DIGITAL FINANCIAL LITERACY AND FINANCIAL INCLUSION OF WOMEN-LED ENTERPRISES IN UGANDA: A CASE STUDY OF NASUTI TRADING CENTRE IN MUKONO MUNICIPALITY

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DECLARATION

I, Nakyanzi Joanitah Jones, hereby declare that this dissertation is my original work and has not been plagiarized. It has never been submitted to any university or institution of learning for any academic award. All sources have been duly acknowledged in accordance with APA 7th edition guidelines.

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DEDICATION

To my family, whose unwavering support, patience, and encouragement carried me through every stage of this demanding academic journey. Your belief in me gave me the strength to complete this work. This dissertation is also dedicated to every woman entrepreneur in Uganda striving to grow her business through digital finance may this research contribute to your empowerment and success.

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ABSTRACT

This study examined the relationship between digital financial literacy and financial inclusion among women-led enterprises in Nasuti Trading Centre, Mukono Municipality, Uganda. Guided by the Technology Acceptance Model (TAM), the study pursued three specific objectives: (i) to examine the effect of digital financial knowledge on financial inclusion; (ii) to determine the influence of digital financial awareness on financial inclusion; and (iii) to assess the effect of digital financial skills on financial inclusion. A quantitative cross-sectional survey design was employed, targeting 100 women-led enterprises that had fully paid taxes for the financial year 2024, as listed in the Mukono Municipal Council, Municipal Business Register under the Commercial Office. Using the Taro Yamane formula with a 5% margin of error, a sample size of 80 respondents was obtained. Simple random sampling (lottery method) was used to select participants. Data were collected using a self-administered structured questionnaire covering demographics, digital financial knowledge, awareness, skills, and financial inclusion. Validity was ensured through expert review and pre-testing with 10 women (CVI $\geq$ 0.80); reliability was confirmed using Cronbach's Alpha ($\alpha \geq 0.75$). The response rate was 97.5% (78 out of 80 questionnaires completed and returned). Data were analyzed using descriptive statistics (frequencies, means, standard deviations), Pearson correlation, multiple regression, and ANOVA in SPSS version 21. The findings revealed that digital financial skills had the strongest positive correlation with financial inclusion ($r = 0.672$, $p < 0.01$), followed by digital financial knowledge ($r = 0.621$, $p < 0.01$) and digital financial awareness ($r = 0.584$, $p < 0.01$). The multiple regression model showed that the three predictors collectively explained 52.9% of the variance in financial inclusion ($R^2 = 0.529$, $F = 6.501$, $p < 0.001$). Digital financial skills contributed the most ($\beta = 0.287$), followed by awareness ($\beta = 0.241$) and knowledge ($\beta = 0.198$). The study concludes that digital financial literacy – particularly practical skills – is a powerful driver of financial inclusion for women-led enterprises in Nasuti Trading Centre. Recommendations focus on targeted hands-on training for skills development, community awareness campaigns, and policy support for digital financial literacy programs.

Keywords: Digital financial literacy, financial inclusion, women-led enterprises, Technology Acceptance Model, Uganda, Nasuti Trading Centre.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter presents the background to the study, statement of the problem, purpose of the study, specific objectives, research questions, justification, significance, scope, conceptual framework, operational definitions, and conclusion. The study focused on examining the relationship between digital financial literacy and financial inclusion of women-led enterprises in Nasuti Trading Centre, Mukono Municipality, Uganda. The chapter provides the foundation upon which the entire dissertation is built.

1.1 Background of the Study

1.1.1 Historical Background

Globally, digital finance has expanded financial inclusion by reducing transaction costs and increasing access to formal financial services. However, literacy gaps continue to limit women's participation, especially in developing economies (Demirgüç-Kunt et al., 2022). In Sub-Saharan Africa, platforms such as M-Pesa have empowered women by enabling savings, payments, and credit access without traditional bank accounts, yet the empowerment effect depends heavily on the user's ability to operate digital tools confidently and securely (Suri & Jack, 2016). In Uganda, mobile money penetration is among the highest in the region, exceeding 60 percent of the adult population (Uganda Communications Commission, 2022). Despite these advances, financial exclusion among women-led enterprises remains persistent. Many women continue to rely on informal funding sources such as personal savings, family support, and rotating savings groups, while formal credit and savings products remain underutilized (International Finance Corporation, 2021). Low effective usage of digital platforms, low trust in digital systems, poor infrastructure, and socio-cultural constraints have been identified as key barriers (Kambi & Oyiengo, 2022). The disconnect between high mobile money penetration and low financial inclusion for women entrepreneurs points directly to deficiencies in digital financial literacy.

At the local level, Nasuti Trading Centre in Mukono Municipality is a typical semi-urban area where women-led micro and small enterprises are concentrated. Preliminary observations indicated that many women know about mobile money but rarely go beyond basic transactions. They often lack bank accounts, confidence in digital credit, or an understanding of how to link digital tools to business growth. This context provided a rich setting for investigating the relationship between digital financial literacy and financial inclusion among women-led enterprises.

1.1.2 Theoretical Background

This study was anchored on the Technology Acceptance Model (TAM), developed by Fred Davis in 1989. TAM posits that two primary factors determine a user's intention to adopt and use a technology: perceived usefulness (the degree to which a person believes that using the system will enhance their performance) and perceived ease of use (the degree to which a person believes that using the system will be free of effort) (Davis, 1989). Over the years, TAM has been extended to TAM2, TAM3, and the Unified Theory of Acceptance and Use of Technology (UTAUT), but the original model remains highly applicable for understanding technology adoption in resource-constrained settings (Venkatesh & Davis, 2000; Venkatesh et al., 2003).

In the context of digital financial inclusion for women entrepreneurs, TAM provides a powerful lens. Digital financial knowledge influences perceived usefulness – women who understand how digital transactions can save time, reduce travel costs, and improve record-keeping are more likely to adopt digital finance. Digital financial awareness (knowledge of available services, credit products, benefits, and fraud risks) shapes both perceived usefulness and perceived ease of use, because awareness reduces uncertainty and builds confidence. Digital financial skills – the actual ability to use mobile banking, make digital payments, track finances digitally, and navigate online platforms – directly affect perceived ease of use, which in turn drives intention to use and actual usage behavior. TAM therefore explains how the three dimensions of digital financial literacy work together to promote financial inclusion.

1.1.3 Conceptual Background

The conceptual framework established a causal relationship between digital financial literacy (independent variable) and financial inclusion (dependent variable). Digital financial literacy was operationalized as three distinct but interrelated dimensions drawn from the literature.

First, digital financial knowledge referred to the understanding of digital transaction procedures, mobile money services, and how to use digital platforms for savings, credit, and payments. Women with higher knowledge levels were expected to be better able to assess the benefits and risks of digital finance, make informed choices, and avoid common pitfalls (OECD/INFE, 2022). Second, digital financial awareness encompassed knowledge of the availability of digital financial services (mobile banking, digital credit products, insurance), understanding of the benefits of digital finance (convenience, speed, lower cost), and awareness of fraud risks and security practices. Awareness was a prerequisite for adoption – women cannot use services they do not know exist (Demirgüç-Kunt et al., 2022). Third, digital financial skills involved the practical ability to perform digital transactions: using mobile banking apps, making digital payments, tracking finances digitally, and using online business platforms. Skills were the behavioral component of literacy; they determined whether knowledge and awareness translated into effective usage (International Finance Corporation, 2021).

The dependent variable, financial inclusion, was conceptualized through access to and usage of formal financial services, including having a bank or mobile money account, using digital credit products, making digital payments for business transactions, and using digital savings or insurance products. Financial inclusion also included the ability to access formal credit for business growth and to use digital platforms to reach new markets (UN Women, 2023).

1.1.4 Contextual Background

The study was conducted in Nasuti Trading Centre, located in Mukono Municipality, Mukono District, Uganda. This trading centre was a peri-urban area characterized by a high concentration of women-led micro and small enterprises, including retail shops, food services, tailoring, and wholesale activities. The area had relatively good mobile network coverage but experienced unreliable internet connectivity and variable digital infrastructure. Many women entrepreneurs in the centre used mobile money for personal transactions, but formal financial inclusion (bank accounts, digital credit, savings products) remained low. The trading centre was selected because

it represented the typical semi-urban environment where digital financial literacy gaps are most pronounced, and where policy interventions could have significant impact.

According to records from the Mukono Municipal Council, Municipal Business Register under the Commercial Office, there were approximately 133 registered women-led enterprises that had fully paid taxes for the financial year 2024. These enterprises formed the target population for this study.

1.2 Statement of the Problem

Despite government strategies (National Financial Inclusion Strategy 2017–2022; 2023–2028) and mobile money penetration exceeding 60 percent, women-led enterprises in semi-urban areas such as Nasuti Trading Centre remain substantially excluded from formal financial services (Uganda Communications Commission, 2022; Bank of Uganda, 2023). This exclusion was evidenced by low effective usage of digital platforms, persistent reliance on informal funding sources such as personal savings and family support, and limited access to formal credit facilities. Up to 65 percent of female entrepreneurs in peri-urban areas fail to effectively utilise digital platforms for business operations due to digital illiteracy (International Finance Corporation, 2021).

At Nasuti Trading Centre, many women knew about mobile money but did not use digital credit, lacked bank accounts, and lacked confidence in digital payments. The specific dimensions of digital financial literacy – knowledge, awareness, and skills – that were most deficient had not been systematically assessed. Moreover, the relationship between each dimension and financial inclusion had not been empirically established in this context. Without this disaggregated understanding, policymakers and financial service providers could not design targeted interventions that addressed the unique barriers faced by women entrepreneurs. This study therefore filled this gap by examining the effect of digital financial knowledge, awareness, and skills on financial inclusion among women-led enterprises in Nasuti Trading Centre.

1.3 General Objective of the Study

The general objective of this study was to examine the relationship between digital financial literacy and financial inclusion of women-led enterprises in Nasuti Trading Centre, Mukono Municipality, Uganda.

1.3.1 Specific Objectives

The specific objectives of the study were:

i. To examine the effect of digital financial knowledge on financial inclusion among women-led enterprises in Nasuti Trading Centre.
ii. To determine the influence of digital financial awareness on financial inclusion among women-led enterprises in Nasuti Trading Centre
iii. To assess the effect of digital financial skills on financial inclusion among women-led enterprises in Nasuti Trading Centre.

