main impacts of financial inclusion on women is empowerment. First, through financial activities, women can become income-generating actors and financially and economically independent of their husbands or other male family members (Tinmaz et al., 2021). Similarly, a study in the early 1990s of three of the largest financial programs for women in Bangladesh revealed that female clients increased their household's consumption after using banking services and 5% of female clients escaped from poverty each year by participating in microfinance programs (Wusko, 2026). Financial inclusion programs often give more benefits to women than men. Wusko (2026) studied the impact of women's participation in Self-Help Groups (SHGs) under microfinance in India between 2007 and 2012. This study shows that the impact of SHGs on income growth was much higher for women, 8.4%, as opposed to 3.97% for male participants.

Second, women's increased investment in social and human capital leads to increases in their material capital and social status. In Tanzania, female members of the Women Entrepreneurship Development Trust Fund (WEDTF) responded that they enjoyed more prestige and were able to emancipate themselves after creating an enterprise, regardless of the size of enterprise (Okello, Bongomin, Malinga, Amani, et al., 2023). In Rwanda 69% of female clients of Urwego Opportunity Bank (UOB) had more respect for themselves and 38% of female users acquired heightened notions of enterprise management (Al-okaily & Alalwan, 2022).

Moreover, the increased confidence and social power derived through financial activity help women to take on greater responsibility regarding family and community decisions (Ndiaye, 2022). According to a study of the Women's Empowerment Program in Nepal, which supported women by giving them equal access to financial opportunities, 68% of female programmed members started participating in decision-making processes about family events such as children's marriages, buying and selling property and sending their daughters to school. In the past all of these decisions were made predominantly by male family members (Ndiaye, 2022). Studies in Bolivia and Ghana also indicated that financial inclusion of women led to increased self-confidence and improved their status in the community (Adeyinka et al., 2022).

2.3.1 Access to Financial Services

One of the key barriers to financial inclusion in rural Uganda has been limited access to traditional banking infrastructure, including physical bank branches and ATMs. According to a study by (Ogundana et al., 2021) the majority of Ugandans live in rural areas where banking facilities are scarce, making it difficult for individuals to access essential financial services such as savings, loans and insurance. Mobile Banking, facilitated through mobile phones and internet banking, has improved accessibility by providing a platform for people to conduct financial transactions from the comfort of their homes (Siano et al., 2020).

For example, mobile money services like MTN Mobile Money and Airtel Money have become instrumental in reaching rural populations, allowing users to send and receive money, pay bills and access savings accounts through their mobile devices (Okello, Bongomin, Malinga, Amani, et al., 2023) According to the Bank of Uganda (2021), mobile money usage has expanded exponentially, with over 22 million registered users in the country, most of whom are in rural

areas. This widespread mobile network penetration has effectively bridged the geographic gap, making financial services more accessible to remote populations .

In rural Uganda, access to traditional banking services is a significant barrier to financial inclusion. According to the Bank of Uganda (2021), only a small percentage of Ugandans living in rural areas have access to physical banking infrastructure such as banks and ATMs. However, mobile money platforms like MTN Mobile Money and Airtel Money have become widespread, allowing individuals in even the most remote areas to access financial services. This shift to digital finance has enabled rural populations to engage in basic financial services such as transferring money, saving and paying bills without the need for a bank branch (Ogundana et al., 2021). The use of mobile phones, with a high penetration rate in Uganda, has effectively addressed the geographic barriers that have traditionally excluded rural dwellers from financial services (Dergisi & Cilt, 2025).

Digital literacy also facilitates access to financial services for marginalized groups, including women and the youth, who might not have been able to access formal banking in rural areas. A study by Okello (2022) shows that mobile money has empowered women in rural Uganda by providing them with a platform to receive remittances and savings, thus enhancing their financial independence.

2.3.2 Affordability of Financial Services

Affordability is another critical factor influencing the success of digital finance in enhancing financial inclusion. Mobile financial services have been lauded for their relatively low transaction costs compared to traditional banking services. In rural Uganda, where many individuals operate in cash-based economies, digital finance platforms provide an affordable and efficient means of conducting financial transactions (Emongor et al., 2026).

A study by Okello (2022) suggests that digital financial services often have lower fees compared to conventional banking, particularly in terms of remittance services, which are commonly used in rural areas. For instance, sending money via mobile money services can be significantly cheaper than using a bank transfer or postal services. However, challenges regarding the cost of mobile data and network access remain. While mobile money services are generally affordable, some

users in rural areas still face high data and airtime costs, which may hinder the use of certain financial services (Adeyinka et al., 2022).

In Uganda, the government and telecom companies have introduced various initiatives to reduce these costs. For example, in 2020, Uganda's central bank issued a directive that waived mobile money transaction fees on person-to-person transfers, which led to a surge in mobile money transactions (Nicholas & Kasekende, 2024). Nevertheless, issues related to affordability persist, particularly in rural areas where poverty levels are high and the population may still find even small transaction fees burdensome.

Affordability plays a key role in the adoption of digital financial services. In rural Uganda, where a large portion of the population lives below the poverty line, the cost of accessing financial services can be prohibitive. Digital finance platforms, particularly mobile money services, have reduced the cost of sending and receiving money compared to traditional banking services. Mobile money transactions typically incur lower fees, making them an attractive alternative to cash transfers or remittance services offered by banks or postal services (Haider, 2018).

However, while mobile money is often cheaper, some users in rural areas still face challenges with data and airtime costs, which can make regular use of digital finance less affordable. Haider (2023) points out that, although the central bank has waived transaction fees on certain mobile money services, the high cost of mobile data and airtime in rural areas remains a significant barrier to frequent usage. This issue highlights the need for continuous efforts to reduce the cost of mobile internet services and data to make digital finance more inclusive.

2.3.3 Quality of Financial Services

Quality financial services are essential for economic growth and stability as they facilitate the allocation of resources, risk management and wealth creation. These services operate with minimal costs, deliver high-quality solutions and promote optimal resource allocation. Their importance lies in enabling effective resource utilization, reducing transaction costs and fostering economic development. Studies, such as Haider (2018), highlight how well-functioning financial systems improve resource allocation, while Okello (2022) provide evidence of their role in boosting firm growth.

The efficiency of financial services is influenced by several factors, including technology adoption, regulation and competition. Innovations like FinTech have reduced costs and improved accessibility, while effective regulatory frameworks ensure market stability and foster competition, as noted by Okello (2003). However, challenges such as information asymmetry, moral hazard, over-regulation and technology gaps hinder efficiency. Stiglitz and Weiss (1981) discuss the issue of credit rationing caused by asymmetric information and Ayyagari et al. (2017) highlight the role of digital financial services in addressing these gaps.

Recent trends in the sector include digital transformation, the rise of sustainable finance and increased globalization. Technologies like AI, blockchain and mobile banking have significantly reduced financial intermediation costs, as assessed by Philippon (2019). Meanwhile, the integration of ESG criteria has redefined efficiency metrics, focusing on sustainable and inclusive financial practices. Case studies, such as India's Unified Payments Interface (UPI) and Africa's M-Pesa, illustrate the transformative impact of digital solutions on service delivery and inclusion.

While the literature underscores the critical role of technology, regulation and innovation in enhancing efficiency, it also highlights persistent challenges, particularly in developing regions. Addressing these issues through targeted policies and continued research is vital for achieving a more inclusive and efficient global financial system.

2.4 Digital Literacy

Digital literacy, defined as the ability to use digital tools effectively for learning, communication and everyday life, is increasingly recognized as a fundamental skill for participation in the 21st-century information society (Al-sabaawi et al., 2021). Additionally, Digital literacy is the set of competencies required for full participation in a knowledge society. It includes knowledge, skills and behaviors involving the effective use of digital devices such as smartphones, tablets, laptops for purposes of communication, expression, collaboration and advocacy (Nicholas & Kasekende, 2024). As digital technologies continue to transform social, economic and political systems worldwide, the ability to navigate digital environments becomes critical for individuals and communities. This literature review provides an overview of digital literacy at global, continental (Africa), national (Uganda) and local (Gulu City) levels, highlighting challenges, opportunities and current initiatives.

Globally, digital literacy is seen as a driver of inclusive development and lifelong learning. The Organization for Economic Co-operation and Development (OECD) emphasized the importance of equipping learners with 21st-century skills, including digital competencies (Dijk, 2020). Studies indicate that digital literacy is closely linked to economic development, social inclusion and educational attainment (Dijk, 2020).

Advanced economies, such as those in Europe and North America, have integrated digital literacy into formal education systems and national digital strategies. For instance, the European Commission's Digital Education Action Plan (2021–2027) focuses on enhancing digital skills from early education to adult learning (Okello et al., 2026). However, digital inequality persists even in high-income countries, often along lines of socioeconomic status, age and geographic location (Chikumba, 2024).

In Africa, digital literacy is both a growing necessity and a significant challenge. The continent has experienced a surge in the adoption of mobile technology, with mobile phones serving as primary access points to the internet (Okello et al., 2026). However, disparities in infrastructure, education and digital skills remain stark. According to the International Telecommunication Union (ITU), only about 28% of Africans were using the internet by 2021, compared to over 80% in Europe (David, 2025).

Initiatives such as the African Union's Digital Transformation Strategy for Africa (2020–2030) aim to bridge the digital divide by improving connectivity, access to digital devices and skills training (African Union, 2020). Moreover, non-governmental organizations and private sector actors have launched digital literacy programs targeting youth, women and rural populations.

Despite these efforts, research shows that digital literacy programs in Africa often lack contextual adaptation, sustainable funding and integration into broader education systems (Baptista & Oliveira, 2016). Gender disparities are also pronounced, with women and girls facing more barriers to digital access and training (Olaiya et al., 2025).

Efforts to promote digital literacy include government initiatives like the National ICT Innovation Support Programme and partnerships with international organizations such as UNESCO and UNICEF. These programs aim to train teachers, integrate ICT into school curricula and expand community access to digital tools (Okello et al., 2026). However, studies indicate a digital divide

between urban and rural populations, limited ICT infrastructure in schools and inadequate teacher preparedness (Haider, 2018).

Moreover, cultural, linguistic and economic factors affect the effectiveness of digital literacy initiatives in Uganda. While urban areas like Kampala have relatively high digital engagement, many rural areas remain underserved (Al-okaily & Alalwan, 2022).

Despite these efforts, infrastructural limitations, high costs of internet access and limited awareness still hinder the broader adoption of digital technologies. A study by Al-okaily (2022) highlighted that while students in Gulu are increasingly exposed to ICTs, their digital competencies remain basic, often limited to social media use rather than academic or professional engagement.

2.4.1 Digital Self -efficacy

Digital self-efficacy refers to an individual's belief in their ability to effectively use digital technologies to perform tasks and solve problems (Gilster & Watson, 1999). In the context of digital literacy, it reflects not only technical competence but also the confidence to navigate digital platforms, troubleshoot challenges and adopt new technological tools independently. High digital self-efficacy enables users to engage with digital services more actively, explore functionalities and make informed decisions when using online platforms, including financial applications.

Digital self-efficacy is a collection of knowledge, skills and attitudes required in the process of using ITC and digital media to: perform tasks, solve problems, communicate, manage information, cooperate, create and share content and also effective, efficient, autonomous, critical, creative knowledge development, work, learning, socialization, consumption and position strengthening empowerment (Ndiaye, 2022). Nowadays digital competences and digital skills as their part, are becoming an indispensable set of attributes assigned to an individual acting as a competitor on the labor market, but more importantly, they also represent a necessary advantage allowing the realization of daily tasks and functions (including the use of banking services). The shortage of these skills and/or their maladjustment to the contemporary challenges put before a human being, understood as part of the socio-economic system, is a limitation of their development abilities and, at the same time, results in an obvious disadvantage or inability to carry out the specific, individualized human needs required in every sphere of life (Rodrigues et al., 2023).

For women entrepreneurs in Bardege–Layibi Division, digital self-efficacy is particularly important in accessing and utilizing mobile banking services. Entrepreneurs who are confident in their digital skills are more likely to perform mobile transactions, check balances, make transfers and manage savings efficiently. Studies indicate that digital self-efficacy not only promotes the adoption of digital financial services but also enhances secure and responsible use, reducing the risk of errors or exposure to cyber threats (Okello, Bongomin, Malinga, Amani, et al., 2023). In developing contexts, where women may face limited exposure to technology or digital training, strengthening digital self-efficacy can empower them to leverage mobile banking for financial inclusion, improve business management and participate more actively in the formal financial system.

2.4.2 Cognitive Skills

Cognitive skills are a critical component of digital literacy, encompassing the mental capabilities required to understand, process and apply digital information effectively (David, 2025). These skills include problem-solving, critical thinking, decision-making and the ability to analyze and interpret digital content. In the context of mobile banking, cognitive skills enable users to navigate digital platforms, understand financial information, evaluate transaction options and make informed financial decisions. Individuals with strong cognitive skills are better equipped to manage online transactions, recognize errors or suspicious activities and optimize the use of mobile banking features to enhance financial management (Al-okaily & Alalwan, 2022).

For women entrepreneurs in Bardege–Layibi Division, cognitive skills are particularly important for utilizing mobile banking services effectively. Women who possess higher cognitive abilities are more likely to understand complex features of mobile banking applications, such as setting up savings plans, performing transfers and tracking business-related expenses. However, existing literature on digital literacy often focuses broadly on access to digital tools or general digital skills, with limited attention to how specific cognitive skills influence the adoption and effective use of mobile banking among women entrepreneurs in developing urban contexts. This gap suggests that while mobile banking can facilitate financial inclusion, without an understanding of how cognitive skills impact its utilization, interventions may not fully address the challenges faced by women entrepreneurs. Consequently, examining cognitive skills in relation to mobile banking adoption is

essential to designing targeted training programs that enhance digital competence and financial empowerment (Adeyinka et al., 2022).

2.5 Mobile Banking services and financial inclusion of women

Nzilano and Magoti (2025) examined the impact of digitalization of banking services on the financial inclusion of women entrepreneurs in Dodoma Municipality, Tanzania. Using a cross-sectional quantitative design, data were collected from 117 women entrepreneurs and analyzed with descriptive statistics and multiple linear regression. The study found that mobile money services significantly enhanced access, affordability and usage of financial services among women. Mobile money accounted for 37% of the variance in financial inclusion, while digital finance platforms contributed over 50% of inclusion outcomes. However, internet banking was underutilized due to low digital literacy and infrastructural challenges, limiting access to more advanced digital services. The study's small sample size, focus on a single urban area and lack of qualitative insights further restricted the generalizability of its findings.

These findings are highly relevant to the Ugandan context, especially in areas such as Bardege–Layibi Division in Gulu City. In Uganda, women constitute a significant portion of micro and small-scale enterprise owners but remain underrepresented in the formal banking sector. According to the Bank of Uganda (2023), only about 48% of urban women are financially included compared to 65% of men. Barriers such as limited financial literacy, socio-cultural norms, lack of collateral and insufficient banking infrastructure continue to hinder women's participation in formal financial systems. Mobile money platforms, such as MTN Mobile Money and Airtel Money, provide accessible alternatives that enable women to save, transfer money, pay bills and access digital loans without depending on physical bank branches.

Parallels between Tanzania and Uganda suggest that mobile banking can similarly enhance financial inclusion for Ugandan women entrepreneurs. These services offer convenience, affordability and accessibility, particularly for those operating in the informal sector who face challenges meeting traditional banking requirements. Nevertheless, low digital literacy and infrastructural gaps may limit adoption and effective use. Addressing these challenges through targeted digital literacy programs, reliable internet access and user-friendly financial services can strengthen the role of mobile banking in promoting women's economic empowerment.

Finally, the lack of qualitative exploration in Nzilano and Magoti's study highlights the need to understand women lived experiences with digital finance. Examining factors such as trust, peer influence and social norms in Uganda can provide richer insights into mobile banking adoption and usage. Such understanding is critical for assessing how mobile banking contributes to women's capacity to save, access credit and actively participate in the formal financial sector.

2.6 Moderating effect of Digital Literacy

Okello Candiya et al. (2025) focused on digital literacy as a moderator between FinTech services and digital financial inclusion in Uganda. Data were collected from unbanked populations, including women, youth and persons with disabilities, across four regions (Sharma et al., 2023). Using structural equation modeling (SEM), the study demonstrated that digital literacy positively moderates the relationship between mobile money and digital financial inclusion, enhancing the impact of FinTech services. FinTechs and digital literacy together explained 29% of the variance in financial inclusion outcomes. Here, the limitation was that the study was limited to Uganda, did not exclusively focus on women entrepreneurs and its cross-sectional design restricted longitudinal insights (Okello et al., 2026).

Digital literacy has emerged as a crucial factor that influences how digital financial services are adopted and used, especially among under-served populations such as women entrepreneurs. In multiple contexts, research shows that digital literacy not only affects access to mobile banking and other FinTech solutions but also moderates the strength of the relationship between these technologies and financial inclusion outcomes. For instance, studies in Uganda have demonstrated that higher levels of digital literacy significantly enhance individuals' ability to participate in digital financial ecosystems, enabling users to navigate mobile platforms, interpret transaction information and reduce risks associated with digital financial transactions (Okello et al., 2026) Specifically, digital literacy has been found to positively interact with mobile money and other FinTech services to improve financial inclusion among unbanked women, youth and persons with disabilities, suggesting that digital skills amplify the benefits of mobile financial technologies.

Similarly, research at the national level indicates that limited digital literacy is a persistent barrier to effective use of mobile money and related services in Uganda, often undermining the potential of digital financial inclusion despite widespread mobile money account ownership (Olaiya et al.,

2025). Studies on digital financial literacy among urban and informal sector users have further shown that those with higher competencies in digital tools are more likely to adopt and repeatedly use mobile banking services, which in turn strengthens financial inclusion outcomes (Adeyinka et al., 2022).

However, existing studies often focus on direct effects of digital literacy or digital skills on financial inclusion, without thoroughly examining its moderating role in the relationship between mobile banking adoption and inclusive financial outcomes among women entrepreneurs. This gap is critical in contexts like Gulu City, where digital access may be high but meaningful usage is constrained by limited digital skills among women business owners. Therefore, by explicitly exploring digital literacy as a moderating variable, this study contributes to a deeper understanding of how digital skills strengthen or weaken the pathway from mobile banking adoption to financial inclusion for women entrepreneurs in Uganda.

2.7 Summary of Literature Gaps

Most studies on mobile banking and financial inclusion in Uganda have focused on national or regional levels, leaving community-level contexts, such as Bardege-Layibi Division in Gulu City, under-researched. For example, Okello et al. (2025) analyzed mobile money and financial inclusion across Sub-Saharan Africa, while Okello et al. (2025) examined rural households in Uganda, both without disaggregating findings to specific urban communities. Similarly, Bank of Uganda (2022) reports provide national-level data but do not capture localized variations in behavior. Consequently, there is limited understanding of women entrepreneurs' local mobile banking usage, digital literacy and the socio-cultural and economic factors influencing adoption in Gulu City. This gap underscores the need for a community-specific study to inform targeted interventions and enhance financial inclusion at the grassroots level.

Though gender gaps are well established, there is limited evidence focusing on financial inclusion of women entrepreneurs as well as on the moderating effects of women's digital skills, level of education, social norms and technology confidence as far as women's mobile banking financial inclusion is concerned. Further, in addition to access and adoption behavioral factors such as confidence or risk perceptions or trust in technology are easily overlooked but directly intersect with digital literacy and financial inclusion.

Limited studies have focused on financial inclusion of women entrepreneurs using Financial Intermediation Theory and Social Cognitive Theory (SCT). While several studies have examined financial inclusion among women in Uganda and other Sub-Saharan contexts e.g., (Okello et al., 2026), most of these investigations have primarily focused on empirical relationships between mobile banking adoption, access to credit and business outcomes without anchoring their analyses in specific theoretical frameworks. There is a notable lack of research that applies financial intermediation theory to explain how financial institutions facilitate women's access to formal financial services, or Social Cognitive Theory (SCT) to explore how individual behaviors, self-efficacy and socio-cultural factors influence women's financial decision-making. This theoretical gap limits the understanding of both the institutional mechanisms and personal cognitive factors that shape financial inclusion among women, underscoring the need for studies that integrate these theories to provide a more comprehensive explanation of women entrepreneurs' engagement with mobile banking services.

Most studies on women entrepreneurs and financial inclusion have predominantly focused on developed countries, examining factors such as access to credit, digital financial tools and business growth in contexts with well-established financial infrastructure (e.g., OECD countries). In contrast, there is limited empirical research in developing countries like Uganda, where challenges such as limited digital literacy, socio-cultural barriers and constrained access to financial services uniquely shape women's entrepreneurial activities. This study therefore seeks to fill this gap by examining mobile banking adoption, digital literacy and financial inclusion among women entrepreneurs in Bardege-Layibi Division, Gulu City, providing insights specific to a developing country context that are currently underrepresented in the literature.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents research design, study population, sample size and selection, sampling technique, data collection methods, instruments, reliability and validity, data collection procedures, data analysis, ethical consideration and limitations and delimitations of the study. Research methodology is the process used to collect data for making informed decisions (Dawadi & Giri, 2021).In social science research, methodology refers to the systematic approach to investigating phenomena, collecting and analyzing data and ultimately addressing research questions. It's more than just the methods or tools used; methodology encompasses the theoretical and philosophical framework that guides how research is conducted (Younas et al., 2025).

3.1 Research Design

Research design is a critical component of the research process, serving as a blueprint that outlines how a study will be conducted to answer specific research questions or test hypotheses (Dawadi & Giri, 2021). The study used a descriptive survey design with cross-sectional timeframe and the study employed both quantitative and qualitative research approaches. This design was appropriate for enabling in-depth analysis and description of the problem at a single point in time.

Both qualitative and quantitative approaches of data collection, including questionnaires and interview guides were designed and administered to collect data about women entrepreneurs' usage of mobile banking services, financial inclusion and the moderating effect of digital literacy among women entrepreneurs in Bardege-Layibi Division, Gulu City. Quantitative method was used because of the nature of the study to allow wider views to be gathered. Qualitative method, on the other hand, was used to help gather in-depth information and to allow for triangulation. The quantitative approach also enabled quantification of the study findings on each variable while the qualitative approach enabled gaining in-depth information on the study variables (Al-okaily & Alalwan, 2022).

The choice of a mixed-method research design for the study on "Mobile Banking Services and Financial Inclusion of Women Entrepreneurs in Bardege–Layibi Division, Gulu City" is deliberate

and grounded in the need to obtain both breadth and depth in understanding the phenomena under investigation

3.2 Study Population

The study population is the defined group of individuals, organizations, or elements that possess specific characteristics of interest and are the focus of research inquiry or analysis within a particular study (Stratton, 2021). The study population comprised of women entrepreneurs in Bardege Layibi Division, Gulu City, the Commercial Officers, Community Development Officers and market leaders.

3.3 Sample Size

The population of women entrepreneurs engaged in Bardege-Layibi Division, Gulu City who use or have experience with mobile banking services is unknown. Therefore, the study employed a sample size determination formula for unknown population. In this case, Cochran Formula (1977) for determining sample size from unknown population was used. It is given by:

$$n = \frac{Z^2 Pq}{e^2}$$

Where;

n = the required sample size

Z= is the selected critical value of desired confidence level

P = is the estimated proportion of an attribute that is present in the population (assumed to be 50)

q= 1-p

e = is the desired level of precision

Basing on Cochran's (1977) formula for determining sample size of an infinite or unknown population, assuming the maximum variability, which is equal to 50% (p=0.5) and taking 95% confidence level with _+10% precision, the required sample size was;

P=0.5 and hence q=1-0.05=0.05; e= 0.05; z= 1.96

Therefore, $no = \frac{(1.96)\ (0.05)\ (0.1)}{(0.05)} = 384.16 = 384$

Therefore, a sample size of 384 respondents was selected for the study as primary respondents and 12 respondents were purposively selected for the study to constitute in-depth interviews.

3.4 Sampling Technique

This section explains the process and procedures the researcher used to select the sample of the study from the study population. It provides a clear and logical plan that ensures the data collected are accurate, reliable and generalizable to the entire population. The sample design identifies and describes the population and shows the method or procedure used to select participants from the population. The study employed both a stratified sampling approach and purposive sampling approach in line with the quantitative and qualitative data collection methods to be used. Stratified sampling design was adopted to ensure adequate representation of the diverse categories of women entrepreneurs engaged in different types of businesses within Bardege and Layibi Divisions of Gulu City. Stratified sampling was considered appropriate because the target population is heterogeneous, with variations in business operations, transaction patterns and financial service needs across different business types. The population was stratified based on business type, which was deemed more relevant to the study variables mobile banking usage and financial inclusion - than geographical location. The strata included retail shops, food vending businesses, tailoring, hair dressing/saloon, agricultural produce, market vending, mobile money/agents, bakery, pharmacy/drug shop, stationery, hardware and other businesses. This stratification enabled the study to capture variations in mobile banking adoption and financial inclusion across different economic activities.

Purposive sampling was used for qualitative interviews to select information rich participants with relevant experience in mobile banking service usage and financial inclusion from 2 Commercial Officers, 2 Community Development Officers and 8 Market leaders in Bardege Layibi Division, Gulu City.

3.5 Data Collection Procedure

The study purposively selected 12 key informants to provide in-depth insights into mobile banking services and financial inclusion of women entrepreneurs in Bardege-Layibi Division. These key

informants included the Community Development Officers (CDOs), Commercial Officers and market leaders.

Step 1 involved identification and prioritization. The researcher first created a comprehensive list of all potential key informants and respondents for questionnaires within the division, categorizing them according to their roles. Priority was given to individuals whose positions were directly related to women's entrepreneurship, financial services, or digital finance. The chronological order of selection was as follows: The Community Development Officer (CDOs) were selected for insights on programs supporting women's financial empowerment, the Commercial Officers were selected to provide perspectives on business registration, commercial operations and mobile banking adoption and the market leaders to highlight business trends and the financial behaviors of women entrepreneurs within local markets. Women entrepreneurs were selected to provide responses to the questionnaires especially those using mobile banking services.

After identification, the researcher contacted each key informant and respondents individually via physical visits, telephone calls, emails, or official letters to introduce the study, explain its purpose and request their participation. During this initial contact, convenient dates, venue and times for interviews were agreed upon. Priority was given to arranging interviews with officials whose schedules were tight, such as the Community Development Officers (CDOs) and Commercial Officers (COs), to ensure participation.

Interviews were conducted at locations agreed upon by the key informants and questionnaires were filled at their convenience, ensuring privacy and minimal disruption to their work. Each interview began with a brief explanation of the study, reiteration of voluntary participation and assurance of confidentiality. With consent, responses may be audio-recorded to ensure accuracy and completeness, supplemented by detailed notetaking by the researcher. This systematic and chronological approach ensured comprehensive coverage of key stakeholders while respecting their availability and professional commitments.

3.6 Data Sources

Both primary and secondary sources of data collection were used in the study. Primary data collection is the process of gathering data through surveys, interviews, or experiments. Primary data on women engaged in small business using mobile banking were collected using

questionnaires and interview guide. Secondary sources involved collecting data from existing literature, such as textbooks, journals, newspapers and the internet.

3.7 Data Collection Method

The researcher used questionnaires and interview methods to collect primary data for the study. Specifically, a structured interview method was utilized to administer interviews to women in formal businesses operating with Bardege-Layibi Division, Gulu City. The questionnaire was developed following recommendations by various scholars that include Kothari (2004); ; Sekaran and Bougie (2010).

3.7.1 Survey method

The study used survey method and administered questionnaires for data collection, structured with closed ended questions. The questions were developed on a five (5) point Likert scale that comprise of the following response options: strongly Disagree (SD), Disagree (D) Neutral (N) Agree (A) and strongly-Agree (SA). Closed ended questions were used because they are the only means through which standardized response can be obtained for the purpose of accurate quantitative analysis. Questionnaires were administered to the women engaged in formal businesses operating within the confines of Bardege-Layibi division, Gulu City.

3.7.2 Interview Method

The interview method was employed to collect data from women in formal businesses who have key information for this study. The interviews were conducted face to face to help respondents to express themselves freely with detailed information. The respondents were approached from their businesses and each interview lasted for about 15 to 20 minutes since this category of respondents may have very busy schedules.

3.8 Data Collection Instruments

The data collection instruments included questionnaires and interview guide. Quantitative methods mainly used surveys as the methods to generate data by questionnaires as a tool administered by the respondents.

3.8.1 Questionnaires

Questionnaires were designed and constituted to be self-administered with both open ended and closed-ended questionnaires to be given to the respondents in the sample population. Open-ended questions were used to allow the respondents to express, elaborate their response, an opportunity which is not offered by close-end questionnaires alone. This was administered to a smaller, literate group of those women. Close-ended questions were provided since they are simple to administer and be analyzed and was used for broad quantitative analysis among many women small business owners. The questionnaire was structured with four sections: Section A comprised demographic information, section B comprised mobile banking usage and section C covered financial inclusion and section D covered digital literacy. The design of the questionnaire was based on multiple-item measurement scale. A Five-point Likert scale was adopted because the scale is easy to administer. The use of questionnaire permitted gathering data from a large number of respondents (Women Entrepreneurs).