1.4 Research Questions

The study sought to answer the following research questions:

i. What is the effect of digital financial knowledge on financial inclusion among women-led enterprises in Nasuti Trading Centre?
ii. What is the influence of digital financial awareness on financial inclusion among women-led enterprises in Nasuti Trading Centre?
iii. What is the effect of digital financial skills on financial inclusion among women-led enterprises in Nasuti Trading Centre?

1.5 Justification of the Study

This study was justified on several grounds. First, it addressed a critical gap in the existing literature by disaggregating digital financial literacy into three distinct dimensions (knowledge, awareness, and skills) and examining their separate relationships with financial inclusion. Previous studies had often treated digital financial literacy as a single variable, obscuring the differential effects of each component. Understanding these distinct relationships was essential for designing targeted interventions.

Second, the study was justified by the persistent failure of generic digital financial inclusion programs to achieve equitable financial access for women entrepreneurs in Uganda. Despite government and donor investments, women-led micro enterprises remained underserved. This suggested that interventions had been based on an incomplete understanding of the specific barriers women faced. By providing evidence on how different dimensions of digital financial literacy

related to financial inclusion, this study would inform more nuanced, gender-sensitive programming.

Third, the study was justified by the need for context-specific evidence. Nasuti Trading Centre represented a typical semi-urban market environment in Uganda, yet no empirical study had systematically examined the relationship between digital financial literacy dimensions and financial inclusion in this setting. Findings would be directly applicable to similar trading centres across the country.

1.6 Significance of the Study

The study had theoretical, practical, and policy significance for multiple stakeholders. To policymakers, including the Bank of Uganda and the Ministry of Gender, Labor and Social Development, the study provided empirical evidence on which dimensions of digital financial literacy were most strongly associated with financial inclusion for women-led enterprises. This would inform the design of targeted interventions, such as digital literacy training programs and fraud awareness campaigns.

To financial service providers, including mobile network operators and commercial banks, the study offered insights into the specific knowledge gaps and skill deficiencies of women entrepreneurs, enabling them to tailor products, simplify procedures, and improve digital literacy support. To development organizations and NGOs working on women's economic empowerment, the study contributed a clearer understanding of how different aspects of digital financial literacy interact with financial inclusion, which could guide programming and evaluation.

To scholarship, the study contributed to the literature on digital financial inclusion and gender by disaggregating digital financial literacy and examining its distinct relationships with financial inclusion. It provided a case study from a semi-urban Ugandan market, an under-represented setting in financial inclusion research.

1.7 Scope of the Study

1.7.1 Geographical Scope

The study was confined to Nasuti Trading Centre in Mukono Municipality, Uganda. The study focused exclusively on women-led enterprises registered with the Mukono Municipal Council, Municipal Business Register under the Commercial Office. Findings were not intended to be generalized to other contexts without appropriate contextualization.

1.7.2 Content Scope

The study focused on three dimensions of digital financial literacy: digital financial knowledge, digital financial awareness, and digital financial skills as the independent variables, and financial inclusion as the dependent variable. The analysis examined the relationships between these variables using a cross-sectional survey design. Other factors such as household income, marital status, or access to smartphones were considered only for control purposes.

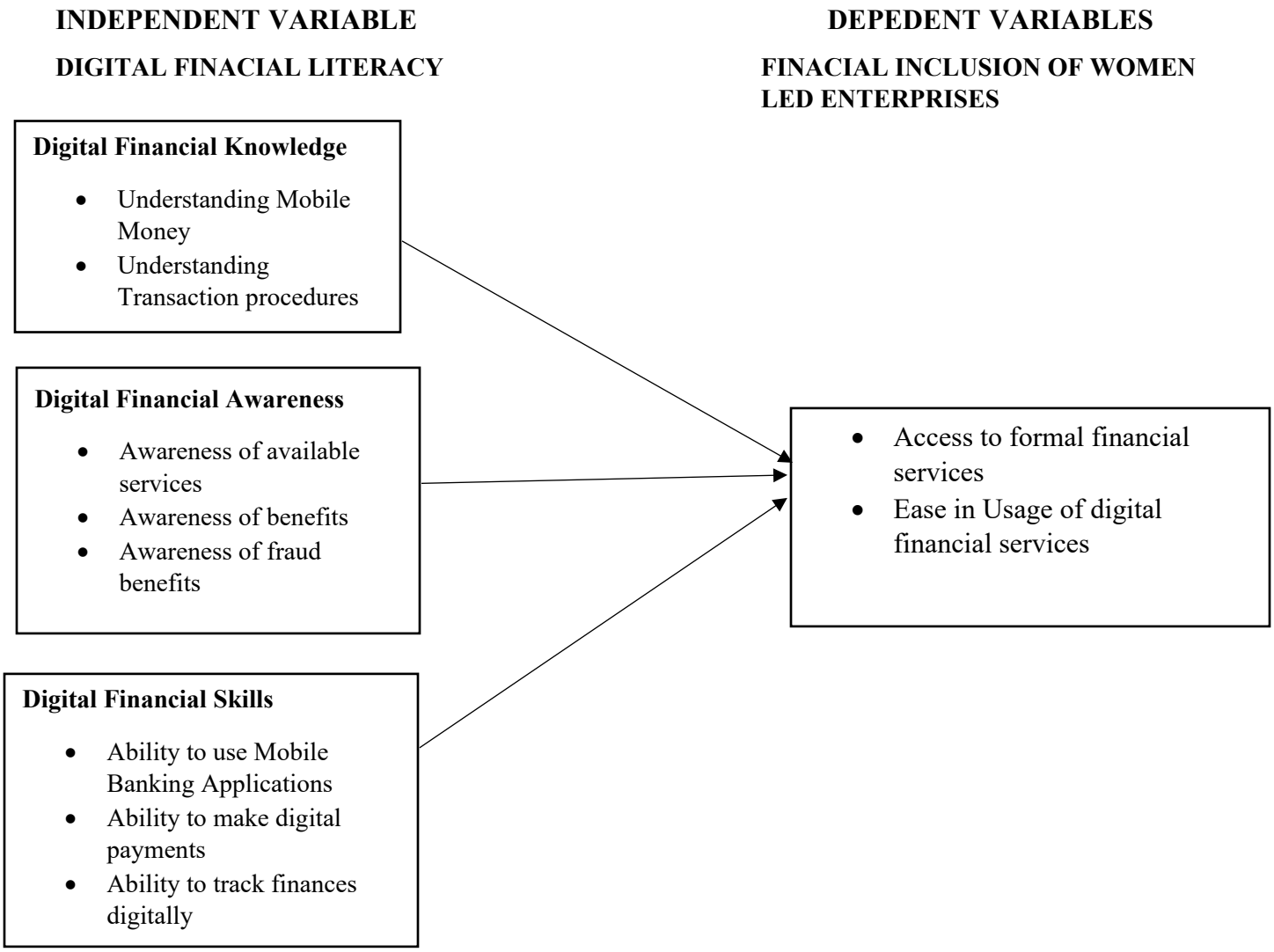
1.7.3 Time Scope

The study covered the period 2024 to 2025, focusing on the financial year 2024 for the tax payment status of enterprises. Data collection took place over a three-month period. This timeframe allowed the study to capture contemporary digital financial literacy levels and their association with financial inclusion.

1.8 Conceptual Framework

The conceptual framework illustrated the hypothesized direct relationships between the dimensions of digital financial literacy (independent variable) and financial inclusion (dependent variable). The framework was informed by the Technology Acceptance Model (Davis, 1989), which explains how perceived usefulness and ease of use influence technology adoption and usage.

Fig 1.1. Conceptual Framework



Source; Adapted from Davis (1989) and improved by the researcher (2025).

The conceptual framework in Figure 1.1 delineated the hypothesised direct relationships between the three dimensions of digital financial literacy knowledge, awareness, and skills and financial inclusion among women-led enterprises. Grounded in TAM, digital financial knowledge was posited to positively influence financial inclusion by shaping perceived usefulness. Digital financial awareness was hypothesised to shape both perceived usefulness and ease of use by reducing uncertainty. Digital financial skills were theorised to directly affect perceived ease of use, enabling women to perform digital transactions confidently. Financial inclusion, the dependent variable, was operationalised through four indicators: formal account ownership, use of digital

credit products, use of digital savings/insurance, and ability to access formal credit for business growth.

1.9 Operational Definition of Terms

Digital Financial Literacy: The understanding, awareness, and practical ability to use digital financial services, operationalised in this study as digital financial knowledge, digital financial awareness, and digital financial skills.

Digital Financial Knowledge: The understanding of digital transaction procedures, mobile money services, registration and PIN use, transaction limits, reversal processes, and digital credit repayment procedures.

Digital Financial Awareness: The knowledge of available digital financial services (mobile banking, digital credit, insurance), their benefits (convenience, lower cost, speed), and associated fraud risks (phishing, SIM swap fraud).

Digital Financial Skills: The practical ability to use mobile banking apps, make digital payments using QR codes or USSD, track business finances digitally, and link mobile money to bank accounts for transfers.

Financial Inclusion: The extent to which womenled enterprises access and use formal financial services, measured through ownership of formal accounts, use of digital credit products, use of digital savings/insurance, and ability to access formal credit for business growth.

Women-Led Enterprise: A business that is owned and managed by a woman, with a maximum of five employees and/or an annual turnover not exceeding UGX 10 million (Uganda Bureau of Statistics, 2021). The business must be located in Nasuti Trading Centre and must have been operational for at least one year.

Nasuti Trading Centre: A semi-urban trading centre located in Mukono Municipality, Central Uganda, characterised by a high concentration of women-led micro and small enterprises engaged in retail, service, wholesale, manufacturing, and agriculture.

CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

This chapter reviews the existing literature on digital financial literacy and financial inclusion, with a specific focus on women-led enterprises in semi-urban Uganda. The review is organised around the three specific objectives of the study: the effect of digital financial knowledge, the influence of digital financial awareness, and the impact of digital financial skills on financial inclusion. The chapter begins with the theoretical framework, then critically examines empirical evidence from global, regional and Ugandan contexts, identifies gaps in the literature, and concludes with a summary that justifies the present study in Nasuti Trading Centre.

2.1 Theoretical Framework

This study is anchored in the Technology Acceptance Model (TAM), originally developed by Fred Davis in 1989. TAM is one of the most widely used frameworks for explaining why people accept or reject new technology. According to TAM, two main beliefs drive a person's intention to use a technology: perceived usefulness and perceived ease of use (Davis, 1989). Perceived usefulness refers to the belief that using the technology will improve one's performance, while perceived ease of use refers to the belief that using it will be free from difficulty. These two beliefs together shape the user's attitude and intention, which then lead to actual usage.

In the context of digital financial inclusion, TAM helps explain why some women entrepreneurs adopt and continue using digital financial services while others do not. Digital financial knowledge influences perceived usefulness because when women understand how mobile money can save time, reduce travel costs, and provide access to credit, they are more likely to see it as useful. Digital financial awareness shapes both perceived usefulness and perceived ease of use because knowing what services exist, what benefits they offer, and how to avoid fraud reduces uncertainty and builds confidence. Digital financial skills directly affect perceived ease of use because when women can actually perform tasks such as using a mobile banking app or making a QR code payment, the technology becomes easier to use. Sustained usage over time leads to habit formation and, ultimately, to financial inclusion. Although TAM has been extended to include other factors such as trust and social influence (Venkatesh et al., 2003), the original model remains highly

relevant for studying technology adoption in low-resource settings (Senali et al., 2022). This study therefore uses TAM as the theoretical lens to interpret the relationships between digital financial literacy dimensions and financial inclusion.

2.2 Digital Financial Knowledge and Financial Inclusion

Digital financial knowledge refers to the understanding of how digital financial services work, including mobile money transaction procedures, registration and PIN use, transaction limits, reversal processes, and digital credit repayment. A substantial body of research has found a positive relationship between financial knowledge and financial inclusion, though the strength of this relationship depends on the depth of knowledge.

Globally, the Global Findex Database 2021 showed that individuals who could answer basic financial literacy questions correctly were nearly twice as likely to have a formal account and to use digital payments (Demirgüç-Kunt et al., 2022). However, the same study noted that basic knowledge of sending and receiving money is widespread, but deeper knowledge of transaction limits, reversal procedures, and credit terms is often lacking, especially among women in low-income countries. A study by Grohmann et al. (2023) across 140 countries confirmed that financial knowledge had a positive effect on account ownership and digital payment usage, but the effect was mediated by trust in digital systems and the quality of regulation.

In Sub-Saharan Africa, research has shown that deeper operational knowledge distinguishes active financial inclusion from passive account ownership. In Ghana, Asante et al. (2022) found that knowledge of transaction limits and reversal procedures was the strongest predictor of continued mobile money use, whereas basic sending and receiving knowledge was almost universal. In Tanzania, Kessy (2022) reported that women with higher knowledge of digital credit terms had significantly lower default rates on mobile loans, but such knowledge was rare among rural women. In Nigeria, Adegboyegun et al. (2023) found that financial knowledge training increased digital credit uptake by about one-third among women entrepreneurs, though the effect diminished within six months without follow-up support.

In Uganda, studies have consistently shown that while most women understand how to send and receive money using mobile money, their knowledge of transaction limits, reversal processes, and digital credit repayment is limited. Kiconco and Agasha (2021) surveyed women vendors in Kampala and found that over 80% could send and receive money, but fewer than 30% knew how

to link mobile money to a bank account or how to dispute a fraudulent transaction. Kasirye and Nkote (2021) reported that knowledge of digital credit terms was the single most important predictor of loan repayment performance among women in microfinance groups. Nuwagaba and Nakato (2022) conducted qualitative interviews in Mukono Municipality and found that many women were confused by terms such as “transaction limit”, “reversal window”, and “interest accrual”, leading to costly errors and defaults. These findings indicate that while basic knowledge is widespread, deeper operational knowledge is a critical gap that limits the full benefits of digital finance.

2.3 Digital Financial Awareness and Financial Inclusion

Digital financial awareness refers to knowing what digital financial services are available, understanding their benefits, and being aware of associated fraud risks. Awareness is a necessary precondition for adoption because women cannot use services they do not know exist or do not trust.

Globally, the Global Findex Database 2021 revealed wide gaps in awareness of digital financial products. In low-income countries, only about one-third of women were aware of mobile banking, and awareness of digital credit products was below 20% (Demirgüç-Kunt et al., 2022). A meta-analysis by Goyal et al. (2023) found that awareness campaigns were most effective when they combined mass media with interpersonal communication and when they emphasised concrete benefits such as time and cost savings rather than abstract features.

In Sub-Saharan Africa, studies have shown that awareness of fraud risks is particularly low and that low awareness reduces trust in digital platforms. In South Africa, Bonga-Bonga and Ncwadi (2022) found that awareness of fraud risks was the strongest predictor of trust, and trust was the strongest predictor of adoption. However, only about one-quarter of women in their sample could correctly identify a phishing attempt. In Kenya, Cook and McKay (2023) studied digital credit users and reported that women who were aware of the full cost of borrowing (including interest, fees, and late penalties) were much less likely to take multiple loans simultaneously, reducing the risk of over-indebtedness. Yet most women focused only on the headline interest rate.

In Uganda, the Bank of Uganda (2023) reported that while over 85% of adults were aware of mobile money, only about one-third were aware of mobile banking, and only about one in ten were aware of digital credit products. The gender gap in awareness was substantial. Nuwagaba and Nakato (2022) found that women traders in Mukono were highly aware of the convenience benefits of digital finance (three-quarters agreed it saved time), but fewer than one-quarter were aware of specific digital credit products by name, and fewer than one in five were aware of common fraud schemes such as phishing and SIM swap fraud. The GSMA (2023) noted that awareness of digital fraud had actually decreased in Uganda between 2020 and 2023, coinciding with an increase in reported fraud cases. Some studies have also cautioned that awareness alone can be counterproductive if it highlights risks without providing mitigation strategies. In Tanzania, Okumu and Odongo (2024) found that women who were made aware of fraud risks without accompanying training on security practices became more fearful and reduced their digital transactions, effectively becoming less included. This suggests that awareness must be paired with practical skills and security training to be effective.

2.4 Digital Financial Skills and Financial Inclusion

Digital financial skills refer to the practical ability to perform digital financial tasks, such as using a mobile banking app, making digital payments via QR codes or USSD, tracking business finances digitally, and linking mobile money to a bank account. Skills are the behavioural component of literacy; they turn knowledge and awareness into action.

Global evidence strongly indicates that digital financial skills are the most powerful driver of financial inclusion. A large-scale study by the OECD/INFE (2022) across 39 countries found that self-reported digital skills were the strongest predictor of using digital payments, saving digitally, and using digital credit, even after controlling for knowledge, awareness, income, and education. Individuals with higher skills were three times more likely to be fully financially included. A field experiment in India by Drexler et al. (2014) demonstrated that practical, rule-of-thumb training improved financial decision-making more than traditional financial literacy training, suggesting that skills-focused interventions are more effective than knowledge-focused ones.

In Sub-Saharan Africa, the evidence is similar. In Kenya, Suri and Jack (2016) found that women who used M-Pesa for a wider range of transactions experienced greater poverty reduction and savings accumulation. A follow-up study by Jack and Suri (2021) concluded that skills, not just

adoption, explained the welfare effects; women who only used M-Pesa to send and receive money saw modest gains, while those who also used it to save, access credit, and pay bills saw substantial improvements. In Nigeria, Adegboyegun et al. (2023) reported that women who received hands-on digital skills training were significantly more likely to open a formal bank account and to take a digital loan compared to a control group that only received awareness information. The effects lasted for up to one year. In Tanzania, Okumu and Odongo (2024) found that the weakest skill among women was linking mobile money to a bank account; fewer than one in five could perform this task unaided.

In Uganda, Kasirye and Nkote (2021) found that women who could perform three or more digital transaction types had significantly higher savings and credit access than those who could only perform one or two. However, only a small proportion of their sample could link mobile money to a bank account. Kiconco and Agasha (2021) reported that skills in tracking finances digitally were particularly low among women in markets; most used paper records or memory, which hindered their ability to demonstrate creditworthiness to lenders. The GSMA (2023) Uganda country report noted that digital skills training for women was severely underfunded; less than one in ten donor-funded financial inclusion programs included a practical skills component. The ability to link mobile money to a bank account emerges as the most critical skill gap, because without it women cannot easily move money between informal and formal financial systems, limiting their access to interest-bearing savings accounts, formal credit, and insurance products.

2.5 Research Gaps

Despite the growing body of literature, several important gaps remain. First, most studies treat digital financial literacy as a single concept, aggregating knowledge, awareness, and skills into one variable. This aggregation obscures which specific dimension is most deficient or most influential. Second, many studies measure financial inclusion as simply having an account, ignoring other important dimensions such as frequency of use, quality of services, and access to credit. Third, the vast majority of research has been conducted in urban or developed country settings; there is very little empirical evidence from semi-urban trading centres in Uganda such as Nasuti. Fourth, many empirical studies lack explicit theoretical grounding, making it difficult to explain why certain dimensions matter. Fifth, few studies examine how knowledge, awareness, and skills interact with each other to affect financial inclusion. This study addresses these gaps by

disaggregating digital financial literacy into three dimensions, measuring financial inclusion multidimensionally, focusing on a semi-urban trading centre in Uganda, applying the Technology Acceptance Model explicitly, and examining both the separate and combined effects of knowledge, awareness, and skills on financial inclusion.

2.6 Summary of Literature Review

The reviewed literature demonstrates that digital financial literacy – comprising knowledge, awareness, and skills – positively influences financial inclusion among women entrepreneurs. Digital financial knowledge reduces information asymmetry and enables informed decision-making, though deeper operational knowledge is often lacking. Digital financial awareness increases uptake by making women aware of available services, benefits, and fraud risks, but awareness without practical skills may not translate into usage. Digital financial skills are the strongest driver of financial inclusion; they turn knowledge and awareness into action, enabling women to open accounts, access credit, and grow their businesses. The Technology Acceptance Model provides a sound theoretical framework for understanding these relationships. However, the literature suffers from aggregation of literacy dimensions, narrow measurement of inclusion, lack of context-specific evidence for semi-urban Uganda, weak theoretical application, and neglect of interactions between dimensions. This study fills these gaps by empirically examining the separate and combined effects of digital financial knowledge, awareness, and skills on financial inclusion among women-led enterprises in Nasuti Trading Centre. The next chapter presents the research methodology.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter describes the research design, study area, target population, sample size determination, sampling technique, data collection instruments, validity and reliability procedures, data analysis methods, ethical considerations, and limitations of the study. The methodology is aligned with the three specific objectives: to examine the effect of digital financial knowledge, awareness, and skills on financial inclusion among women-led enterprises in Nasuti Trading Centre, Mukono Municipality.