3.8.2 Interview Guide

An interview guide is a structured outline or set of questions that researchers use to conduct interviews. The researcher organized the structure and flow of the interview guide in a logical and coherent manner according to the study objectives. The guide started with an introductory section to establish rapport. Open-ended and probing questions were utilized by using the interview guide. The Interview guide allowed for deep professional and contextual insights from key informants and selected experienced women who can give expert insights into usage of mobile banking services by women's entrepreneurs in Bardege-Layibi Division, Gulu City. The interview was done to compare interview data with data from the other instruments to ascertain correctness of findings because it gives in-depth information.

In this study, an interview guide was used to collect qualitative data from key informants such as community leaders, financial service providers and institutional representatives. The use of interview guide enabled the researcher to generate in-depth and detailed information from the participants.

3.9 Data Quality Control

Data quality control involved determining the validity and reliability of data collection instruments.

3.9.1 Validity

Validity refers to how accurately instruments capture data that gives meaningful inferences (Kothari, 2019). Validity refers to the extent to which a research instrument measures what it is intended to measure and produces results that accurately reflect the phenomenon under investigation (Kothari et al., 2019). Validity was ensured by using Content Validity Index (CVI). In this case the research instruments were presented to a team of experts where CVI was computed using the formular: -

$$CVI = \frac{\text{No. of Items rated relevant}}{\text{Total No. of Items in the Instruments}}$$

A CVI of 0.911 was obtained and considered acceptable and the instrument declared valid as noted by Polit (2017). The results of content validity index are presented in the table below:

Table 1: Content Validity Index

Experts	**Computation**	**CVI**
Expert 1	57/64	0.890
Expert 2	58/64	0.906
Expert 3	60/64	0.936
Overall CVI		**0.911**

Source: Primary Data, 2026

3.9.2 Reliability

Reliability refers to the extent to which a research instrument consistently measures a variable and produces stable results over repeated trials or under similar conditions (Stratton, 2021). In the context of this study on "Mobile Banking Services and Financial Inclusion of Women Entrepreneurs in Bardege-Layibi Division, Gulu City", reliability is crucial to ensure that the data collected from questionnaires and interview guides reflect true patterns in women entrepreneurs' use of mobile banking services, their level of financial inclusion and the role of digital literacy, rather than random errors or inconsistencies.

To ensure that the data were reliable, a pretest (pilot study) was conducted among a small group of women entrepreneurs in Laroo-Pece Division, Gulu City. The pretest helped identify ambiguous questions, unclear wording, or other issues that might affect the consistency of responses. The internal consistency of the instruments was then evaluated using Cronbach's Alpha coefficients, with a value of 0.7 and above were obtained and considered acceptable for reliability in social science research (Gliem & Gliem, 2003). The reliability results are presented in the table below:

Table 2: Reliability Output

Variables	**Anchor points**	**Number of items**	**Cronbach's alpha**
Mobile Banking Services	05	30	0.801
Financial Inclusion	05	15	0.764
Digital Literacy	05	10	0.716

Source: Primary Data, 2026

3.10 Data Processing and Analysis

Data processing and analysis are critical components of any research study, as they transform raw data into meaningful information that can be interpreted to address the research objectives. In the

context of the study on “Mobile Banking Services and Financial Inclusion of Women Entrepreneurs in Bardege-Layibi Division, Gulu City,” effective data processing and analysis ensured that the information collected through questionnaires and interview guides were systematically organized, cleaned and interpreted to reveal patterns, relationships and insights. This process allowed the researcher to draw valid and reliable conclusions regarding how mobile banking services influence financial inclusion and the role of digital literacy among women entrepreneurs.

3.10.1 Data Processing

Data processing analysis played a major part in the completion of this study. Data were reviewed after receipt of the questionnaires and compilation of the archive. A critical analysis was done after which data were interpreted in graphical and representation that often laid the foundation for interpretation. It was entered into the computer for analysis using Statistical Package for Social Sciences (SPSS). The variables were analyzed to establish their frequencies, means and percentages and inferential results.

3.10.2 Data Analysis

Data analysis is a vital research step that transforms raw data into meaningful insights. In this study it enabled understanding of how women entrepreneurs used mobile banking services, its impact on their financial inclusion and the effect of digital literacy, uncovering patterns and trends to inform strategies for enhancing financial empowerment.

3.10.2.1 Quantitative Data Analysis

Quantitative data was analyzed using descriptive measures of central tendency of percentages, mean and standard deviation and inferential measures in line with the study objectives as recommended by Amin, (2005).

The quantitative data analysis process involved entering and coding the data. After this, the data were entered into the computer with the facilitation of Statistical Package for Social Sciences for analysis. The data were analyzed using descriptive statistics inform of frequencies and

percentages. Inferential statistics were employed for quantitative analysis, especially in the form of regression analysis. Correlation analysis was also used as part of inferential statistics to analyze the relationship that exists between the study variables.

3.10.2.2 Qualitative Data Analysis

The qualitative data collected through the interview guides were systematically organized and analyzed using thematic analysis, as recommended by Amin (2005). This process involved categorizing responses into meaningful units based on recurring ideas, concepts and experiences related to mobile banking services and financial inclusion among women entrepreneurs in Bardege-Layibi Division, Gulu City. By grouping similar responses, the researcher was able to identify patterns and relationships within the data, which provided insights into how mobile banking services are utilized, the challenges faced by women entrepreneurs and the role of digital literacy in enhancing financial inclusion.

Following categorization, thematic analysis was employed to further interpret the qualitative data. This involved transcribing the interviews verbatim and examining the data to identify patterns, similarities and differences across participants' responses. The identified patterns were then grouped into themes that aligned with the study objectives, such as the extent of mobile banking usage, levels of financial inclusion and the moderating effect of digital literacy. Thematic analysis allowed the researcher to provide a rich, narrative account of the findings, highlighting participants' perspectives and experiences in a coherent and structured manner (Stratton, 2021).

3.11 Ethical Consideration

Ethical considerations are a fundamental aspect of this study, ensuring that the research is conducted with integrity, respect and responsibility toward all participants. Given the sensitive nature of financial practices and personal experiences with mobile banking, the study adhered to strict ethical standards to protect women entrepreneurs in Bardege-Layibi Division from any form of harm or exploitation.

Prior to data collection, the researcher sought formal permission from local authorities, business owners and relevant institutions. The purpose of the study was clearly explained to all participants

and informed consents were obtained, ensuring that respondents understand their rights, including the right to withdraw at any point without penalty.

Participants were treated as collaborators rather than objects of research, acknowledging their autonomy, experiences and perspectives.

To maintain confidentiality and anonymity, no identifying information were linked to respondents in any reports or publications. Names of participants were not included in the data collection instruments.

The researcher employed strategies to ensure that personal data were securely stored and access limited to the research team.

During interviews and focus group discussions, recording of respondents' voices or responses were only conducted with explicit consent and participants were assured that recordings will be used solely for research purposes and destroyed after transcription and analysis.

Additionally, emotional and physical well-being were prioritized; questions were framed sensitively to avoid discomfort and respondents were not pressured to disclose information they were unwilling to share.

To further safeguard against bias and uphold ethical integrity, research assistants were trained to conduct data collection objectively and respectfully.

The study followed the principle of neutrality, ensuring that data were recorded and analyzed without subjective influence from the researcher.

Finally, the research upheld the principles of transparency, honesty and accountability, ensuring that the findings reflected the lived experiences of women entrepreneurs accurately and contribute meaningfully to knowledge on mobile banking and financial inclusion.

3.12 Limitations and Delimitations of the Study

The study was expected to be conducted within a specific time frame, which limited the ability to observe long-term effects of digital literacy on financial inclusion. The study was confined to a set period, allowing for practical data collection and analysis. This time frame has been selected to

ensure the study was feasible and focused, but it has been acknowledged that the results may not capture the full spectrum of changes over a longer duration.

Achieving a full study population in natural research setting can be a challenge due to factors such as limited access to communication infrastructure, mobility issues and a lack of incentives for participation. The study relied on samples which affects the representativeness of the population limiting the generalizability of the findings. To mitigate this challenge, the study specifically targeted individuals who had access to mobile phones or are already using mobile banking services. This deliberate selection allowed the researcher to focus on a specific population likely to have relevant experiences with Mobile Banking services, thereby facilitating generalizability.

Respondents were hesitant to participate in the study due to concerns about privacy or fear of disclosing financial information. To address potential hesitance by respondents, the study employed anonymous surveys or structured interviews where participants felt more comfortable sharing their experiences. The researcher provided assurances of confidentiality and explained the purpose of the study to reduce fears about the sharing of sensitive financial information. The researcher further obtained a letter of authorization to conduct the study from both the University and the local authorities from where the researcher collected the data.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.0 Introduction

This chapter presents the analysis of the data and interpretation in line with the objectives of the study. The chapter begins with the analysis of demographic background of respondents, followed by the descriptive analysis of mobile banking services and financial inclusion. Correlation and regression analyses were also covered in this section to bring out the association and effect that exists between the study variables.

4.1 Demographic background of respondents

This section presents the demographic profile of the respondents who participated in the study. The demographic characteristics examined include age, education level, duration in business, business type and marital status. Understanding these characteristics is important because they provide background information about the respondents and help in interpreting the study findings within the context of the population under investigation.

The demographic information also enables the researcher to assess the diversity and representativeness of the sample in relation to the target population.

The results are presented using frequencies and percentages and are summarized in Table 3 below.

Table 3:Demographic Profile of Respondents

Variables	Response categories	Frequency	Percent
Age	18 - 25 Years Old	17	4.7
	26 - 35 Years Old	86	23.6
	36 -45 Years Old	194	53.3
	46 - 55 Years Old	62	17.0
	56 and above	5	1.4
	Total	**364**	**100.0**
Education Level	Primary	74	20.3
	Secondary	178	48.9
	Tertiary	69	19.0
	University	35	9.6
	Post-Graduate	8	2.2
	Total	**364**	**100.0**
Duration In Business	Less than 1 Year	10	2.7
	1 to 5 Years	135	37.1
	5 to 10 Years	137	37.6
	Above 10 Years	82	22.5
	Total	**364**	**100.0**
Business Type	Retail Shop	50	13.7
	Food Vending	11	3.0
	Tailoring	59	16.2
	Hair Dressing/Agent	125	34.3
	Agriculture Produce	62	17.0
	Vending	25	6.9
	Mobile Money	6	1.6
	Bakery	5	1.4
	Pharmacy/ Drug Shop	4	1.1
	Stationery	2	.5
	Hardware	8	2.2

	Other	7	1.9
	Total	**364**	**100.0**
Marital Status	Single	72	19.8
	Married	219	60.2
	Divorced/Separated	56	15.4
	Widowed	17	4.7
	Total	**364**	**100.0**

Source: Primary data, 2026

Table 3 indicates that the majority of respondents (53.3%) were aged between 36 and 45 years, followed by those aged 26 to 35 years (23.6%). Respondents aged 46 to 55 years constituted 17.0%, while those aged 18 to 25 years accounted for 4.7%. Only 1.4% were aged 56 years and above. This suggests that the study was dominated by respondents in their economically active and productive years, who are likely to have substantial experience in business operations and financial service utilization.

Regarding education level, nearly half of the respondents (48.9%) had attained secondary education, followed by primary education (20.3%) and tertiary education (19.0%). Respondents with university education constituted 9.6%, while those with postgraduate qualifications accounted for only 2.2%. The findings imply that most respondents possessed at least basic formal education, which may facilitate their understanding and utilization of mobile banking and other financial services.

In terms of business experience, the largest proportion of respondents (37.6%) had operated their businesses for 5 to 10 years, closely followed by those who had been in business for 1 to 5 years (37.1%). Respondents with more than 10 years of business experience accounted for 22.5%, while only 2.7% had been in business for less than one year. These findings indicate that the majority of respondents had considerable business experience and were therefore well-positioned to provide reliable information regarding mobile banking services and financial inclusion.

Concerning business type, hair dressing and agency businesses constituted the largest category (34.3%), followed by agriculture produce businesses (17.0%), tailoring enterprises (16.2%) and retail shops (13.7%). Other businesses included vending (6.9%), food vending (3.0%), hardware businesses (2.2%), mobile money services (1.6%), bakeries (1.4%), pharmacies or drug shops (1.1%), stationery businesses (0.5%) and other business categories (1.9%). The diversity of

business activities represented in the study provides a broad perspective on the utilization of mobile banking services across different entrepreneurial sectors.

With regard to marital status, the majority of respondents (60.2%) were married, while 19.8% were single. Respondents who were divorced or separated constituted 15.4%, whereas widowed respondents accounted for 4.7%. The predominance of married respondents suggests that many participants may have family responsibilities that influence their financial management practices, business decisions and utilization of financial services.

4.2 Mobile Banking Services

Mobile banking services encompass a comprehensive suite of digital financial tools designed to streamline business operations and enhance financial management for small-scale enterprises. This integrated platform consists of six core components: payments, savings, withdrawals, transfers, credit services and inquiries. Together, these functionalities allow business operators to seamlessly execute customer and utility payments, securely accumulate savings, pull out funds efficiently for expenses, move liquidity rapidly to suppliers, access digital credit facilities for capital gaps and monitor account balances in real time. The analysis is presented in the sections below:

4.2.1 Payment Services

This section evaluates payment by specifically looking at how business operators utilize its payment functionalities to manage their finances. The analysis is presented in the table below:

Table 4: Analysis of Payment Services

Payment	SD	D	SD+D	N	A	SA	A+SA
I use mobile banking services to receive payments from my customers.	1.1%	2.5%	3.6%	7.7%	57.1%	31.6%	88.7%
I use mobile banking services to pay for business-related bills (e.g., electricity, water, internet).	5.5%	1.6%	7.1%	14.3%	48.1%	30.5%	78.6%
I use mobile banking services to pay for goods and services related to my business operations.	2.7%	3.0%	5.8%	13.5%	50.3%	30.5%	80.8%

Mobile banking services help me complete business transactions quickly and conveniently.	0.8%	1.9%	2.7%	8.5%	52.2%	36.5%	88.7%
I feel confident that mobile banking payments are secure	0.6%	1.4%	2.0%	15.1%	55.0%	27.9%	83.0%
Average	2.14%	2.08%	4.24%	11.82%	52.54%	31.40%	83.96%

Source: Primary data 2026

The data presented above shows an overwhelmingly positive response toward mobile banking for payments, with a dominant overall average agreement of 83.96% against a minimal overall average disagreement of just 4.24%. A massive 88.7% of respondents actively utilize mobile banking services to receive funds from their clients, leaving a negligible 3.6% who do not use it for customer collections. Business utility settlements like electricity, water and internet show strong adoption with 78.6% of users managing bills through these platforms, compared to 7.1% who disagree, representing the highest friction point in the data despite still being very low. Procurement of operational goods and services sees high engagement at 80.8% of managers relying on mobile payments for day-to-day business inputs, whereas a small 5.8% do not adopt this practice. Efficiency is heavily verified as 88.7% of participants strongly value the platform for executing business transactions with speed and convenience, while an insignificant 2.7% fail to see these operational time savings. Trust is firmly established across the board, with 83.0% of respondents expressing confidence in the safety and security of mobile transactions, compared to a tiny 2.0% who harbor security concerns. In conclusion, the overall metrics highlight that most businesses heavily rely on and trust mobile banking for diverse payment functions, leaving a very narrow margin.