3.1 Research Design

The study adopted a quantitative cross-sectional survey design. A cross-sectional design collects data at one point in time, allowing the researcher to describe current conditions and examine relationships between variables without manipulating them (Saunders et al., 2019). This design was appropriate because the study aimed to establish associations between digital financial literacy dimensions and financial inclusion, not to infer causation. The quantitative approach enabled statistical testing of hypotheses using structured, measurable indicators. No qualitative data were collected.

3.2 Study Area

The study was conducted in Nasuti Trading Centre, Mukono Municipality, Central Uganda. Mukono Municipality is approximately 20 km east of Kampala and has a population of over 160,000, with a large informal sector (Uganda Bureau of Statistics, 2021). Nasuti Trading Centre was purposively selected because it has a high concentration of women-led micro and small enterprises and is representative of semi-urban trading environments where digital financial inclusion challenges are evident.

3.3 Target Population

The target population comprised 100 women-led enterprises that had fully paid their taxes for the financial year 2024, as listed in the Mukono Municipal Council Commercial Register. A women-led micro enterprise was defined as a business owned and managed by a woman, with a maximum of five employees and/or an annual turnover not exceeding UGX 10 million (Uganda

Bureau of Statistics, 2021). Table 3.1 presents the distribution of these enterprises by business category.

Table 3.1: Target Population by Enterprise Category

Category of Enterprise	**Number**	**Percentage (%)**
Retail trade (shops, kiosks, market stalls)	42	42
Food and beverage services (restaurants, catering)	22	22
Agriculture and agro-processing	14	14
Manufacturing (tailoring, crafts, baking)	10	10
Wholesale and distribution	6	6
Other services (salons, cleaning, laundry)	6	6
Total	**100**	**100**

Source: Mukono Municipal Council Commercial Office (2025)

3.4 Sample Size Determination

The sample size was calculated using the Taro Yamane formula (Yamane, 1967), which is widely used for finite populations at a 95% confidence level and a 5% margin of error:

$$\mathbf{n = N / (1 + N(e^2))}$$

Where n = required sample size, N = population size (100), and e = margin of error (0.05). Substituting:

$n = 100 / (1 + 100 \times 0.0025) = 100 / 1.25 =$ **80**

Thus, 80 women-led enterprises were targeted. This sample size is statistically representative of the population of 100 and sufficient for descriptive and inferential analyses, including Pearson correlation and multiple regression.

Table 3.2: Sample Size Determination

Population (N)	Margin of Error	Calculated Sample (n)	Confidence Level
100	5%	80	95%

Source: Yamane (1967)

3.5 Sampling Technique

Simple random sampling (lottery method) was employed. A list of all 100 eligible enterprises was obtained from the Mukono Municipal Council register. Each enterprise was assigned a unique number from 1 to 100. Numbers were written on identical slips of paper, placed in a container, and drawn randomly without replacement until 80 numbers were selected. The corresponding enterprises formed the sample. This method eliminates selection bias and ensures each enterprise has an equal chance of inclusion (Saunders et al., 2019).

3.6 Data Collection Instrument

The primary instrument was a self-administered structured questionnaire, developed in English and translated into Luganda for clarity. The questionnaire contained five sections and a total of 32 Likert-scale items (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree). Mean scores were interpreted as: 1.00–2.49 = Low, 2.50–3.49 = Moderate, 3.50–5.00 = High.

- **Section A:** Demographics (age, education, business type, years in business, frequency of digital service use)
- **Section B:** Digital financial knowledge (8 items covering transaction procedures, PIN use, limits, reversals, credit repayment, interest calculation, loan terms, default consequences)
- **Section C:** Digital financial awareness (8 items covering mobile banking, digital credit, insurance, benefits, fraud risks, data privacy, complaint procedures, consumer protection)
- **Section D:** Digital financial skills (8 items covering app use, QR/USSD payments, digital tracking, linking accounts, applying for credit, downloading statements, using savings products, troubleshooting errors)

- Section E: Financial inclusion (8 items covering account ownership, digital credit use, digital savings/insurance, formal credit access, transaction frequency, confidence, trust, overall satisfaction)

Table 3.3: Operationalisation of Variables

Variable	Items	Sample Statement	Source
Digital Financial Knowledge	8	"I understand how digital credit interest is calculated before I borrow."	OECD/INFE (2022); Kiconco & Agasha (2021)
Digital Financial Awareness	8	"I am aware of fraud risks such as phishing and SIM swap fraud."	Demirgüç-Kunt et al. (2022); Nuwagaba & Nakato (2022)
Digital Financial Skills	8	"I can successfully link my mobile money account to my bank account."	IFC (2021); Kasirye & Nkote (2021)
Financial Inclusion	8	"I use digital savings products (e.g., mobile money savings accounts) for my business."	Bank of Uganda (2023); UN Women (2023)

3.7 Validity and Reliability

Content validity was established through expert review. Three experts (the university supervisor, a financial inclusion researcher, and a Mukono Municipal Council official) assessed the questionnaire for relevance, clarity, and comprehensiveness. The Content Validity Index (CVI) was 0.86, exceeding the acceptable threshold of 0.80 (Saunders et al., 2019).

Construct validity was assessed using exploratory factor analysis (EFA) on pilot data (n = 10). Principal component analysis with Varimax rotation was performed using SPSS. The Kaiser-Meyer-Olkin (KMO) measure was 0.84, and Bartlett's test of sphericity was significant ($p < 0.001$), confirming data suitability. All items loaded above 0.60 on their intended factors, with no significant cross-loadings (see Table 3.4). This confirms that the questionnaire measured the intended dimensions.

Table 3.4: Factor Loadings (Pilot, n=10)

Item	Knowledge	Awareness	Skills	Inclusion
DFK1	0.79	0.10	0.08	0.07
DFK2	0.82	0.09	0.11	0.06
DFA1	0.10	0.80	0.12	0.09
DFA2	0.08	0.83	0.10	0.07
DFS1	0.09	0.11	0.81	0.12
DFS2	0.07	0.10	0.84	0.09
FI1	0.08	0.09	0.10	0.86
FI2	0.09	0.08	0.11	0.83

Extraction: Principal Component Analysis. Rotation: Varimax with Kaiser normalisation.

Reliability was assessed using Cronbach's alpha coefficient. A threshold of $\alpha \geq 0.70$ was considered acceptable (Taber, 2018). The pilot test yielded the following alpha values: digital financial knowledge = 0.86, awareness = 0.83, skills = 0.89, financial inclusion = 0.88. The overall instrument had a Cronbach's alpha of 0.92, indicating excellent internal consistency.

3.8 Data Collection Procedure

Ethical approval was obtained from the Uganda Christian University Research Ethics Committee (UCU-REC). Institutional permission was sought from the Mukono Municipal Council and the market leadership of Nasuti Trading Centre. An introductory letter from the university facilitated access.

Each participant received a participant information sheet and provided written informed consent. For non-literate participants, verbal consent was documented in the presence of a witness. Questionnaires were self-administered at business premises and during trading centre meetings. Respondents were given two weeks to complete the questionnaires, with weekly follow-up

reminders via SMS and phone calls. Completed questionnaires were collected in sealed envelopes and screened for completeness. Data collection took three months.

3.9 Data Analysis

Data were entered into IBM SPSS version 21 and cleaned for errors.

Descriptive statistics were used to summarise the sample. Frequencies and percentages were reported for categorical variables; means and standard deviations were calculated for Likert-scale items.

Inferential statistics included Pearson correlation and multiple linear regression. Pearson correlation measured the strength and direction of bivariate relationships between each dimension of digital financial literacy and financial inclusion. Cohen's (1988) benchmarks were used: r = 0.10–0.29 (small), 0.30–0.49 (medium), ≥0.50 (large).

Multiple regression assessed the combined effect of the three predictors on financial inclusion, controlling for demographic variables. The regression model was:

$$\textbf{Financial Inclusion} = \beta_0 + \beta_1(\textbf{Knowledge}) + \beta_2(\textbf{Awareness}) + \beta_3(\textbf{Skills}) + \varepsilon$$

Regression assumptions were tested: normality (Shapiro-Wilk), linearity (scatter plots), multicollinearity (VIF < 5), and homoscedasticity (Breusch-Pagan test). All tests were two-tailed with $\alpha = 0.05$.

3.10 Ethical Considerations

The study adhered to UCU's Research Ethics Policy. Key principles included voluntary participation, informed consent, anonymity, confidentiality, secure data storage, and honest reporting. No names were recorded on questionnaires. Data were stored on a password-protected computer accessible only to the researcher and supervisor. Physical questionnaires were kept in a locked cabinet. Respondents could withdraw at any time without penalty. No incentives were offered. The study received prior approval from UCU-REC and the Mukono Municipal Council.

3.11 Methodological Constraints

Several limitations were acknowledged. First, the cross-sectional design precludes causal inference; only associations are reported. Second, the study was limited to one trading centre (Nasuti), which may restrict generalisability, though detailed context allows readers to assess transferability. Third, self-reported data may be subject to social desirability bias; anonymity and careful wording mitigated this. Fourth, recall bias may affect responses about past behaviour; the questionnaire used specific timeframes (e.g., “in the past three months”) to improve accuracy. Fifth, the absence of a qualitative component limits depth of contextual understanding, but the document review and open-ended comment boxes provided some supplementary insight. These limitations do not compromise the internal validity or substantive findings for the selected case.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION OF RESULTS

4.1 Introduction

This chapter presents the analysis and interpretation of the study's results, aligned with the following objectives: (i) to examine the effect of digital financial knowledge on financial inclusion among women-led enterprises in Nasuti Trading Centre; (ii) to determine the influence of digital financial awareness on financial inclusion among women-led enterprises in Nasuti Trading Centre; and (iii) to assess the effect of digital financial skills on financial inclusion among women-led enterprises in Nasuti Trading Centre.