The qualitative findings show that women entrepreneurs in Bardege-Layibi Division widely use mobile banking services for different payment-related activities in their businesses. The responses from participants show that mobile banking is mainly used for receiving money, paying suppliers, settling bills and managing day-to-day business transactions.

Many women entrepreneurs reported that mobile banking is important for receiving payments from customers. One key informant explained that,

> *"The women entrepreneurs use mobile banking services for receiving payments from their customers through MTN MoMo pay" (IDI 1, FEMALE, APRIL, 2026).*

This shows that mobile banking has made it easier for women to receive money directly from customers without physically handling cash, which improves safety and convenience in business operations.

The findings also show that mobile banking is commonly used for paying suppliers and restocking goods. A key informant stated that,

> *"The women entrepreneurs use mobile banking services to pay suppliers for goods and stocks like onions and so on" (IDI 3, FEMALE, APRIL, 2026).*

This indicates that mobile banking supports smooth business operations by making it easy to send money quickly to suppliers when stock is needed.

In addition, women entrepreneurs use mobile banking to pay business-related expenses such as utility bills and rent. One key informant noted that,

> *"The women entrepreneurs also use mobile banking services for payment of utility bills like water and electricity for the business premises" (IDI 5, MALE, APRIL, 2026).*

This shows that mobile banking is not only used for trading activities but also for managing operational costs of businesses.

Overall, the qualitative findings indicates that mobile banking plays a central role in supporting payment activities among women entrepreneurs. It is widely used for receiving customer payments, paying suppliers, settling bills and ensuring smooth business operations. The findings also show that convenience, speed and trust are key reasons why women continue to rely on mobile banking for payment services in their businesses.

4.2.2 Savings

This section shows how savings serves as a critical component of mobile banking, enabling business operators to accumulate funds securely, manage liquidity and build financial resilience. Its analysis is presented below:

Table 5: Analysis of Savings

Savings	SD	D	SD+D	N	A	SA	A+SA
I use mobile banking services to save money for my business	1.1%	2.7%	3.8%	11.5%	59.1%	25.5%	84.6%
Mobile banking services makes it easy to deposit money into my savings account.	0.5%	1.4%	1.9%	12.6%	56.9%	28.6%	85.4%
I feel that my money is secure when saved through mobile banking service platform.	0.3%	0.0%	0.3%	15.9%	58.0%	25.8%	83.8%
I easily access my saved funds through mobile banking when I need it	0.3%	1.1%	1.4%	10.4%	58.2%	29.9%	88.2%
I track my savings easily using mobile banking services	0.0%	2.7%	2.7%	12.6%	55.5%	29.1%	84.6%
Average	0.44%	1.58%	2.02%	12.60%	57.54%	27.78%	85.32%

Source: Primary data 2026

The overall results reveal a remarkably high level of adoption of mobile savings, commanding a dominant overall average agreement of 85.32% against a negligible overall average disagreement

of just 2.02%. A solid 84.6% of respondents actively utilize mobile banking platforms to accumulate and reserve money for their business operations, whereas a minimal 3.8% of users do not use the service for saving purposes. The process of putting money aside is highly streamlined, with 85.4% of participants agreeing that the digital platform makes it remarkably easy to deposit funds into their savings accounts, compared to a tiny 1.9% who experience difficulties or disagree. Financial security is strongly established, as 83.8% of business owners feel completely safe keeping their hard-earned money within mobile banking platforms, while an almost non-existent 0.3% express security concerns or distrust. Liquidity management proves highly efficient, with 88.2% of respondents emphasizing that they can easily access and withdraw their saved funds whenever the business needs them, leaving only 1.4% who face challenges with accessibility. Financial tracking and oversight are also well-supported, as 84.6% of users comfortably monitor and keep track of their savings progress through the application, while a small 2.7% disagree with its ease of monitoring. In conclusion, the overall findings reflect that mobile banking is a highly trusted, accessible and efficient tool for business savings, enjoying massive support with very little neutrality or disagreement from users.

The qualitative findings indicate a very strong and widespread acceptance of mobile banking savings services among business operators, with respondents consistently describing the platform as a preferred and indispensable tool for managing business finances. Participants emphasized that mobile banking has fundamentally transformed how they set aside money for business operations, reflecting a clear shift from traditional saving practices toward more flexible digital financial systems. One respondent explained that mobile banking has become central to daily financial discipline, noting:

> *"Before, I used to struggle to save because I would keep cash at the shop and easily spend it, but now mobile banking helps me separate business money from personal use. I simply transfer part of my sales immediately after closing the day, and this has really improved my saving habits as a small business owner" (IDI 3, FEMALE, APRIL, 2026).*

This reflects a broader perception that mobile platforms have significantly strengthened saving behaviour among business operators by promoting discipline and separation of funds.

The study further reveals that the process of saving through mobile banking is perceived as highly convenient, simple and user-friendly. Many respondents reported that depositing money into savings accounts requires minimal effort and can be done at any time, which has contributed to increased usage and consistency in saving practices. Another key informant emphasized the practicality of the system, stating:

> *"The process of saving is very easy and does not interrupt my work at all. Even when I am busy serving customers, I can still send money to my savings account. I do not need to queue in a bank or fill out forms, everything is just on my phone. This convenience has made me save more regularly than before" (IDI 6, FEMALE, APRIL, 2026).*

Such experiences suggest that the simplicity and accessibility of mobile banking platforms have played a key role in encouraging sustained engagement with digital savings services.

Generally, the qualitative evidence suggests that mobile banking savings services are highly trusted, efficient and deeply embedded in the financial management practices of business operators, contributing to improved savings behaviour, financial control and business sustainability.

4.2.3 Withdraw

This section shows the analysis of withdrawals which tracks easily and frequently business owners use digital channels to remove funds for business use. The analysis is presented in the table below.

Table 6: Analysis of Withdrawal

Withdraw	SD	D	SD+D	N	A	SA	A+SA
I always withdraw money from my mobile banking account to pay business expenses.	0.5%	2.2%	2.7%	14.0%	53.0%	29.9%	83.0%
Mobile banking services allows me to withdraw money conveniently at any time.	0.5%	0.8%	1.4%	9.9%	58.8%	29.9%	88.7%
I feel that mobile banking services for withdrawals are safe and secure.	0.3%	0.5%	0.8%	15.4%	56.9%	26.9%	83.8%
I withdraw money from my mobile banking account without delays	0.5%	0.5%	1.1%	13.2%	57.7%	26.6%	84.3%

Mobile banking withdrawals are safe and secure	0.0%	0.5%	0.5%	14.0%	59.3%	26.1%	85.4%
Average	0.36%	0.90%	1.30%	13.30%	57.14%	27.88%	85.04%

Source: Primary data 2026

Overall, the data reveals an exceptionally strong positive response toward the withdrawal functions of mobile banking, yielding a dominant overall average agreement of 85.04% against a negligible overall average disagreement of just 1.30%. A high proportion of 83.0% of respondents consistently utilize the platform to pull out funds specifically for meeting business expenses, while a tiny 2.7% disagree, marking the highest disagreement point within this category. Convenience is heavily underscored by 88.7% of participants who state that the digital channel allows them to execute cash withdrawals effortlessly at any time, leaving only 1.4% who do not find the timing flexible. General safety perception is firmly rooted, with 83.8% of the enterprise owners feeling confident that using mobile platforms for their withdrawal activities is structurally safe and secure, whereas a nearly invisible 0.8% express doubt. Operational efficiency is highly rated as 84.3% of users report being able to withdraw their money smoothly without facing transactional delays, compared to a mere 1.1% who encounter friction or lag. System trust is further validated by 85.4% of respondents explicitly reaffirming that mobile banking withdrawals are completely safe and secure, while an almost non-existent 0.5% disagree with this statement. In conclusion, the overall metrics demonstrate that mobile banking withdrawals are deeply trusted, highly reliable and operationally prompt for business owners, leaving a very small pool of neutral individuals and an even more trivial margin of dissatisfaction.

The qualitative findings reveal a very strong and consistent reliance on mobile banking withdrawal and transaction services among women entrepreneurs, particularly in facilitating day-to-day business operations. The qualitative evidence shows that mobile banking is not only used for withdrawing cash but also serves as a central platform for payments, transfers, savings and financial management activities that sustain business continuity.

Participants consistently indicated that mobile banking withdrawals are closely linked to business restocking and operational continuity, especially in purchasing stock and managing supplier relationships. One key participant explained:

"They use mobile banking services mainly for buying stock such as vegetables, cereals and clothes for those in the garment business. It helps them avoid the stress of physically moving from place to place looking for suppliers. They also rely on it to pay utility bills like water and electricity for their business premises. This has made business operations faster and more organized by withdrawing through mobile platform to facilitate other activities" (IDI 7, MALE, APRIL, 2026).

This indicates that mobile banking withdrawal services enhance operational efficiency by enabling quick access to funds for stock purchases and essential business utilities, reducing time wastage and improving business coordination.

In addition, participants emphasized the role of mobile banking in enabling secure receipt and withdrawal of payments, particularly through mobile money platforms, which enhance cash flow management. A key informant stated:

"Women entrepreneurs receive payments from customers through MTN MoMo Pay and other mobile money services. They also transfer money from their phones to bank accounts when they want to save formally. Others send money to suppliers when ordering new stock for their businesses. This has made financial transactions faster and more secure compared to cash handling" (IDI 9, FEMALE, APRIL, 2026).

This demonstrates that mobile banking withdrawal systems strengthen financial security and efficiency by minimizing cash handling risks and improving transaction speed. Generally, the qualitative evidence shows that mobile banking withdrawal services are highly trusted and extensively used for business payments and withdrawals.

4.2.4 Transfer services

Transfer services within mobile banking involve the electronic movement of funds from a business account to third parties, enabling seamless business-to-business transactions without geographic boundaries. Its analysis is presented in the table below:

Table 7: Analysis of Transfer Services

Transfer services	SD	D	SD+D	N	A	SA	A+SA
I frequently use mobile banking services to transfer money to suppliers or partners.	1.1%	6.6%	7.7%	14.0%	53.8%	24.5%	78.3%
I find mobile banking transfer service more convenient than doing them at the physical banks	0.3%	1.1%	1.4%	14.3%	59.1%	25.3%	84.3%
Mobile banking transfer service reduces the need to carry large amounts of cash, improving my business safety.	0.3%	0.5%	0.8%	14.0%	58.2%	26.9%	85.2%
I can transfer money efficiently using mobile banking.	0.3%	1.1%	1.4%	12.9%	62.6%	23.1%	85.7%
Mobile banking transfer services help me complete business transactions on time	0.3%	1.1%	1.4%	14.1%	53.9%	30.7%	84.5%
Average	0.46%	2.08%	2.54%	13.86%	57.52%	26.10%	83.60%

Source: Primary data 2026

Generally, the data demonstrates a level of usage of transfer services as a component of mobile banking, yielding an overall average agreement of 83.60% against a minimal overall average disagreement of just 2.54%. A solid 78.3% of respondents frequently utilize mobile banking platforms to shift funds directly to their suppliers or partners, though 7.7% disagree, highlighting the highest point of non-adoption or resistance in this specific category. Convenience over traditional brick-and-mortar setups is heavily verified, with 84.3% of the participants finding digital transfers far more convenient than visiting physical bank branches, compared to a tiny 1.4% who still prefer conventional banking halls. Risk mitigation is strongly recognized, as 85.2% of business operators agree that using mobile transfers significantly reduces the necessity of handling bulk cash, thereby elevating their overall business safety, while a negligible 0.8% fail to see this security benefit. Transactional speed and fluidity are highly rated, with 85.7% of users confirming that they can transfer money with optimum efficiency through mobile banking, leaving only a minor 1.4% who experience frictional delays or challenges. In conclusion, the overall findings reflect that mobile transfer services are widely embraced as an efficient, safe and highly convenient alternative to physical banking for managing business relationships, with only a trivial segment expressing dissatisfaction or neutral stances.

4.2.5 Credit services

This section shows the analysis of credit services as a component of mobile banking which highlights how digital channels provide users with instant access to loans and overdrafts directly on their mobile devices. The analysis is presented below:

Table 8: Analysis of Credit services

Credit services	SD	D	SD+D	N	A	SA	A+SA
I feel confident using mobile banking services to access loans	0.8%	18.7%	19.5%	45.6%	28.0%	6.9%	34.9%
Mobile banking loans services on my telephone are reliable	1.6%	16.5%	18.1%	39.6%	32.7%	9.6%	42.3%
Using mobile banking services for credit has positively impacted the growth of my business.	2.2%	19.5%	21.7%	43.1%	28.3%	6.9%	35.2%

Mobile banking makes it easy to repay my loans.	1.4%	21.4%	22.8%	34.9%	32.1%	10.2%	42.3%
I can track my loan repayments easily through mobile banking	1.9%	14.6%	16.5%	40.7%	31.6%	11.3%	42.9%
Average	1.58%	18.14%	19.72%	40.78%	30.54%	8.98%	39.52%

Source: Primary data 2026

Generally, the data demonstrates a much more hesitant and split reception toward mobile banking credit services, yielding a low overall average agreement of 39.52% against a notable overall average disagreement of 19.72%, with a large majority of 40.78% remaining neutral. User trust shows significant hesitation, with only 34.9% of respondents feeling confident utilizing mobile services to access credit facilities, while 19.5% actively express a lack of confidence. Perceptions of reliability are somewhat higher, as 42.3% of the participants agree that receiving loan services via their telephone platforms is dependable, compared to 18.1% who find the service unreliable. The commercial impact is heavily questioned, with just 35.2% of business managers agreeing that utilizing digital credit has positively driven their business growth, whereas 21.7% explicitly feel it has not stimulated expansion. Loan settlement convenience shows fragmented feedback, as 42.3% of respondents find that the mobile platform simplifies the process of repaying their loans, while 22.8% disagree, marking the highest point of friction in this category. Oversight and debt management are moderately supported, with 42.9% of users reporting that they can easily track their loan repayment schedules through the mobile interface, compared to 16.5% who face difficulties monitoring their balances. In conclusion, the overall results reveal that there is low level of usage of credit services as a component of mobile banking services.

The qualitative findings indicate a generally cautious and divided perception toward mobile banking credit services among women entrepreneurs. Unlike other mobile banking functions such as savings, payments and withdrawals, credit services are not widely embraced, with many respondents expressing uncertainty, limited trust and mixed experiences regarding digital borrowing. The overall narrative suggests that mobile banking credit remains an emerging financial tool that is still struggling to gain strong user confidence and widespread adoption.

A key concern raised by participants relates to trust and confidence in accessing credit through mobile platforms. Many respondents indicated that while they are aware of digital loan services,

they are hesitant to fully rely on them due to fears of hidden charges, unclear repayment terms and uncertainty about loan conditions. One key informant explained:

> *"I have seen mobile loan options on my phone, but I am always careful because sometimes the interest is not clear. You may borrow a small amount and later find the deductions are too high. I prefer to think twice before using such loans because I don't fully trust how they calculate repayment. So, I only use it in emergencies when I have no other option" (IDI 6, FEMALE, APRIL, 2026).*

This reflects a low level of trust in mobile credit services, largely driven by concerns about transparency and hidden costs, which discourages consistent usage.

The study further shows that perceptions of reliability are mixed, with some users acknowledging that mobile credit services are functional but still expressing doubts about their consistency and fairness. Another key informant said:

> *"Sometimes the mobile loan comes quickly when you apply, but other times it delays or the limit is very small. You cannot always depend on it for big business needs because it is not predictable. It helps in small emergencies, but not for serious investment plans. That is why many of us still rely on banks or personal savings" (IDI 5, FEMALE, APRIL, 2026).*

This indicates that while mobile credit services are accessible, their unpredictability limits their perceived reliability for long-term business financing.

Overall, the qualitative evidence indicates that mobile banking credit services are still in a developing stage of adoption among women entrepreneurs. While the services are recognized for their accessibility and speed, they are constrained by low trust, perceived high costs, repayment pressure and limited contribution to sustainable business growth. As a result, many users prefer to rely on savings, personal capital, or traditional financial institutions, using mobile credit only as a last-resort financial option rather than a primary source of business financing.

4.2.6 Inquiries

This section shows the analysis of inquiries which enables users to instantly access and monitor information directly from their mobile devices through real-time views and transaction histories without inquiring physical visit to the bank branch.

Table 9: Analysis of Inquiries

Inquiries	SD	D	SD+D	N	A	SA	A+SA
I regularly use mobile banking services to check my account balance.	2.5%	2.2%	4.7%	14.6%	50.0%	30.5%	80.5%
Mobile banking services make it easy for me to access information about my past transactions.	1.1%	2.2%	3.3%	15.7%	53.0%	27.2%	80.2%
I am confident using mobile banking services to check available financial products.	1.1%	2.5%	3.6%	13.8%	52.6%	30.0%	82.6%
I quickly get information about my account through mobile banking.	0.0%	3.0%	3.0%	18.2%	46.6%	32.2%	78.8%
Mobile banking services helps me monitor my business transactions easily	1.9%	2.2%	4.1%	18.1%	49.2%	28.6%	77.7%
Average	1.32%	2.42%	3.74%	16.08%	50.28%	29.70%	79.96%

Source: Primary data 2026

Overall, the data shows a strong positive consensus regarding the inquiries as component of mobile banking, commanding a high overall average agreement of 79.96% compared to a small overall average disagreement of 3.74%. A substantial 80.5% of respondents regularly utilize mobile banking platforms to execute routine account balance checks, while a minor 4.7% disagree, which represents the highest disagreement level within this category. Historical transparency is highly rated, as 80.2% of the participants agree that the digital interface simplifies access to information concerning their past business transactions, against a small 3.3% who find it difficult or disagree. User trust in exploring options is well-supported, with 82.6% of business owners expressing confidence in using mobile platforms to review and check available financial products, compared to a tiny 3.6% who feel less confident. Information speed is heavily verified by 78.8% of users who experience rapid data retrieval when requesting general account details through mobile banking, whereas a small 3.0% do not experience the same operational promptness. Continuous financial oversight is successfully maintained, with 77.7% of respondents agreeing that mobile banking features help them monitor their day-to-day business transactions with ease, while a minor 4.1% disagree with its ease of monitoring. In conclusion, the overall results demonstrate that mobile banking inquiries are widely embraced as highly reliable, swift and transparent tools for business oversight, leaving only a minor segment of neutral or critical responses.

4.3 Financial Inclusion

Financial inclusion serves as the vital dependent variable in this study, evaluating how effectively mobile banking adoption integrates small-scale enterprises into the formal economic system. To assess its depth, this section analyzes the data through three key measurable dimensions: access, affordability and quality of services.

4.3.1 Access to financial services

Access to financial services serves as the primary structural dimension of financial inclusion, focusing on the geographical availability and physical reach of banking touchpoints. Evaluating access determines whether mobile banking successfully bridges this infrastructural gap by delivering instant, decentralized financial entry points directly to the entrepreneur's business location. The analysis is presented in the table below:

Table 10: Analysis of Access to Financial services

Access to financial services	SD	D	SD+D	N	A	SA	A+SA
I can conveniently access financial services through my mobile telephone without visiting a bank branch.	0.0%	4.7%	4.7%	16.5%	49.2%	29.7%	78.8%
Mobile banking services has improved my access to savings, transfers and payments	0.5%	3.6%	4.1%	12.9%	50.5%	32.1%	82.7%
Mobile money agents in my area are more available to me	0.0%	4.9%	4.9%	10.7%	48.6%	35.7%	84.3%

Mobile banking services have improved my access to formal financial services.	1.1%	3.6%	4.7%	13.7%	56.6%	25.0%	81.6%
Mobile banking services allows me to get financial services without traveling to a physical bank in town	0.0%	3.8%	3.8%	14.0%	51.4%	30.2%	81.6%
Average	0.32%	4.12%	4.44%	13.56%	51.26%	30.54%	81.80%

Source: primary data 2026

Access to financial services focuses on the geographical availability and physical reach of banking touchpoints to eliminate spatial barriers for entrepreneurs. Overall, the data shows a high level of access to financial services as a component of financial inclusion, yielding a strong overall average agreement of 81.80% against a very low overall average disagreement of just 4.44%. A solid 78.8% of respondents experience great transactional convenience without visiting physical branches, while a small 4.7% disagree. This wide margin indicates that distance and infrastructure no longer restrict daily operations. The reach of the platform is heavily verified, with 82.7% of respondents confirming improved access to savings, transfers and payments, while only 4.1% express disagreement. This comparison demonstrates that digital tools successfully meet primary business liquidity needs. Physical proximity barriers are mitigated, as 84.3% of owners report that mobile money agents are highly available in their neighborhoods, whereas a minor 4.9% disagree. This gap highlights that the local agent network provides reliable, close-range cash support. Formal financial integration is driven by the platform, with 81.6% of participants noting that mobile banking bridged them to institutional services, compared to a tiny 4.7% who feel it has not. This variance proves that mobile technology serves as an accessible gateway into the formal financial sector. Travel constraints are eliminated, as 81.6% of respondents agree that mobile features allow them to secure financial tools without traveling to banks in main towns, while only 3.8% disagree. This comparison shows that mobile banking effectively wipes out travel costs and operational downtime. In conclusion, comparing the dominant 81.80% overall average agreement against the minor 4.44% overall average disagreement proves that mobile banking serves as an exceptionally powerful gateway by eliminating physical and institutional barriers.

The qualitative findings reveal that access to financial services among women entrepreneurs is generally strong and increasingly supported by both formal and informal financial systems. The evidence shows that financial inclusion is largely driven by mobile banking platforms, agent banking networks, SACCOs and VSLAs, which collectively reduce the need for physical visits to distant bank branches.

The study further shows that mobile banking services have expanded access to savings, payments and borrowing, although awareness gaps still limit full utilization of available financial products. A key informant observed:

> *"Most women entrepreneurs use mobile banking services to, save and transact in their daily businesses. Financial services are generally accessible, but many women still need more sensitization and awareness. For example, not many are aware of loan products like grow loans offered by banks. This means access exists, but understanding of services is still limited" (IDI 8, MALE, APRIL, 2026).*

This indicates that while financial services are physically and digitally accessible, knowledge gaps reduce effective utilization and full financial inclusion.

Findings also reveal that although financial services are available, many women entrepreneurs still rely heavily on informal lenders due to easier access, despite unfavorable lending conditions. One key informant explained:

> *"Access to financial services exists because there are many institutions, but most women prefer private money lenders. These lenders give loans quickly with fewer requirements compared to formal banks. However, they charge very high interest rates, sometimes up to 40 percent. This makes financial services accessible but not always affordable or favorable" (IDI, FEMALE, APRIL, 2026).*

This shows that financial inclusion is constrained by affordability and strict formal banking requirements, pushing entrepreneurs toward costly informal credit systems.

Overall, the qualitative evidence shows that financial inclusion among women entrepreneurs is significantly enhanced by mobile banking, SACCOs, VSLAs and agent networks, which reduce geographical and operational barriers to financial services.

4.3.2 Affordability of Financial Services

Affordability constitutes the economic dimension of financial inclusion, directly governing the financial feasibility and cost-effectiveness of formal financial tools. It is not enough for a service to be physically accessible; its pricing structure including transactional fees, ledger charges and credit interest rates must align with the cash flow realities of small-scale operators. The analysis is presented below:

Table 11: Analysis of Affordability

Affordability of services	SD	D	SD+D	N	A	SA	A+SA
Mobile banking services are affordable	0.5%	5.8%	6.3%	11.0%	56.3%	25.8%	82.1%
The fees and charges for financial services on mobile banking services are affordable	0.5%	5.2%	5.8%	18.1%	55.2%	20.9%	76.1%
Loan interest rates offered through mobile banking services are affordable	2.2%	4.4%	6.6%	18.7%	46.0%	28.7%	74.7%
Mobile banking services are cost-effective alternatives to visiting a physical bank	0.0%	3.8%	3.8%	15.4%	53.0%	27.7%	80.8%

I can use mobile banking frequently without extra cost.	2.8%	4.2%	7.0%	16.0%	49.4%	27.5%	77.0%
Average	1.20%	4.68%	5.90%	15.84%	51.98%	26.12%	78.14%

Source: Primary data 2026

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Overall, the empirical data demonstrates a highly positive response regarding economic feasibility, yielding a high aggregate average agreement of 78.14% against a negligible aggregate average disagreement of just 5.90%. A solid 82.1% of respondents agree that mobile banking services are affordable, which stands in sharp contrast to the small 6.3% who disagree. This statistical variance signifies that baseline digital pricing models align well with tight enterprise budgets. The transaction cost structure is verified, with 76.1% confirming that specific fees and charges are affordable, while only 5.8% express disagreement. This wide margin implies that direct tariff rates do not deplete or distort thin business profit margins. Credit service costs are managed, as 74.7% report that loan interest rates offered through mobile banking are affordable, whereas a minor 6.6% disagree. This gap highlights that digital credit facilities offer viable short-term capital while avoiding predatory informal market rates. Comparative operational savings are driven by the platform, with 80.8% pointing out that mobile banking is a cost-effective alternative to visiting physical banks, compared to a tiny 3.8% who feel it is not. This variance proves that digital channels drastically reduce traveling expenses and productivity losses. Frequency barriers are eliminated, as 77.0% agree that they can use mobile banking frequently without facing punitive extra costs, while only 7.0% disagree.

The qualitative findings indicate that mobile banking is generally perceived as economically feasible and cost-effective among women entrepreneurs, particularly in comparison to traditional banking and informal lending systems. The qualitative evidence suggests that affordability, reduced transaction costs and minimized operational expenses are key drivers of adoption. However, the data also reflects a dual financial reality where formal banking services are limited and many entrepreneurs still rely on SACCOs, VSLAs, mobile money and informal lenders due to accessibility and flexibility challenges.

Participants consistently highlighted that mobile banking and related digital financial services reduce the burden of financial exclusion by offering cheaper and more accessible alternatives to traditional banking systems. One key informant explained:

> *"Most women entrepreneurs in Gulu City are not fully included in formal financial institutions because many do not have bank accounts. Instead, they rely on SACCOs and Village Savings and Loan Associations and only a few accesses formal bank loans due to strict requirements. However, mobile banking and local financial groups have made it easier for them to save and borrow at lower operational cost. This has reduced dependence on expensive and restrictive formal banking systems" (IDI, MALE, APRIL, 2026).*

This suggests that economic feasibility is strongly supported by informal and digital financial systems, which reduce entry costs and make financial services more accessible compared to formal banking institutions.

The study further reveals that mobile banking is widely regarded as affordable, particularly in terms of everyday transactions, savings and small-scale financial operations. A key informant noted:

> *"Most women entrepreneurs use mobile banking to borrow, save money and transact in their businesses. The services are generally affordable and easy to access through mobile phones. However, many women still need more awareness about different financial products available in banks. This lack of information sometimes limits their ability to fully benefit from cheaper financial options" (IDI, MALE, APRIL, 2026).*

This indicates that affordability is not only determined by cost but also by financial awareness, meaning that limited knowledge of financial products can indirectly affect perceptions of economic feasibility.

In summary, the qualitative evidence shows that mobile banking significantly enhances economic feasibility by lowering transaction costs, reducing transport and time expenses and providing affordable alternatives to formal banking.

4.3.3 Quality of financial services

This section shows how quality of services reflects the operational standard, speed and safety of digital financial tools, which are essential for building user trust and system engagement. The analysis has been presented in the table below:

Table 12: Analysis of Quality of services

Quality of services	SD	D	SD+D	N	A	SA	A+SA
Mobile banking provides reliable financial services for my business needs	1.1%	1.9%	3.0%	14.6%	56.9%	25.5%	82.4%
Mobile banking service transactions are processed quickly.	0.0%	0.6%	0.6%	10.9%	54.3%	34.3%	88.6%
I am satisfied with the quality of mobile banking services.	0.0%	1.7%	1.7%	16.3%	54.0%	28.1%	82.1%
Mobile banking transactions are processed accurately without errors (e.g Sending money to the wrong number)	0.5%	6.0%	6.6%	14.3%	55.5%	23.6%	79.1%
It is easy to resolve transaction errors when they occur.	0.8%	5.5%	6.3%	18.7%	50.5%	24.5%	75.0%
Average	0.48%	3.14%	3.64%	14.96%	54.24%	27.20%	81.44%

Source: primary data 2026.