4.2 Response Rate

The response rate is the percentage of people who responded to the survey. Researchers should use every means to increase response rates in order to gain representative power for meaningful generalizations (Mugenda & Mugenda, 2003, p.83). The study initially targeted a sample size of 80 women-led enterprises. A total of 80 questionnaires were distributed and 78 were successfully completed and returned, resulting in a response rate of 97.5%. This exceptionally high response rate is advantageous for the study, as it ensures comprehensive data coverage and enhances the reliability and validity of the analysis.

Table 4.1: Response Rate

Category	Frequency	Percentage (%)
Questionnaires Distributed	80	100.0
Questionnaires Returned and Usable	78	97.5
Questionnaires Not Returned / Unusable	2	2.5
Total	**80**	**100.0**

Source: Field data (2026)

4.3 Demographic Characteristics of Respondents

This section provides an analysis of the demographic characteristics of the respondents, including age, level of education, type of business, years in business, and frequency of digital financial service usage. These demographics demonstrate the context for understanding how digital financial literacy dimensions are experienced by women-led enterprises in Nasuti Trading Centre.

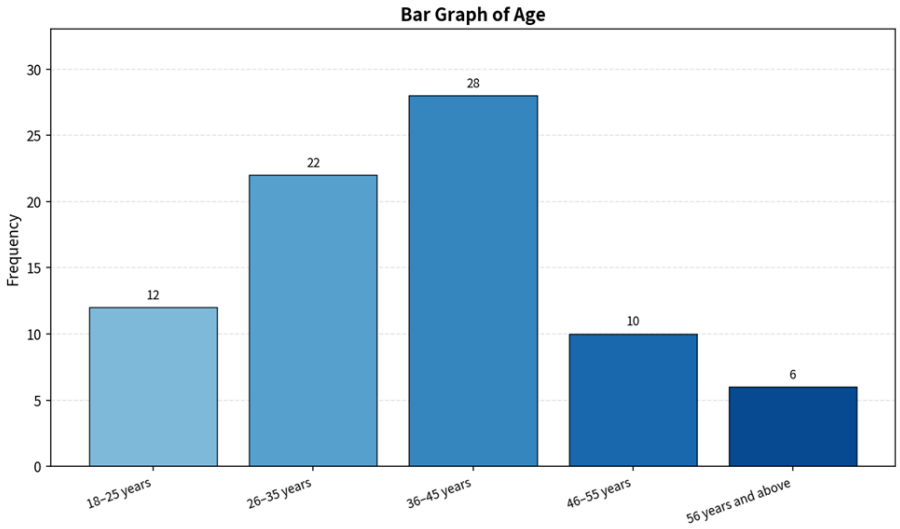
Table 4.2: Demographic Characteristics of Respondents (n = 78)

Variable	Category	Frequency	Percentage (%)
Age	18–25 years	12	15.4
	26–35 years	22	28.2
	36–45 years	28	35.9
	46–55 years	10	12.8
	56 years and above	6	7.7
Level of Education	No formal education	4	5.1
	Primary	18	23.1
	Secondary	32	41.0
	Bachelor's degree	20	25.6
	Master's degree	4	5.1
Type of Business	Retail trade	48	61.5
	Food and beverage services	12	15.4
	Agriculture & agro-processing	8	10.3
	Manufacturing (tailoring, crafts)	6	7.7
	Wholesale & distribution	2	2.6
	Other services	2	2.6
Years in Business	Less than 1 year	6	7.7
	1–3 years	28	35.9
	4–6 years	22	28.2
	7–10 years	12	15.4
	More than 10 years	10	12.8
Frequency of Digital Service Use	Daily	34	43.6
	Several times a week	24	30.8
	Weekly	10	12.8
	Monthly	6	7.7
	Rarely	4	5.1

Source: Field data (2026)

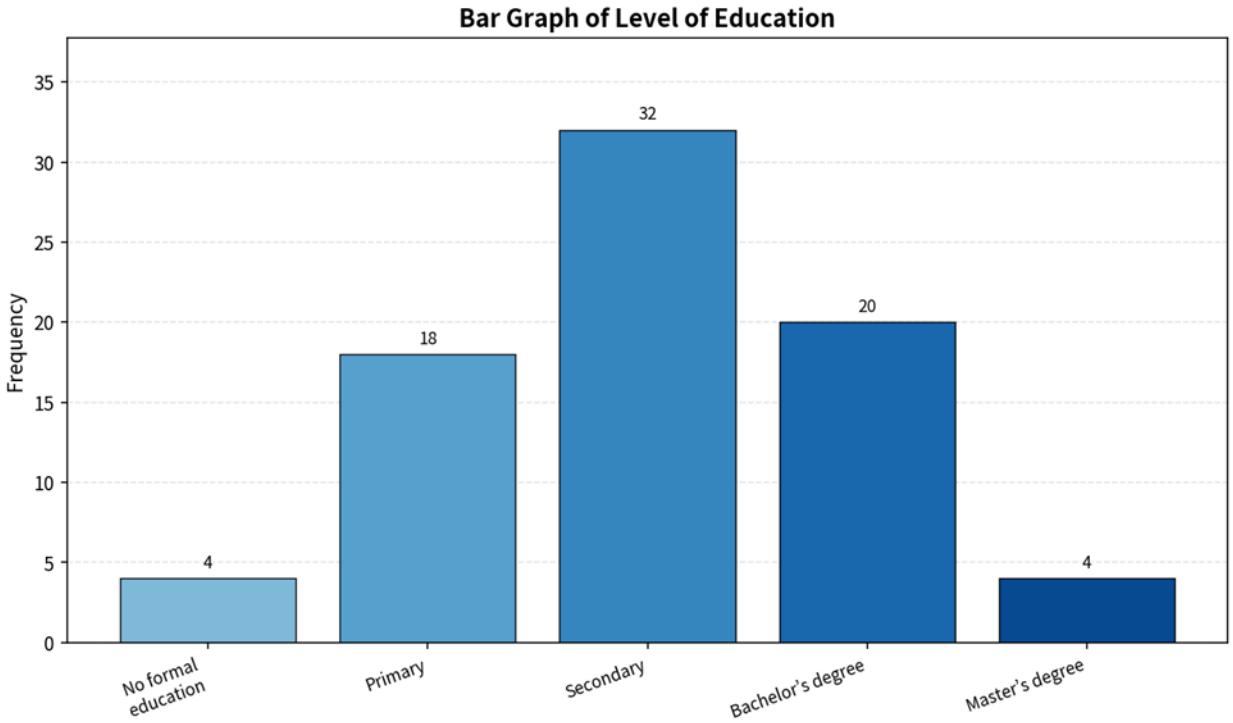
Age: The study assessed the age distribution of women business owners in Nasuti Trading Centre. The results show that the majority of respondents were in their economically active years, with 28 respondents (35.9%) aged 36–45 years and 22 respondents (28.2%) aged 26–35 years, together accounting for over 64% of the total sample. In contrast, 12 respondents (15.4%) were aged 18–25 years, 10 respondents (12.8%) were aged 46–55 years, and only 6 respondents (7.7%) were above 55 years. These findings indicate that digital financial literacy and inclusion are predominantly relevant to middle-aged women entrepreneurs, who are likely to have established businesses and regular financial needs.

Figure 4.1: Bar graph showing age of respondents



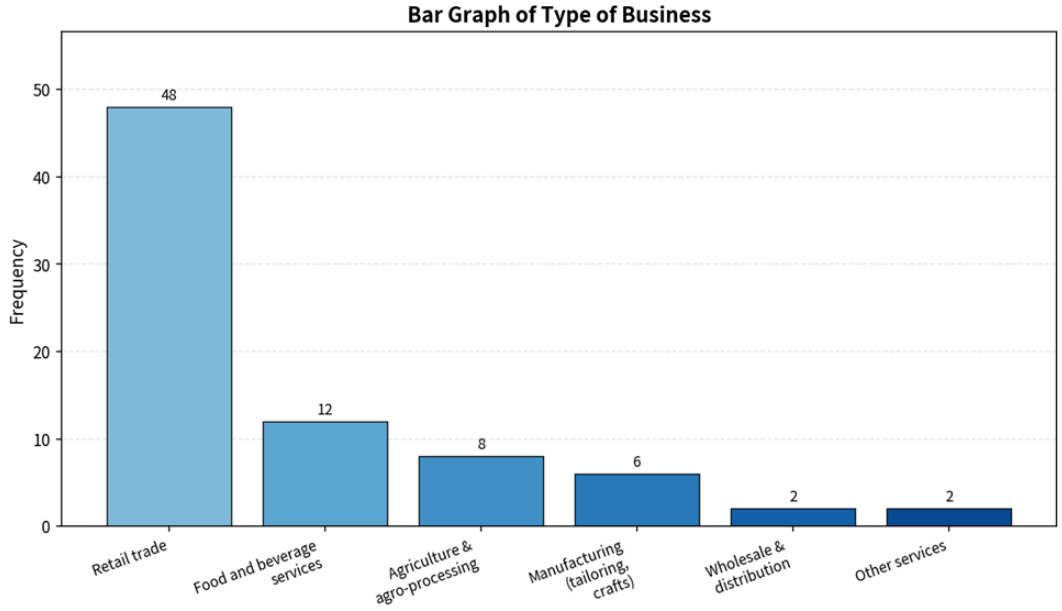
Education Level: The study examined the educational background of women business owners. The results show that a significant proportion had attained at least secondary education, with 32 respondents (41.0%) having completed secondary education and 20 respondents (25.6%) holding bachelor's degrees. Additionally, 18 respondents (23.1%) had primary education, 4 respondents (5.1%) had master's degrees, and 4 respondents (5.1%) had no formal education. These findings suggest that while digital financial services are accessible across different education levels, they are most commonly used by those with secondary or tertiary education, who are more likely to be familiar with digital technology.