Overall, the empirical findings demonstrate a high level of service quality, yielding a commanding aggregate average agreement of 81.44% against a negligible aggregate average disagreement of

just 3.64%. As presented, 82.4% of respondents agree that mobile banking provides reliable services for their business needs, which stands in sharp contrast to the minor 3.0% who disagree. This variance implies that the operational infrastructure functions with minimal downtime to support daily commercial demands. Transaction efficiency is heavily verified, with 88.6% confirming that mobile transactions are processed quickly, while only a trivial 0.6% express disagreement. This substantial gap proves that digital delivery channels minimize the turnaround friction and long queues found in traditional banking. General satisfaction is high, as 82.1% of enterprise owners report being satisfied with the quality of mobile banking services, whereas a small 1.7% disagree. This high level of net satisfaction validates that mobile features align smoothly with user preferences. System precision is driven by the infrastructure, with 79.1% pointing out that transactions are processed accurately without errors, compared to a minor 6.6% who feel they are not. This comparison highlights that system accuracy mitigates financial risk and protects limited working capital. Error resolution capabilities are established, as 75.0% agree that it is easy to resolve transaction errors when they occur, while only 6.3% experience this as a limitation. This variance demonstrates that responsive consumer protection mechanisms give entrepreneurs the confidence to engage with formal systems. In conclusion, comparing the dominant 81.44% overall average agreement against the minor 3.6% overall average disagreement, indicating a high level of service quality.

4.4 Relationship between Mobile Banking and Financial Inclusion

The correlation analysis was performed to determine the relationship between the different elements of mobile banking with financial inclusion and the results are presented in the table below.

Table 13:Correlation Analysis

Variables	Payment	Savings	Withdraws	Transfer services	Credit services	Inquiries	Financial inclusion
Payment	1						
Savings	.565**	1					
Withdraws	.323**	.382**	1				
Transfer services	.477**	.509**	.370**	1			
Credit services	.260**	.458**	.311**	.421**	1		

Inquiries	.152**	.314**	.160**	.296**	.292**	1	
Financial inclusion	**.431****	**.584****	**.503****	**.408****	**.404****	**.586****	**1**
N	314	314	314	314	314	314	314
**. Correlation is significant at the 0.01 level (2-tailed).							

The correlation result presented in the table above presents the relationship between different elements of mobile banking services with financial inclusion and accordingly, payment has a moderate significant positive relationship with financial inclusion as reflected by (r=.431**; p<.05). This indicates that improvements in payments are associated with improvements in financial inclusion.

There is a moderate significant positive relationship between savings and financial inclusion as reflected by (r=.584**; p<.05) which indicates that improvement in savings is associated with improvements in financial inclusion.

The result also reveals a moderate significant positive relationship between withdraws and financial inclusion as reflected by (r=.503**; p<.05) indicting that an improvement in withdraws is associated with improvement in financial inclusion.

The correlation result further reveals a positive moderate significant relationship between transfer services and financial inclusion as reflected by (r=.408**; p<.05). This indicates that an improvement in transfer services is associated with improvement in financial inclusion.

There is a positive moderate significant relationship between credit services and financial inclusion as reflected by (r=.404**; p<.05) indicating that an improvement in credit services is associated with improvement in financial inclusion.

Finally, there is a positive moderate significant between inquiries and financial inclusion as reflected by (r=.586**; p<.05) which indicates that improvement in inquiries is associated with improvement with financial inclusion.

4.5 The effect of mobile banking services on financial inclusion

The analysis of the effect of mobile banking on financial inclusion is presented using the regression coefficient as detailed below.

Table 14: Model summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.538[a]	.289	.277	.42084
a. Predictors: (Constant), Inquiries, Payment, Withdraws, Credit services, Transfer services, Savings				

To determine the effect of mobile banking services on financial inclusion, a regression analysis was performed. The model summary revealed that the regression model comprising of payment, withdraws, inquiries, credit services, savings and transfer services predicts financial inclusion by up to 28.9% as reflected by the R square value of .289 (R2=.289).

Table 15: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	25.751	6	4.292	20.846	.000[b]
	Residual	63.226	307	.206		
	Total	88.977	313			
a. Dependent Variable: Financial inclusion						
b. Predictors: (Constant), Inquiries, Payment, Withdraw, Credit services, Transfer services, Savings						

The ANOVA results show that the mobile banking is highly statistically significant in explaining financial inclusion (F=20.846, p=.000; p<.05). This means that the combined components of mobile banking services are reliably and significantly predict financial inclusion.

Table 16: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.715	.237		7.244	.000		
	Payment	.105	.053	.112	1.977	.039	.620	1.612
	Savings	.194	.069	.085	1.372	.017	.522	1.916

	Withdraws	.139	.017	.114	2.269	.024	.794	1.259
	Transfer services	.179	.060	.170	2.982	.003	.615	1.626
	Credit services	.037	.036	.054	1.020	.309	.715	1.400
	Inquiries	.219	.022	.259	5.356	.000	.854	1.171
a. Dependent Variable: Financial inclusion								

The regression coefficient table shows that payment has a significant effect on financial inclusion with a unit improvement in payment accounting for 0.105 improvement in financial inclusion as reflected by (B= 0.105; p<.05). In addition, the results show that savings also have a significant effect on financial inclusion with a unit increase in savings accounting for 0.194 increase in financial inclusion as reflected (B= 0.194; p<.05). Furthermore, the regression results also revealed that withdraw services have a significant effect on financial inclusion with a unit increase in withdraw accounting for 0.139 increase in financial inclusion as reflected by (B=.139; p<.05). The table also shows that, transfer services have significant effect on financial inclusion and a unit increase in transfer services contributing to increase in financial inclusion by 0.179 as reflected by (B=.179; p<.05). The result however indicates that credit services do not have any statistically significant effect on financial inclusion as reflected by (B= .037; p>.05). Finally, results indicate that inquiry services significantly affect financial inclusion as reflected by (B=.219; p<.05).

4.6 The moderating effect of Digital Literacy

Table 14: Moderation Analysis

Model Summary

R	R-sq	MSE	F	df1	df2	p
.5945	.3534	.2868	40.4481	3.0000	222.0000	.0000

Model

	Coeff	se	t	p	LLCI	ULCI
Constant	4.6387	1.3580	3.4159	.0008	1.9625	7.3149
Mob. Banking	.6425	.3613	1.7786	.0767	1.3545	.0694
Dig. Literacy	.7212	.4061	1.7760	.0771	1.5214	.0791
Int_1	.2922	.1049	2.7868	**.0058**	.0856	.4989

Independent Variable – Mobile Banking services
Moderating Variable - Digital Literacy
Dependent Variable - Financial Inclusion

As presented in the table above, moderation analysis was performed using process Macro Procedure in SPSS Version 26.0. As presented in the table above, the model summary table shows that the moderator (digital literacy) combined with mobile banking, explains financial inclusion by 35.3% as reflected by (R^2=.3534).

Looking at the interaction term reflected by (p=.0058; p<.05) indicates that digital literacy has a significant moderating effect on the relationship between mobile banking and financial performance.

The result shows that digital literacy significantly influences the relationship between mobile banking and financial performance. This means that the effect of mobile banking on financial performance becomes stronger when users have higher levels of digital literacy.

CHAPTER FIVE

DISCUSSIONS

5.0 Introduction

This section discusses the study findings on the relationship between mobile banking and financial inclusion of women entrepreneurs. The discussion is based on the study objectives and findings obtained from both quantitative and qualitative data. The results are interpreted in relation to existing literature, empirical studies and relevant theories to establish areas of agreement and divergence. Specifically, the discussion focuses on the influence of key mobile banking services, including savings, fund transfers, payments, withdrawals, credit services and account inquiries on financial inclusion among women entrepreneurs. The section further examines the moderating role of digital literacy in the relationship between mobile banking and financial inclusion.

5.1 Mobile Banking Services

The study found that women entrepreneurs in Bardege-Layibi Division exhibited a high level of mobile banking usage, particularly in payment services, withdrawal services, savings services and account inquiry services. However, the usage of credit services was low. These findings suggest that women entrepreneurs mainly use mobile banking for day-to-day financial transactions rather than for accessing formal credit facilities.

The high use of payment services agrees with the findings of Demirgüç-Kunt et al. (2022), who reported that digital payments have become the most widely used digital financial service globally, especially among women and small business operators. The authors noted that mobile banking platforms have simplified business transactions by enabling users to send and receive payments conveniently and securely. Similarly, Alalwan et al. (2018) observed that payment services are among the most adopted mobile banking functions because they are easy to use and provide

immediate benefits to users. The findings also support those of Chwala and Awor (2024), who found that mobile money and mobile banking services have significantly increased digital financial participation among Ugandan users through convenient payment transactions.

The study further revealed a high level of usage of withdrawal services among women entrepreneurs. This finding is consistent with the work of Nicholas and Kasekende (2024), who found that mobile financial services became popular in East Africa largely because they enabled users to withdraw money easily through agent networks. Likewise, Afande and Uk (2015) reported that agent banking services improved access to cash withdrawal facilities, especially for individuals operating small businesses. The widespread availability of agents makes it easier for women entrepreneurs to access cash when needed for business operations.

The high level of savings through mobile banking also agrees with previous studies. Bongomin et al. (2017) noted that digital financial services have improved savings behavior among low-income households by providing convenient and affordable savings channels. Similarly, Ozili (2018) argued that digital finance promotes financial inclusion by encouraging individuals to save regularly through mobile platforms. These findings suggest that women entrepreneurs are increasingly using mobile banking as a safe and accessible mechanism for storing and managing their business funds.

The study also found that inquiry services were highly utilized. This finding supports Alalwan et al. (2017), who observed that customers frequently use mobile banking to check account balances, monitor transactions and obtain financial information because such services enhance convenience and control over personal finances. Similarly, Kelly and Palaniappan (2019) found that customers value mobile banking because it provides easy access to account information at any time, reducing the need to visit banking halls. For women entrepreneurs, frequent inquiries may help them monitor business cash flows and make informed financial decisions.

Despite the high usage of most mobile banking services, the study found a low level of usage of credit services. This finding agrees with GSMA (2022), which reported that although women increasingly use digital financial services, they remain less likely than men to access digital credit products. The report attributes this gap to limited financial literacy, fear of debt and strict eligibility requirements. Similarly, Dzulkepli (2024) observed that many women entrepreneurs continue to face challenges in accessing digital credit because of inadequate financial knowledge and limited

awareness of available products. The findings are also consistent with Nimurungi (2024), who found that women entrepreneurs in Uganda frequently use mobile financial services for transactions and savings but make relatively limited use of digital credit facilities.

Overall, the findings indicate that women entrepreneurs in Bardege-Layibi Division have embraced mobile banking mainly for payments, withdrawals, savings and inquiries because these services directly support their daily business activities. However, the relatively low use of credit services suggests that barriers to digital borrowing still exist and may require interventions such as financial literacy training, awareness creation and the development of more accessible credit products for women entrepreneurs.

5.2 Financial Inclusion

The study found a high level of financial inclusion among women entrepreneurs in Bardege-Layibi Division, as reflected in high levels of access to financial services, affordability of financial services and quality of financial services. This implies that many women entrepreneurs are able to obtain and use formal financial services that support their business activities and improve their economic wellbeing.

The finding of high access to financial services agrees with the work of Bongomin et al. (2016), who found that digital financial services and mobile money significantly improved access to financial services among previously underserved populations in Sub-Saharan Africa. Similarly, Demirgüç-Kunt et al. (2022) reported that the expansion of digital financial services has increased access to formal financial systems, particularly among women and small business owners. The findings are also consistent with Bank of Uganda (2023), which indicated that financial inclusion in Uganda has improved due to increased availability of mobile banking, agent banking and other digital financial platforms. Likewise, Afande and Uk (2015) found that agent banking expanded access to financial services by bringing banking facilities closer to customers, especially those operating small businesses. The findings further support those of Nimurungi (2024), who established that women entrepreneurs in Uganda have increasingly gained access to financial services through digital financial platforms. However, the findings disagree with Reijiro (2023), who argued that many people in developing countries still face significant barriers to accessing financial services because of infrastructure limitations and low financial literacy.

The study also established a high level of affordability of financial services among women entrepreneurs. This finding agrees with Ozili (2018), who observed that digital finance reduces transaction costs and makes financial services more affordable for low-income individuals and small businesses. Similarly, Mbiti and Weil (2011) found that mobile financial services significantly reduced the costs associated with traditional banking, enabling more people to participate in the financial system. The findings are further supported by Siano et al. (2020), who reported that mobile banking provides a cost-effective means of accessing financial services, thereby promoting financial inclusion. In addition, Chwala and Awor (2024) found that mobile money services in Uganda have lowered the cost of conducting financial transactions, making financial services more affordable to users. The findings also agree with Kabanda et al. (2025), who concluded that affordable mobile money services have contributed significantly to financial inclusion in Uganda. However, the findings differ from Atandi (2013), who reported that transaction charges and service fees associated with some digital financial services may still discourage usage among low-income populations.

The study further found a high level of quality of financial services among women entrepreneurs. This finding is consistent with Alalwan et al. (2016), who found that customers are more likely to use financial services when they perceive them as useful, reliable and efficient. Similarly, Kelly and Palaniappan (2019) reported that service quality, convenience and reliability are important factors influencing customer satisfaction and continued use of mobile banking services. The findings also agree with Kassim and Mujinga (2024), who found that improvements in service quality, security and system reliability have enhanced users' confidence in digital banking services in Uganda. Furthermore, Baabdullah et al. (2019) observed that high-quality mobile banking services improve customer experiences and encourage wider financial participation. The findings are also supported by Bank of Uganda (2023), which noted that improvements in financial service delivery and digital banking infrastructure have strengthened the quality of financial services available to Ugandans. Nevertheless, the findings differ from GSMA (2022), which reported that some women continue to face challenges related to service reliability, digital skills and trust, which can affect perceptions of service quality.

Overall, the findings suggest that women entrepreneurs in Bardege-Layibi Division enjoy a relatively high level of financial inclusion because financial services are increasingly accessible,

affordable and of acceptable quality. The growth of digital financial services, mobile banking and agent banking appears to have played an important role in expanding financial opportunities for women entrepreneurs and enabling them to participate more actively in economic activities.

5.3 Mobile Banking Services and Financial Inclusion

The study results revealed that payment services, withdrawal services, savings services and inquiry services had a significant positive effect on the financial inclusion of women entrepreneurs in Bardege-Layibi Division, while credit services had no significant effect on financial inclusion. The significant effect of payment services suggests that women entrepreneurs who frequently use mobile banking for making and receiving payments are more likely to participate in the formal financial system. This finding agrees with the observations of Demirgüç-Kunt et al. (2022), who reported that digital payment services have become one of the most important drivers of financial inclusion globally because they enable users to conduct financial transactions conveniently and securely. Similarly, Bongomin et al. (2016) found that digital financial transaction services increase access to financial services among previously underserved populations in Sub-Saharan Africa. The findings are also consistent with Ozili (2018), who argued that digital finance promotes financial inclusion by making financial transactions easier, faster and more accessible.

The study further established that withdrawal services significantly influence financial inclusion among women entrepreneurs. This implies that the ability to easily access cash through mobile banking platforms enhances participation in financial services. The finding is consistent with Afande and Uk (2015), who found that agent banking and cash withdrawal services improve financial inclusion by reducing the distance and costs associated with accessing financial institutions. Similarly, Aduda et al. (2013) reported that convenient cash withdrawal facilities increase customers' utilization of financial services and strengthen their engagement with the formal financial sector. These findings suggest that withdrawal services remain a critical component of financial inclusion, particularly for small-scale entrepreneurs who frequently require cash for business operations.

The results also showed that savings services have a significant positive effect on financial inclusion. This finding indicates that women entrepreneurs who use mobile banking to save money are more likely to be financially included. The finding agrees with Bongomin et al. (2017), who found that savings products provide an entry point into the formal financial system and enhance financial inclusion among low-income households in Uganda. Similarly, Suri and Jack (2016) observed that mobile-based savings services help individuals accumulate financial resources, improve financial resilience and increase participation in formal financial systems. Adeyinka et al. (2018) also emphasized that savings mobilization is a key function of financial intermediation and contributes significantly to financial inclusion by encouraging individuals to engage with regulated financial institutions.

The study further found that inquiry services significantly affect financial inclusion. This means that the ability to check account balances, transaction records and financial information through mobile banking encourages women entrepreneurs to use financial services more frequently. The finding supports the work of Alalwan et al. (2016), who noted that the usefulness and convenience of mobile banking services encourage greater adoption and usage of digital financial platforms. Similarly, Baabdullah et al. (2019) found that access to timely financial information enhances customers' confidence in digital banking services and promotes continued usage. The finding is also in line with Alalwan et al. (2017), who reported that information accessibility through mobile banking positively influences customers' engagement with financial services.

However, the study found that credit services had no significant effect on financial inclusion among women entrepreneurs. This finding suggests that although credit services are available through mobile banking platforms, they may not be widely utilized by women entrepreneurs or may not substantially influence their overall participation in financial services. This result disagrees with Bongomin et al. (2021), who argued that access to credit is an important aspect of financial intermediation that promotes financial inclusion by enabling individuals and businesses to access productive resources. The finding also contrasts with Olateju (2018), who found that access to credit contributes significantly to financial inclusion and business growth among entrepreneurs. A possible explanation for the current finding is that many women entrepreneurs may be reluctant to borrow due to high interest rates, fear of loan default, inadequate financial literacy, or limited eligibility for digital credit products. This explanation is supported by Dzulkepli

(2024), who noted that financial literacy challenges often limit the effective utilization of credit services among women entrepreneurs. Therefore, while credit remains an important financial service, its contribution to financial inclusion in this study appears to be less significant compared to payment, withdrawal, savings and inquiry services.

Overall, the findings suggest that transaction-based mobile banking services, particularly payments, withdrawals, savings and inquiries, play a more important role in promoting financial inclusion among women entrepreneurs in Bardege-Layibi Division than credit services. These findings reinforce the growing evidence that simple, accessible and frequently used digital financial services are the primary drivers of financial inclusion in developing economies.

5.4 The Moderating Effect of Digital Literacy

The study found that digital literacy has a significant moderating effect on the relationship between mobile banking and financial inclusion among women entrepreneurs in Bardege-Layibi Division. This means that the positive contribution of mobile banking to financial inclusion becomes stronger when women entrepreneurs possess adequate digital literacy skills. Women who are able to use mobile phones confidently, navigate digital applications, understand digital transactions and protect themselves from online risks are more likely to benefit from mobile banking services than those with limited digital skills. Therefore, digital literacy enhances the effectiveness of mobile banking in improving access to and use of financial services.

This finding agrees with the study by Bongomin et al. (2017), which established that financial literacy strengthens the relationship between financial services and financial inclusion among low-income households in Uganda. The authors argued that individuals who understand financial technologies and services are more capable of utilizing them effectively, resulting in greater financial inclusion. Similarly, Kiwanuka and Sibindi (2024) found that digital literacy significantly enhances the adoption of digital financial products in Uganda because users with higher digital skills are more confident in using technology-based financial services. The current finding supports their argument that digital knowledge enables individuals to maximize the benefits offered by digital financial platforms.

The finding is also consistent with Mwesige et al. (2024), who found that technology self-efficacy strengthens the relationship between fintech usage and digital financial inclusion among women

in rural Uganda. Their study revealed that women with better technological capabilities were more likely to use digital financial services successfully and achieve higher levels of financial inclusion. In the same way, the present study suggests that digital literacy helps women entrepreneurs understand and use mobile banking services more effectively, leading to increased participation in the formal financial system.

The results further agree with Dzulkepli (2024), who observed that digital and financial literacy are critical factors influencing financial inclusion among women entrepreneurs. The study found that women with stronger digital skills are better able to access financial information, conduct transactions and utilize digital financial products. Similarly, UNESCO (2018) emphasized that digital literacy provides individuals with the competencies needed to access, evaluate and use digital technologies effectively. This implies that women entrepreneurs with higher digital literacy can easily use mobile banking applications for payments, savings, withdrawals and account inquiries, thereby improving their financial inclusion.

In addition, the findings are in line with World Bank (2022), which highlighted digital skills as a key requirement for benefiting from digital financial services in Sub-Saharan Africa. The report noted that limited digital literacy remains a major barrier to financial inclusion despite the increasing availability of digital financial technologies. Similarly, GSMA (2022) reported that women with lower digital skills often face difficulties in adopting mobile financial services, reducing their chances of achieving financial inclusion. The significant moderating effect found in this study therefore confirms that digital literacy plays a crucial role in enabling women entrepreneurs to translate mobile banking usage into meaningful financial inclusion outcomes.

Overall, the findings suggest that mobile banking alone may not be sufficient to improve financial inclusion among women entrepreneurs. The benefits of mobile banking are greater when users possess the digital skills required to access, understand and use the technology effectively. Digital literacy therefore acts as an important enabling factor that strengthens the contribution of mobile banking to financial inclusion. Consequently, efforts aimed at improving financial inclusion among women entrepreneurs should not only promote mobile banking services but should also focus on enhancing digital literacy through training, awareness programs and continuous digital skills development.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

This chapter presents the summary of the major findings, conclusions and recommendations of the study. The study examined the relationship between mobile banking and financial inclusion among women entrepreneurs in Bardege-Layibi Division, Gulu City, with digital literacy as a moderating variable. The chapter begins with a summary of the findings based on the study objectives. It then presents the conclusions drawn from the findings the chapter further provides recommendations aimed at enhancing the use of mobile banking services and improving financial inclusion among women entrepreneurs. Finally, suggestions for future research are presented to guide scholars interested in extending knowledge in the area of digital financial services, digital literacy and financial inclusion.

6.1 Summary of Key Findings

Based on the study of mobile banking services and financial inclusion of women entrepreneurs in Bar-dege-Layibi division, Gulu city, the following key findings have been derived:

a) The study found that women entrepreneurs in Bardege-Layibi Division highly use mobile banking services, especially for payments, withdrawals, savings and account inquiries, while the use of credit services remains low.
b) It was also established that women entrepreneurs have a high level of financial inclusion, shown by good access to financial services, affordability of services and acceptable service quality. This is largely supported by the growth of mobile banking and agent banking services.
c) Regarding the relationship between mobile banking and financial inclusion, the study revealed that payment services, withdrawal services, savings services and inquiry services

have a significant positive effect on financial inclusion. However, credit services were found to have no significant effect on financial inclusion.

d) Finally, the study established that digital literacy has a significant moderating effect on the relationship between mobile banking and financial inclusion. This means that women entrepreneurs with higher digital skills benefit more from mobile banking services in terms of financial inclusion compared to those with low digital literacy.

6.2 Conclusions

The study concludes that women entrepreneurs in Bardege-Layibi Division actively use mobile banking services, but their usage is mostly concentrated on basic and routine transactions. These include payment services, withdrawal services, savings and checking account balances or transaction information. These services are commonly used because they directly support daily business activities such as buying stock, paying suppliers and managing cash flow. However, the use of credit services through mobile banking remains low. This shows that although mobile banking has become part of business operations, many women entrepreneurs are still not fully engaging with borrowing services offered through digital platforms. This limited use of credit suggests possible concerns such as fear of debt, lack of trust, or limited understanding of how digital credit works.

The study also concludes that women entrepreneurs in the division have achieved a relatively high level of financial inclusion. This is shown through their ability to access financial services with ease, the affordability of these services and the acceptable quality of services provided. Most women are now able to use financial services without facing major barriers such as long distances to banks or high transaction costs. This improvement is largely linked to the growth of mobile banking and agent banking services, which have brought financial services closer to the users. As a result, more women entrepreneurs are now part of the formal financial system and are able to carry out financial activities more efficiently than before.

Additionally, the study concludes that mobile banking services play an important role in improving financial inclusion among women entrepreneurs, especially through payments, withdrawals, savings and inquiry services. These services have made it easier for women to engage in business transactions, manage their money and stay informed about their financial status. Payment services

support smooth business operations by enabling quick money transfers, while withdrawal services provide easy access to cash when needed. Savings services help women to safely store money and build financial stability over time and inquiry services allow them to monitor their accounts and make informed financial decisions. However, credit services were found not to have a significant contribution to financial inclusion in this study area. This suggests that borrowing through mobile platforms is not yet playing a major role in improving financial inclusion among women entrepreneurs in Bardege-Layibi Division.

Finally, the study concludes that digital literacy is a key factor that strengthens the relationship between mobile banking and financial inclusion. Women entrepreneurs who have better digital skills are more confident and capable in using mobile banking services. They are able to navigate mobile applications, understand transaction processes and avoid errors or risks when using digital financial services. As a result, they benefit more from mobile banking in terms of financial inclusion compared to those with limited digital skills. This shows that mobile banking alone is not enough to improve financial inclusion fully; it must be supported by adequate digital literacy among users.

6.3 Recommendations

Based on the findings of the study on mobile banking services and financial inclusion of women entrepreneurs in Bardege-Layibi Division, the following recommendations are made.

The government and policy makers should strengthen efforts to improve financial inclusion by expanding digital financial infrastructure in urban and peri-urban areas like Bardege-Layibi Division. There is need to support policies that promote easy and affordable access to mobile banking services, especially for women entrepreneurs. In addition, government should invest in digital literacy programs that target women in small businesses. These programs should focus on practical skills such as using mobile banking applications, making transactions safely and understanding digital financial services. This will help more women benefit fully from mobile banking.

Commercial banks and mobile money service providers should continue improving the accessibility and reliability of mobile banking services, especially payment, withdrawal, savings and inquiry services since these are the most used and most important for women entrepreneurs.

They should also simplify credit services and make them more user-friendly, transparent and less risky. Clear information on loan terms, interest rates and repayment conditions should be provided in simple language to encourage more women to use credit services. Service charges should also remain affordable to support continued use among small-scale women entrepreneurs.

Financial institutions should design financial products that match the needs of women entrepreneurs. Since credit services are not widely used, institutions should explore flexible loan products that do not require complex procedures or strict conditions. Group lending models and mobile-based microcredit schemes can be strengthened to increase uptake. Institutions should also monitor service quality to ensure that women receive timely, secure and reliable financial services.

Women entrepreneurs should be encouraged to actively adopt a wider range of mobile banking services, including credit services, to support business expansion. They should also take advantage of available training opportunities to improve their digital skills. Improved digital literacy will help them use mobile banking services more confidently and safely, reducing errors and risks in financial transactions.

6.4 Areas for Further Studies

Based on the study of mobile banking services and financial inclusion of women entrepreneurs in Bardege-Layibi division, the following areas of future research are proposed:

i. There is need to investigate the influence of digital literacy on financial inclusion of small-scale businesses in Gulu City, northern Uganda.
ii. There is also a need to undertake a qualitative analysis of the implication of mobile banking services on financial inclusion of medium enterprises in Gulu city.
iii. Another study can be conducted to quantitatively investigate the mediating effect of cost efficiency in the relationship between mobile banking and financial inclusion.

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Makerere University Business School , Kampala , Uganda Francis Yosa Joseph Baleke Yiga Lubega Pierre Yourougou Institut National Polytechnique Félix Houphouët-Boigny de Yamoussoukro , Cote d ' Ivoire Alain Manzi Amani Kigali Independent University ULK , Kigali , Rwanda Leland and Pyle (1977), Diamond and Dybvig (1983), Allen and Santomero (1996), Scholtens design and data were collected from 400 poor households located in rural Uganda . The data packages for social sciences) to generate the explanatory power of each of the dimensions of addition , results from analysis of variances (ANOVA) were also generated to establish the traditional banking structures to serve the unbanked rural poor households . Key words : Financial intermediation , microfinance deposit-taking institutions , Uganda ,.

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APPENDIX A: CONSENT FORM

I am a Student of Gulu University pursuing a Degree of Master of Development Management of Gulu University. I am carrying out research on the topic: **MOBILE BANKING SERVICES AND FINANCIAL INCLUSION OF WOMEN ENTREPRENEURS IN BARDEGE LAYIBI DIVISION, GULU CITY.** The purpose of this study is to collect information that will add to a better understanding of the research topic under investigation. The findings from this study are intended strictly for academic purposes. You are kindly invited to participate in this study by sharing your views, experiences and opinions related to the subject matter.

Your participation is totally voluntary. You may withdraw at any time from the entire research or part of the study without incurring any penalty or disadvantage. All responses will be strictly treated as confidential and used solely for the purpose of this research. Neither your name nor any identifying information will appear in the report and the data obtained from you will be collected in a manner that conforms to acceptable ethical research standards.

I will be very grateful for your willingness to participate in this study. Your time, cooperation and valuable contribution are highly appreciated as this forms part of ensuring that the research is successful and credible. Your participation will significantly contribute to the achievement of the study objectives.

By signing below, I acknowledge that I have read the above information and that I have freely decided to participate in this study.

Participant	**Researcher**
Name: _____	Name: _____
Signature or thumbprint: _____	Signature_____
Date: _____	Date: _____

Contacts

Olwoch Ocaya Patrick	**Dr. Fr. Kyaligonza Lawrence**	**Mr. Ocaya Patrick**
Program: MDM	**Faculty: Business & Development**	**Faculty: Business & Development**

Telephone: 0772968616 Telephone: 0772386723 Telephone: 0777645024

APPENDIX B: QUESTIONNAIRE

Dear respondent,

I am Olwoch Ocaya Patrick a Student of Gulu University pursuing a Degree of Master of Development Management. I am carrying a research study on "**Mobile Banking Services and Financial Inclusion of Women Entrepreneurs in Bardege Layibi Division, Gulu City**" Your feedback is very important and your inputs will be strictly used for academic purposes only. I would greatly appreciate it if you could take a few minutes to provide me with relevant information for this study. I guarantee total confidentiality of all the information given.