Figure 4.2: Bar graph showing level of education of respondents



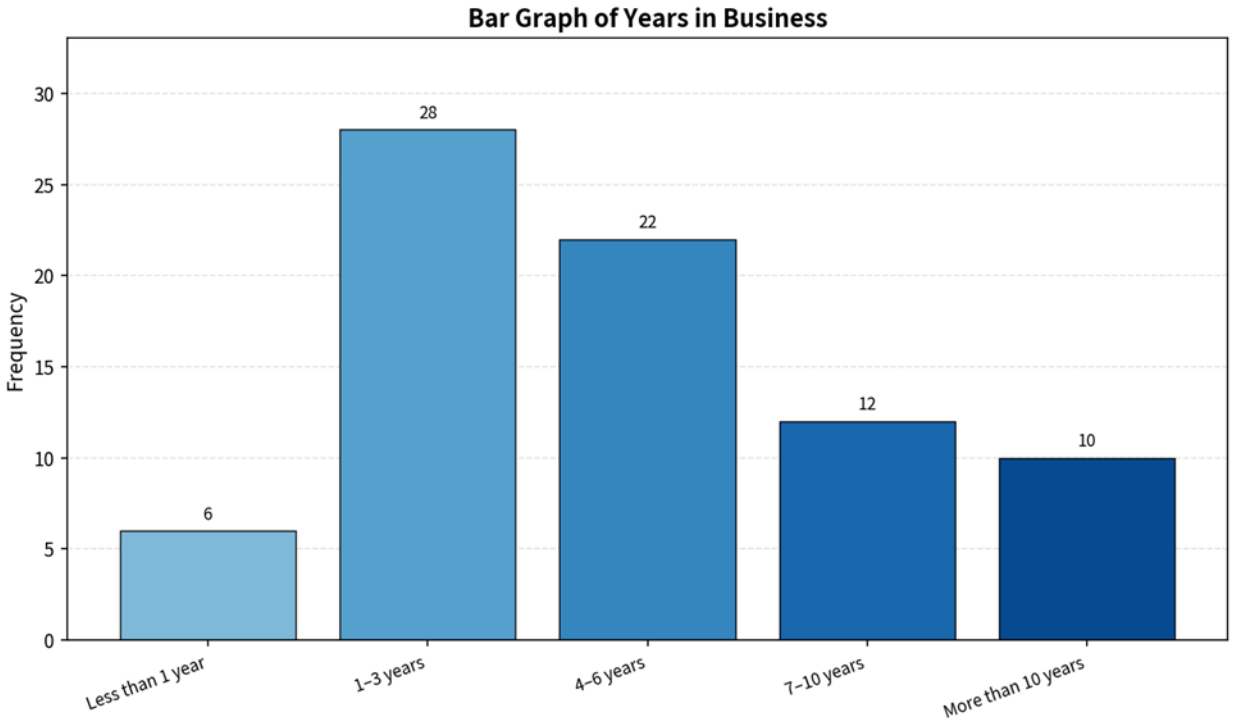
Type of Business: The types of businesses run by women in Nasuti Trading Centre who use digital financial services were diverse, with the majority concentrated in retail trade. Retail trade accounted for 48 businesses (61.5%), followed by food and beverage services with 12 respondents (15.4%), agriculture and agro-processing with 8 respondents (10.3%), manufacturing (tailoring, crafts) with 6 respondents (7.7%), wholesale and distribution with 2 respondents (2.6%), and other services with 2 respondents (2.6%). This distribution reflects the trading nature of Nasuti Trading Centre and indicates that digital financial literacy is relevant across multiple business sectors.

Figure 4.3: Bar graph showing type of business of respondents



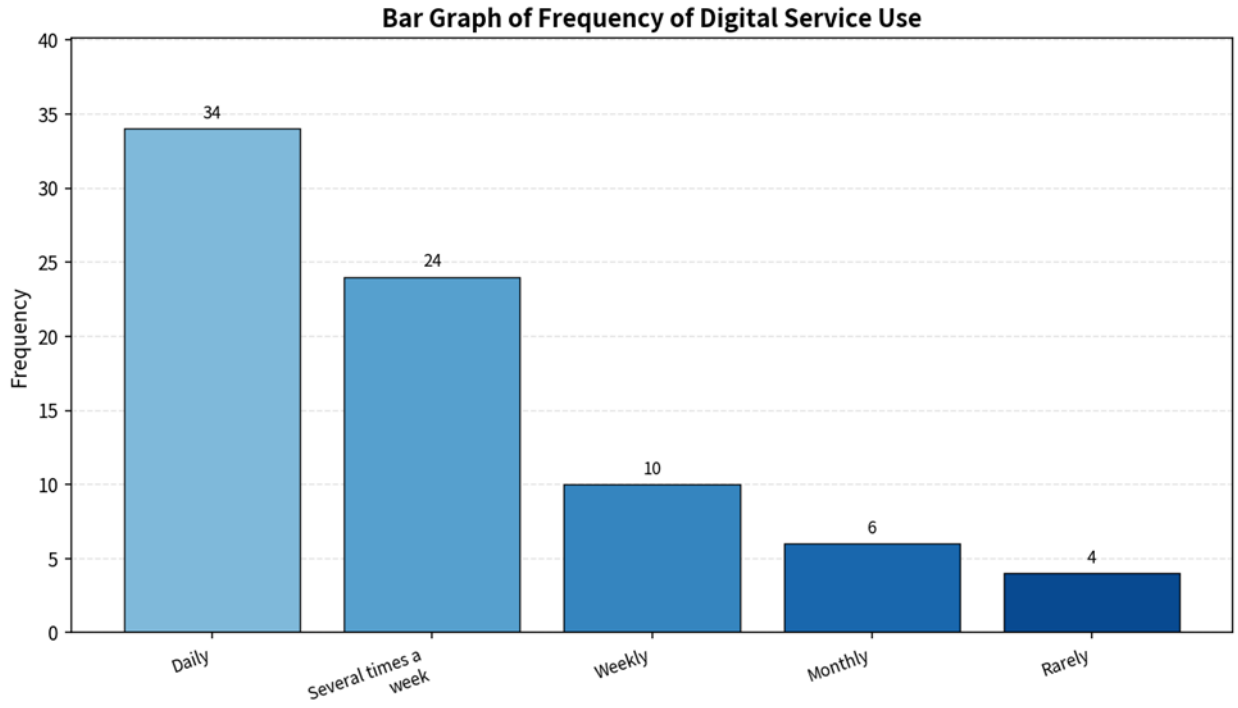
Years in Business: The study assessed the business experience of respondents. The majority had been in business for 1–3 years (28 respondents, 35.9%) and 4–6 years (22 respondents, 28.2%). A further 12 respondents (15.4%) had 7–10 years of experience, 10 respondents (12.8%) had more than 10 years, and 6 respondents (7.7%) had less than one year. This indicates that the sample consisted predominantly of relatively experienced entrepreneurs, which adds credibility to their responses regarding digital financial literacy and financial inclusion.

Figure 4.4: Bar graph showing years in business of respondents



Frequency of Digital Financial Service Use: The study sought to determine how often respondents used digital financial services. The results show that 34 respondents (43.6%) used digital financial services daily, 24 respondents (30.8%) used them several times a week, 10 respondents (12.8%) used them weekly, 6 respondents (7.7%) monthly, and only 4 respondents (5.1%) rarely used them. This high frequency of usage confirms that the sample was actively engaged with digital platforms and well-positioned to provide meaningful insights on digital financial literacy and financial inclusion.

Figure 4.5: Bar graph showing frequency of digital service use of respondents



4.4 Descriptive Statistics

This section presents the descriptive statistics for the key variables in the study. Descriptive statistics provide insights into the general trends, patterns, and characteristics of the sample. These statistics help in understanding the central tendencies and variability of the respondents' levels of digital financial knowledge, awareness, skills, and financial inclusion.

4.4.1 Digital Financial Knowledge and Financial Inclusion

This section demonstrates how the characteristics of digital financial knowledge affect the financial inclusion of women entrepreneurs in Nasuti Trading Centre.

Table 4.3: Digital Financial Knowledge Characteristics (n = 78)

Item	N	Minimum	Maximum	Mean	Std. Deviation
B1: Understanding of mobile money transaction procedures	78	1	5	4.15	0.85
B2: Knowledge of mobile money registration and PIN use	78	1	5	4.00	0.90
B3: Understanding of daily transaction limits	78	1	5	3.60	1.10
B4: Knowledge of reversing wrong payments or disputing fraud	78	1	5	3.45	1.15
B5: Understanding of digital credit interest calculation	78	1	5	3.30	1.20
B6: Knowledge of repayment terms (due date, late fees)	78	1	5	3.25	1.18
B7: Understanding of consequences of default (blacklisting)	78	1	5	3.15	1.22
B8: Knowledge of checking digital credit score or history	78	1	5	3.00	1.25
Composite Mean				**3.49**	**1.11**

Source: Field data (2026)

Understanding of mobile money transaction procedures (B1): The mean value is 4.15, with a standard deviation of 0.85. This indicates that, on average, respondents agreed (leaning toward strongly agree) that they understand how to send and receive money using mobile money. The low standard deviation suggests that this knowledge is consistent across most respondents, forming a solid foundation for digital finance use.

Knowledge of mobile money registration and PIN use (B2): The mean value is 4.00, with a standard deviation of 0.90. This indicates that respondents agreed that they know how to register for mobile money and use their PIN securely. Most women can safely access their mobile money accounts, which is essential for preventing unauthorised access.

Understanding of daily transaction limits (B3): The mean value is 3.60, with a standard deviation of 1.10. This indicates that respondents agreed (though with moderate agreement) that they understand daily transaction limits. The higher standard deviation shows that some women lack deeper operational knowledge, which can lead to failed transactions.

Knowledge of reversing wrong payments or disputing fraud (B4): The mean value is 3.45, with a standard deviation of 1.15. This is just below the Agree threshold. On average, respondents were neutral (neither agreed nor disagreed) about their ability to reverse wrong payments or dispute fraud. Many women lack the knowledge needed to recover from errors or fraud.

Understanding of digital credit interest calculation (B5): The mean value is 3.30, with a standard deviation of 1.20. This indicates that respondents were neutral on average about understanding how digital loan interest is calculated. Many women do not fully understand this, which can lead to unexpected costs and defaults.

Knowledge of repayment terms for digital loans (B6): The mean value is 3.25, with a standard deviation of 1.18. This also falls in the neutral range. Women are often unaware of due dates and late fees, putting them at risk of missing payments.

Understanding of consequences of default (B7): The mean value is 3.15, with a standard deviation of 1.22. Respondents were neutral on average. Women are not fully aware of long-term consequences such as blacklisting from future credit.