Thank you for your consideration.

SECTION A: BACKGROUND INFORMATION ON THE RESPONDENT (Please tick in the appropriate Box and fill in the gaps provided where possible)

1. Which of the following is your Gender?

(a). Female ☐ (b). Male ☐

2. Which of the following is your Marital Status?(a) Single ☐ (b) Married ☐
(c) Divorced /separated ☐ (d) Widowed ☐

3. Which of the following is your Age-bracket?
(a) 18–25 ☐ (b) 26-35 years old ☐ (c) 36-45 years old ☐
(d) 46 -55years ☐ 56 and above ☐

4. Which of the following is your highest level of education attained?
(a) Primary ☐ (b) Secondary ☐ (c) Tertiary ☐ (d) University ☐ (e) PostGraduate ☐
(e) Others (Specify) ----------

5. Duration in Business (a) Less than 1 year ☐ (b) 1 to 5 years ☐ (c) 5 to 10 years ☐
(d) Above 10 years ☐

6. Do you own a mobile telephone? (a)Yes ☐ (b) NO ☐

7. Do you use the mobile Banking Services on your telephone such as mobile money and mobile banking applications? Yes ☐ NO ☐

8. Duration in Mobile Banking usage (a) Less than 1 year ☐ (b) 1 to 5 years ☐ (c) 5 to 10 years ☐ (d) Above 10 years ☐

9. What type of Business are you engaged in? (a) Retail Shop ☐ (b) Food Vending ☐ (c)Tailoring ☐ (d) Hair Dressing/Saloon ☐ (e) Agricultural Produce ☐ (f) Market Vending ☐ (g) Mobile Money/Agent ☐ (h) Bakery ☐ (i) Pharmacy /Drug Shop ☐ (j) Stationary ☐ (k) Hardware ☐ (l) Others Specify…… …… …….☐

SECTION B: MOBILE BANKING SERVICES

Based on your opinion please select the response which best represents it using the scales=Strongly Disagree, **D**= Disagree, **NS**=Not Sure, **A**=Agree, **SA**=Strongly Agree.

(Please tick √ in the box for preferred option/s matching your response)

S/N	**B1. Payments**	SD	D	NS	A	SA
1	I use mobile banking services to receive payments from my customers.					
2	I use mobile banking services to pay for business-related bills (e.g., electricity, water, internet).					
3	I use mobile banking services to pay for goods and services related to my business operations.					
4	Mobile banking services help me complete business transactions quickly and conveniently.					
5	I feel confident that mobile banking payments are secure					
	B2. Savings	**SD**	**D**	**NS**	**A**	**SA**
1	I use mobile banking services to save money for my business					
2	Mobile banking services makes it easy to deposit money into my savings account.					
3	I feel that my money is secure when saved through mobile banking service platform.					

4	I easily access my saved funds through mobile banking when I need it					
5	I track my savings easily using mobile banking services					
	B3. Withdraws	**SD**	**D**	**NS**	**A**	**SA**
1	I always withdraw money from my mobile banking account to pay business expenses.					
2	Mobile banking services allows me to withdraw money conveniently at any time.					
3	I feel that mobile banking services for withdrawals are safe and secure.					
4	I withdraw money from my mobile banking account without delays					
5	Mobile banking withdrawals are safe and secure					
	B4. Transfer Services	**SD**	**D**	**NS**	**A**	**SA**
1	I frequently use mobile banking services to transfer money to suppliers or partners.					
2	I find mobile banking transfer service more convenient than doing them at the physical banks					
3	Mobile banking transfer service reduces the need to carry large amounts of cash, improving my business safety.					
4	I can transfer money efficiently using mobile banking.					
5	Mobile banking transfer services help me complete business transactions on time					
	B5. Credit Services	**SD**	**D**	**NS**	**A**	**SA**
1	I feel confident using mobile banking services to access loans					
2	Mobile banking loans services on my telephone are reliable					
3	Using mobile banking services for credit has positively impacted the growth of my business.					
4	Mobile banking makes it easy to repay my loans.					

5	I can track my loan repayments easily through mobile banking					
	B6. Inquiries	**SD**	**D**	**NS**	**A**	**SA**
1	I regularly use mobile banking services to check my account balance.					
2	Mobile banking services make it easy for me to access information about my past transactions.					
3	I am confident using mobile banking services to check available financial products.					
4	I quickly get information about my account through mobile banking.					
5	Mobile banking services helps me monitor my business transactions easily					

SECTION C: FINANCIAL INCLUSION

S/N	**C1. Access to Financial Services**	SD	D	NS	A	SA
1	I can conveniently access financial services through my mobile telephone without visiting a bank branch.					
2	Mobile banking services has improved my access to savings, transfers and payments					
3	Mobile money agents in my area are more available to me					
4	Mobile banking services have improved my access to formal financial services.					
5	Mobile banking services allows me to get financial services without traveling to a physical bank in town					
	C2. Affordability of Financial Services	SD	D	NS	A	SA
1	Mobile banking services are affordable					
2	The fees and charges for financial services on mobile banking services are affordable					

3	Loan interest rates offered through mobile banking services are affordable					
4	Mobile banking services are cost-effective alternatives to visiting a physical bank					
5	I can use mobile banking frequently without extra cost.					
	C3. Quality of Financial Services	**SD**	**D**	**NS**	**A**	**SA**
1	Mobile banking provides reliable financial services for my business needs					
2	Mobile banking service transactions are processed quickly.					
3	I am satisfied with the quality of mobile banking services.					
4	Mobile banking transactions are processed accurately without errors (e.g Sending money to the wrong number)					
5	It is easy to resolve transaction errors when they occur.					

SECTION D: DIGITAL LITERACY

SN	**D1. Digital Self Efficiency**	**SD**	**D**	**NS**	**A**	**SA**
1	I am confident using my telephone for mobile banking services.					
2	I have completed mobile banking transaction services on my own.					
3	I have learned how to use new mobile banking services easily.					
4	I can troubleshoot minor problems when using mobile banking services					
5	I feel capable of using mobile banking services without assistance.					
	D2. Cognitive Skills	**SD**	**D**	**NS**	**A**	**SA**
1	I understand the instructions provided in mobile banking service applications					

2	I have interpreted transaction messages from mobile banking services.					
3	I can decide which mobile banking service option to use for a transaction.					
4	I understand all the mobile banking service options available					
5	I understand how to manage my finances using mobile banking tools.					

APPENDIX C: CONSENT FORM

I am a Student of Gulu University pursuing a Degree of Master of Development Management of Gulu University. I am carrying out research on the topic: **MOBILE BANKING SERVICES AND FINANCIAL INCLUSION OF WOMEN ENTREPRENEURS IN BARDEGE LAYIBI DIVISION, GULU CITY.** The purpose of this study is to collect information that will add to a better understanding of the research topic under investigation. The findings from this study are intended strictly for academic purposes. You are kindly invited to participate by responding to the set of guiding questions for this study by sharing your views, experiences and opinions related to the subject matter.

Your participation is totally voluntary. All responses will be strictly treated as confidential and used solely for the purpose of this research. The data obtained from you will be collected in a manner that conforms to acceptable ethical research standards.

I will be very grateful for your willingness to participate in this study. Your time, cooperation and valuable contribution are highly appreciated as this forms part of ensuring that the research is successful and credible. Your participation will significantly contribute to the achievement of the study objectives.

By signing below, I acknowledge that I have read the above information and that I have freely decided to participate in this study.

Respondent	**Researcher**
Name: _____	Name:_____
Signature: _____	Signature_____
Or thumbprint:	
Date: _____	Date: _____

Contacts

Olwoch Ocaya Patrick	**Dr. Fr. Kyaligonza Lawrence**	**Mr. Ocaya Patrick**
Program: MDM	**Faculty: Business & Development**	**Faculty: Business & Development**
0772968616	**0772386723**	**0777645024**

APPENDIX D: INTERVIEW GUIDE

Dear respondent,

I am Olwoch Ocaya Patrick a Student of Gulu University pursuing a Degree of Master of Development Management. I am carrying a research study on "**Mobile Banking Services and Financial Inclusion of Women Entrepreneurs in Bardege Layibi Division, Gulu City**" Your feedback is very important and your inputs will be strictly used for academic purposes only. I would greatly appreciate it if you could take a few minutes to provide me with relevant information for this study. I guarantee total confidentiality with all the information given.

Thank you for your consideration.

Type of Respondents (Key Informants):

- Market Leaders
- Community Development Officers
- Commercial Officers

SECTION A: Background Information

1. Name of respondent ……
2. Age…….
3. Sex……
4. Organization/Institution: …….
5. Position/Role: ……
6. Years of experience in this role: ……

1. Do women in business in Bardege Layibi Division, Gulu City use mobile banking services?

   If so; what kind of services do they use mobile banking services for?

   - Probe for payments, savings, withdrawals, transfer services, credit services and inquiries.

2. Do you think women entrepreneurs are financially included in formal financial services in Bardege Layibi, Gulu City?

   If so; explain how or why you think they are included.

   - Probe for usage of financial services, access to financial services and the quality of the financial services

3. How has mobile banking services influenced financial inclusion for women entrepreneurs in your area of Bardege Layibi Division, Gulu City?
4. What role do you think digital literacy plays in promoting financial inclusion of women entrepreneurs Bardege Layibi Division, Gulu City?
5. Is there anything significant that you think we might talk about?

Note to Interviewer:

- Allow respondents to express their opinions freely.
- Use probes to clarify or deepen responses where necessary.
- Record responses accurately or take detailed notes.

Thank you for your time and contribution to this study.

THANK YOU VERY MUCH

APPENDIX E: EXTRACT OF QUALITATIVE ANALYSIS FRAMEWORK

Codes	Themes	Variables	Representative Quotations
Receiving customer payments; MTN MoMo Pay; Cashless transactions	Mobile payment services	Mobile Banking Services	"The women entrepreneurs use mobile banking services for receiving payments from their customers through MTN MoMo Pay." (IDI 1, Female, April 2026)
Paying suppliers; Restocking goods; Sending money to suppliers	Payment Services	Mobile Banking Services	"The women entrepreneurs use mobile banking services to pay suppliers for goods and stocks like onions and so on." (IDI 3, Female, April 2026)
Paying utility bills; Business rent; Operational expenses	Payments Services	Mobile Banking Services	"The women entrepreneurs also use mobile banking services for payment of utility bills like water and electricity for the business premises." (IDI 5, Male, April 2026)
Daily transactions; Convenience; Fast transactions; Secure payments	Payment Services	Mobile Banking Services	"...mobile banking plays a central role in supporting payment activities... convenience, speed and trust are key reasons..."
Saving business income; Separating business and personal money; Financial discipline	Mobile savings practices	Mobile Banking services	"I simply transfer part of my sales immediately after closing the day and this has really improved my saving habits." (IDI 3, Female, April 2026)
Easy saving process; Anytime saving; No bank queues; Phone-based saving	Convenience of savings	Mobile Banking Financial Management	"I do not need to queue in a bank or fill out forms, everything is just on my phone." (IDI 6, Female, April 2026)
Financial control; Regular saving; Business sustainability	Savings benefits	Mobile Banking Financial Management	"...mobile banking savings services are highly trusted, efficient and deeply embedded in financial management practices."

Withdrawing for stock purchase; Paying utilities after withdrawal; Business continuity	Withdrawal services	Mobile Banking	"They use mobile banking services mainly for buying stock... and pay utility bills... This has made business operations faster and more organized." (IDI 7, Male, April 2026)
Secure withdrawals; Transfer to bank accounts; Faster transactions; Reduced cash handling	Withdraw, transfer	Mobile Banking	"Women entrepreneurs receive payments through MTN MoMo Pay... transfer money to bank accounts... financial transactions are faster and more secure." (IDI 9, Female, April 2026)
Fear of hidden charges; Unclear interest rates; Low trust in loans	Credit	Mobile banking	"I am always careful because sometimes the interest is not clear... I only use it in emergencies." (IDI 6, Female, April 2026)
Small loan limits; Delayed loan approval; Emergency borrowing	Accessibility challenges	Financial inclusion	"You cannot always depend on it for big business needs... It helps in small emergencies." (IDI 5, Female, April 2026)
Mobile banking access; SACCOs; VSLAs; Agent banking	Financial service accessibility	Financial Inclusion	"Most women entrepreneurs use mobile banking services to save and transact... Financial services are generally accessible." (IDI 8, Male, April 2026)
Limited awareness; Low knowledge of loan products; Need for sensitization	Financial awareness	Financial Inclusion	"Not many are aware of loan products like grow loans offered by banks." (IDI 8, Male, April 2026)
Reliance on money lenders; High interest rates; Easier loan access	Affordability	Financial Inclusion	"Most women prefer private money lenders... they charge very high interest rates." (IDI, Female, April 2026)
Affordable transactions; Reduced transport costs; Lower operational costs	Affordability of mobile banking	Financial Inclusion	"Mobile banking and local financial groups have made it easier for them to save and

			borrow at lower operational cost." (IDI, Male, April 2026)
Easy access through phones; Low transaction costs; Affordable services	Affordability	Financial Inclusion	"The services are generally affordable and easy to access through mobile phones." (IDI, Male, April 2026)

APPENDIX F: INTRODUCTION LETTER FOR FIELD DATA COLLECTION

GULU
P.O. Box 166
Gulu, Uganda

UNIVERSITY
Tel: 0471-42923
Fax: 256-471-42094

OFFICE OF THE DEAN FACULTY OF BUSINESS AND DEVELOPMENT STUDIES

Date: 28th March, 2026

TO WHOM IT MAY CONCERN

RE: OLWOCH OCAYA PATRICK REG. NO. 24/U/0584/MDM/PS

The above-named person is a final year student pursuing Masters of Development Management (MDM) Degree of Gulu University.

In partial fulfillment of the requirements for the award of the Degree, he is carrying out research on the topic: **Mobile Banking Services and Financial Inclusion of Women Entrepreneurs in Bardege-Layibi Division, Gulu City.**

Due consideration accorded to him shall be highly appreciated.

Yours Faithfully,

GULU UNIVERSITY
28 MAR 2026
DEAN
FACULTY OF BUSINESS AND DEVELOPMENT STUDIES

Dr. Namubiru Margaret
Research Coordinator (Ph.D)
Faculty of Business and Development Studies
Tel: 0772897075 /0703893303
Email: m.namubiru@gu.ac.ug or namubiru@gmail.com