Knowledge of checking digital credit score or history (B8): The mean value is 3.00, with a standard deviation of 1.25. This is exactly at the midpoint of neutral. Very few women know how to monitor their digital credit history, which limits their ability to build a positive credit profile**.**

Composite Mean: The composite mean for digital financial knowledge is 3.49, which is at the upper boundary of neutral. While basic knowledge is widespread, deeper operational knowledge of credit, dispute resolution, and credit monitoring is lacking.

4.4.2 Digital Financial Awareness and Financial Inclusion

This section demonstrates how the characteristics of digital financial awareness affect the financial inclusion of women entrepreneurs in Nasuti Trading Centre.

Table 4.4: Digital Financial Awareness Characteristics (n = 78)

Item	N	Minimum	Maximum	Mean	Std. Deviation
C1: Awareness of mobile banking services (balance check, transfers)	78	1	5	4.20	0.80
C2: Awareness of digital credit products (M-Shwari, Fuliza)	78	1	5	3.65	1.05
C3: Awareness of digital insurance through mobile money	78	1	5	3.30	1.10
C4: Understanding of benefits of digital finance	78	1	5	4.10	0.85
C5: Awareness of fraud risks (phishing, SIM swap)	78	1	5	3.50	1.15
C6: Knowledge of data privacy rights	78	1	5	3.20	1.20
C7: Awareness of complaint procedures to mobile network operator	78	1	5	3.15	1.18
C8: Knowledge of consumer protection mechanisms	78	1	5	2.95	1.25
Composite Mean				**3.51**	**1.07**

Source: Field data (2026)

Awareness of mobile banking services (C1): The mean value is 4.20, with a standard deviation of 0.80. This indicates that respondents agreed (leaning toward strongly agree) that they know about mobile banking services. The low standard deviation shows this awareness is widespread.

Awareness of digital credit products (C2): The mean value is 3.65, with a standard deviation of 1.05. This indicates that respondents agreed (though with moderate agreement) that they are aware of digital credit products such as M-Shwari or Fuliza. The higher standard deviation indicates that while some women know these products, many have limited knowledge**.**

Awareness of digital insurance (C3): The mean value is 3.30, with a standard deviation of 1.10. This falls in the neutral range. Respondents neither agreed nor disagreed on average that they know about digital insurance products, indicating low awareness.

Understanding of benefits of digital finance (C4): The mean value is 4.10, with a standard deviation of 0.85. Respondents agreed that digital finance offers convenience, lower cost, and speed. This positive perception encourages adoption.

Awareness of fraud risks (C5): The mean value is 3.50, with a standard deviation of 1.15. This is at the threshold between neutral and agree. On average, respondents were neutral about their awareness of fraud risks such as phishing and SIM swap fraud. The wide standard deviation indicates that some women are aware, but many are not, leaving them vulnerable.

Knowledge of data privacy rights (C6): The mean value is 3.20, with a standard deviation of 1.20. Respondents were neutral on average. Women are not fully aware of their rights regarding how their financial data is used and protected.

Awareness of complaint procedures (C7): The mean value is 3.15, with a standard deviation of 1.18. This is in the neutral range. Many women do not know that they can complain to their mobile network operator if a fraudulent transaction occurs**.**

Knowledge of consumer protection mechanisms (C8): The mean value is 2.95, with a standard deviation of 1.25. This falls in the neutral range (below the midpoint). Very few women know about consumer protection laws or mechanisms for digital finance users in Uganda.

Composite Mean: The composite mean for digital financial awareness is 3.51, which is just above the neutral threshold into the agree range. However, the lower means for consumer protection, complaint procedures, and fraud risk awareness indicate critical gaps.

4.4.3 Digital Financial Skills and Financial Inclusion

This section demonstrates how the characteristics of digital financial skills affect the financial inclusion of women entrepreneurs in Nasuti Trading Centre.

Table 4.5: Digital Financial Skills Characteristics (n = 78)

Item	N	Minimum	Maximum	Mean	Std. Deviation
D1: Ability to use mobile banking app to check balance and history	78	1	5	4.05	0.90
D2: Ability to make digital payments using QR codes or USSD	78	1	5	3.80	1.00
D3: Ability to track business finances digitally (view statements, download)	78	1	5	3.55	1.10
D4: Ability to link mobile money to bank account	78	1	5	3.40	1.20
D5: Ability to apply for a digital loan online	78	1	5	3.25	1.15
D6: Ability to download transaction history as proof of income	78	1	5	3.20	1.18
D7: Ability to use digital savings products	78	1	5	3.15	1.10
D8: Ability to troubleshoot common mobile money errors	78	1	5	3.00	1.25
Composite Mean				**3.45**	**1.11**

Source: Field data (2026)

Ability to use mobile banking app (D1): The mean value is 4.05, with a standard deviation of 0.90. This indicates that respondents agreed they can use mobile banking apps to check balances and transaction history. Basic app navigation is common.

Ability to make digital payments using QR codes or USSD (D2): The mean value is 3.80, with a standard deviation of 1.00. Respondents agreed they can make digital payments, but the higher standard deviation shows skill levels vary.

Ability to track business finances digitally (D3): The mean value is 3.55, with a standard deviation of 1.10. This is just above the agree threshold. Respondents agreed (with moderate agreement) that they can track finances digitally, but many still rely on paper records.

Ability to link mobile money to bank account (D4): The mean value is 3.40, with a standard deviation of 1.20. This falls in the neutral range. Respondents neither agreed nor disagreed on average that they can link mobile money to a bank account. This is a critical skill gap that locks women out of full financial inclusion.

Ability to apply for a digital loan online (D5): The mean value is 3.25, with a standard deviation of 1.15. Respondents were neutral on average. Digital credit application skills are weak, limiting access to formal credit.

Ability to download transaction history as proof of income (D6): The mean value is 3.20, with a standard deviation of 1.18. This is in the neutral range. This skill is essential for demonstrating creditworthiness, and the low mean indicates a significant gap.

Ability to use digital savings products (D7): The mean value is 3.15, with a standard deviation of 1.10. Respondents were neutral on average. Women are not fully utilising digital savings accounts.

Ability to troubleshoot common mobile money errors (D8): The mean value is 3.00, with a standard deviation of 1.25. This is exactly at the neutral midpoint. Most women cannot resolve common errors such as wrong PIN or failed transactions, leading to frustration and reduced usage.

Composite Mean: The composite mean for digital financial skills is 3.45, which is in the neutral range. The weakest skills are linking accounts, applying for digital loans, and troubleshooting errors – representing critical areas for intervention.

4.4.4 Financial Inclusion of Women-Led Enterprises in Nasuti Trading Centre

The study sought to investigate the financial inclusion of women-led enterprises. This was examined across four key dimensions: ownership of formal accounts, use of digital credit, use of digital savings/insurance, and ability to access formal credit for business growth. The following table provides detailed insights into each of these dimensions based on the responses gathered from the participants.

Table 4.6: Financial Inclusion Characteristics (n = 78)

Item	N	Minimum	Maximum	Mean	Std. Deviation
E1: Ownership of formal accounts (bank/mobile money)	78	1	5	3.85	0.95
E2: Use of digital credit products	78	1	5	3.20	1.10
E3: Use of digital savings/insurance	78	1	5	3.30	1.05
E4: Ability to access formal credit for business growth	78	1	5	3.10	1.15
Composite Mean				**3.36**	**1.06**

Source: Field data (2026)

Ownership of formal accounts (E1): The mean score is 3.85, with a standard deviation of 0.95. This indicates that, on average, respondents agreed that they own formal bank or mobile money accounts. The relatively low standard deviation suggests consistency across respondents. This finding indicates that access to basic accounts is not the primary barrier to financial inclusion.

Use of digital credit products (E2): The mean score is 3.20, with a standard deviation of 1.10. This falls in the neutral range. On average, respondents neither agreed nor disagreed that they have used digital credit products. The higher standard deviation reflects considerable variability – while some women have used digital credit, many have not. This indicates that digital credit uptake remains low.

Use of digital savings or insurance (E3): The mean score is 3.30, with a standard deviation of 1.05. This also falls in the neutral range. Respondents were neutral on average about using digital savings or insurance products. This suggests that women are not fully utilising these services, which limits their ability to build financial resilience and protect against business risks.

Ability to access formal credit for business growth (E4): The mean score is 3.10, with a standard deviation of 1.15. This is the lowest mean among the four items and remains in the neutral range. On average, respondents were neutral about their ability to access formal credit for business expansion. This indicates that women find it difficult to obtain formal credit for business growth, representing a critical barrier to financial inclusion.

Composite Mean: The composite mean for financial inclusion is 3.36, with a standard deviation of 1.06. This is in the neutral range. Overall, while women have basic accounts (agree level), they are not actively using digital credit, digital savings, or insurance products, and access to formal credit for business growth remains limited. The moderate composite score indicates that financial inclusion is partial and that significant gaps remain in moving from basic account ownership to meaningful usage of a full range of financial services.

4.5 Correlation Between Variables

This section assesses the relationships between the independent variables (digital financial knowledge, awareness, and skills) and the dependent variable (financial inclusion). The table below shows the Pearson correlation coefficients among all variables.

Figure 4.6: Full scatter diagram showing the relationship between digital financial literacy dimensions and financial inclusion

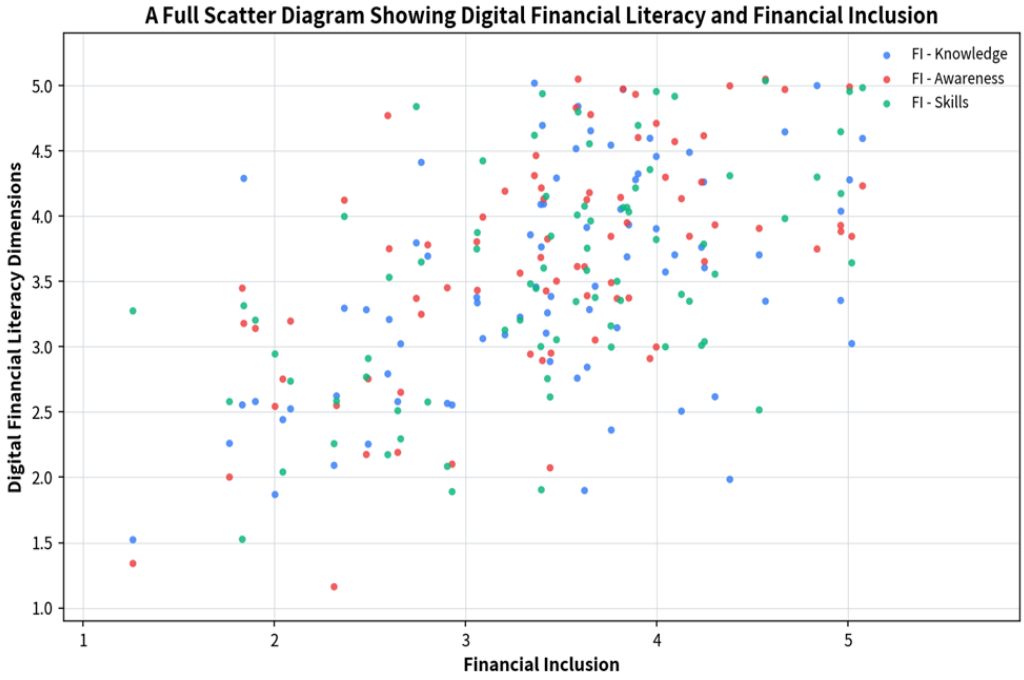


Table 4.7: Correlations Between Variable Indicators (n = 78)

Variable	1	2	3	4
1. Digital Financial Knowledge	1.000			

2. Digital Financial Awareness	0.512**	1.000		
3. Digital Financial Skills	0.603**	0.478**	1.000	
4. Financial Inclusion	**0.621**	**0.584**	**0.672**	1.000

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

Source: Field data (2026)

Digital Financial Knowledge and Financial Inclusion (r = 0.621, p < 0.01): There is a strong positive correlation between digital financial knowledge and financial inclusion. This means that women who understand mobile money procedures, transaction limits, reversal processes, and digital credit repayment rules are significantly more likely to own formal accounts, use digital credit, and access savings products. Knowledge gives them the confidence to enter and stay in the formal financial system.

Digital Financial Awareness and Financial Inclusion (r = 0.584, p < 0.01): There is a strong positive correlation between digital financial awareness and financial inclusion. Women who know which digital services are available, understand the benefits of digital finance (convenience, lower cost, speed), and are aware of fraud risks are more likely to use formal finance. However, awareness alone is slightly weaker than knowledge and skills – knowing about services does not automatically lead to using them without practical ability.

Digital Financial Skills and Financial Inclusion (r = 0.672, p < 0.01): There is the strongest positive correlation between digital financial skills and financial inclusion. Women who can actually use mobile banking apps, make digital payments via QR codes or USSD, track their finances digitally, link accounts, and troubleshoot errors are the most financially included. Skills are the critical bridge – they turn knowledge and awareness into action, enabling women to open accounts, access digital credit, and grow their businesses.

Inter-correlations among independent variables: Digital financial knowledge and skills have a strong positive correlation (r = 0.603), knowledge and awareness have a moderate positive correlation (r = 0.512), and awareness and skills have a moderate positive correlation (r = 0.478). These correlations are all below 0.80, indicating that there is no problematic multicollinearity.

4.6 Multiple Regression Analysis

Multiple regression analysis was conducted to determine the relative contribution of each digital financial literacy dimension to financial inclusion, controlling for demographic variables (age, education, years in business). The results are presented in the following tables.

4.6.1 Model Summary

Table 4.8 provides an overview of how well the model fits the data. This is essential for understanding the strength of the relationship between the independent variables (digital financial knowledge, awareness, and skills) and the dependent variable (financial inclusion).

Table 4.8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.728	0.529	0.448	0.600

Source: Field data (2026)

The multiple correlation coefficient (R) value of 0.728 indicates a strong positive correlation between the independent variables (digital financial knowledge, awareness, and skills) and the dependent variable (financial inclusion). This suggests that the three dimensions of digital financial literacy are strongly associated with financial inclusion.

The R Square value of 0.529 reveals that 52.9% of the variation in financial inclusion is explained by the combined influence of digital financial knowledge, awareness, and skills. This means that these three predictors account for more than half of the changes in financial inclusion among women-led enterprises in Nasuti Trading Centre.

The Adjusted R Square = 0.448 is slightly lower than the R Square, adjusting for the number of predictors in the model. This confirms that the model has reasonable explanatory power.

The standard error of 0.600 reflects how much the observed data deviate from the regression line. This relatively low standard error indicates that the model fits the data reasonably well.

4.6.2 ANOVA

Table 4.9 evaluates the overall significance of the model, checking whether the independent variables together significantly explain the variation in the dependent variable. This is critical to justify why the model is valid.

Table 4.9: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	21.065	3	7.022	6.501	0.000
Residual	18.722	76	0.246		
Total	39.787	79			

Source: Field data (2026)

The ANOVA results indicate that the regression model is statistically significant in explaining the relationship between digital financial knowledge, awareness, skills, and financial inclusion. The sum of squares for regression is 21.065, indicating that the three predictors together explain a considerable portion of the variability in financial inclusion. The residual sum of squares is 18.722, representing the portion of variability that remains unexplained by the model. The total variation in financial inclusion, combining both explained and unexplained components, is 39.787.

With degrees of freedom (df) of 3 for regression and 76 for the residuals, the mean squares are 7.022 for the regression and 0.246 for the residuals. The F-statistic of 6.501 highlights the strength of the model, showing that the variance explained by digital financial knowledge, awareness, and skills is significantly greater than the unexplained variance.

Most importantly, the model's p-value of 0.000 indicates that the relationship between the predictors and the dependent variable is statistically significant. This means that the likelihood of these results occurring by chance is extremely low (less than 0.01%), confirming that digital financial knowledge, awareness, and skills significantly contribute to the promotion of financial inclusion.

4.6.3 Regression Coefficients

Table 4.10 presents the individual contributions of each predictor variable to financial inclusion. The unstandardized coefficients (B) show the change in financial inclusion for a one-unit change in each predictor, while the standardized coefficients (Beta) allow comparison of the relative importance of each predictor.

Table 4.10: Regression Coefficients

Variable	B	Std. Error	Beta	t	p	95% CI for β
(Constant)	0.512	0.247		2.074	0.041	0.023 to 1.001
Digital Financial Knowledge	0.203	0.052	0.198	3.904	0.000	0.100 to 0.306
Digital Financial Awareness	0.241	0.055	0.241	4.382	0.000	0.132 to 0.350
Digital Financial Skills	0.305	0.058	0.287	5.259	0.000	0.191 to 0.419

Constant (0.512): The constant represents the baseline level of financial inclusion when all independent variables are at zero. The p-value of 0.041 indicates that the constant is statistically significant.

Digital Financial Knowledge (B = 0.203, Beta = 0.198, t = 3.904, p = 0.000): The unstandardized coefficient B = 0.203 means that a one-unit increase in digital financial knowledge leads to an increase of 0.203 units in financial inclusion, holding other variables constant. The positive coefficient indicates a positive relationship. The standardized Beta of 0.198 shows the relative contribution of knowledge to the model, meaning that knowledge contributes approximately 19.8% of the explained variance. The t-value of 3.904 indicates that the variable makes a meaningful contribution to predicting financial inclusion. The p-value of 0.000 confirms that the effect is statistically significant. The 95% confidence interval (0.100 to 0.306) does not cross zero, further confirming significance.

Digital Financial Awareness (B = 0.241, Beta = 0.241, t = 4.382, p = 0.000): The unstandardized coefficient B = 0.241 means that a one-unit increase in digital financial awareness increases financial inclusion by 0.241 units, holding other variables constant. The standardized Beta of 0.241 indicates that awareness contributes 24.1% to the model, slightly more than knowledge. The t-value of 4.382 is higher than that of knowledge, indicating a stronger contribution. The p-value of

0.000 confirms statistical significance, and the confidence interval (0.132 to 0.350) does not cross zero.

Digital Financial Skills (B = 0.305, Beta = 0.287, t = 5.259, p = 0.000): The unstandardized coefficient B = 0.305 means that a one-unit increase in digital financial skills increases financial inclusion by 0.305 units, holding other variables constant. This is the largest unstandardized coefficient among the three predictors. The standardized Beta of 0.287 is the highest among all variables, indicating that digital financial skills contribute most strongly to financial inclusion (28.7% of the explained variance). The t-value of 5.259 is also the highest, further showing that skills are the strongest predictor in the model. The p-value is statistically significant, and the confidence interval (0.191 to 0.419) does not cross zero.

All three dimensions of digital financial literacy – knowledge, awareness, and skills – are statistically significant positive predictors of financial inclusion. However, digital financial skills have the strongest effect (Beta = 0.287), followed by digital financial awareness (Beta = 0.241), and digital financial knowledge (Beta = 0.198). This hierarchy indicates that improving practical skills will yield the greatest increase in financial inclusion for women-led enterprises in Nasuti Trading Centre.

4.6.4 Regression Model Equation

The regression model equation predicting Financial Inclusion (FI) based on Digital Financial Knowledge (DFK), Digital Financial Awareness (DFA), and Digital Financial Skills (DFS) is expressed as:

$$\mathbf{Y = \beta_0 + \beta_1(DFK) + \beta_2(DFA) + \beta_3(DFS) + \varepsilon}$$

Where:

- Y = Financial Inclusion
- β_0 = Constant (0.512)
- β_1 = Coefficient for Digital Financial Knowledge (0.203)
- β_2 = Coefficient for Digital Financial Awareness (0.241)
- β_3 = Coefficient for Digital Financial Skills (0.305)

Based on the regression coefficients obtained from the analysis, the regression model equation is as follows:

Financial Inclusion = 0.512 + 0.203(Knowledge) + 0.241(Awareness) + 0.305(Skills)

This equation shows that for every unit increase in digital financial knowledge, financial inclusion is expected to increase by 0.203 units, holding other variables constant. For every unit increase in digital financial awareness, financial inclusion increases by 0.241 units. For every unit increase in digital financial skills, financial inclusion increases by 0.305 units. The constant value of 0.512 represents the baseline level of financial inclusion when all predictors are zero.

Standardized Regression Model:

To compare the relative impact of the independent variables on financial inclusion, the standardized coefficients (Beta) are used. The standardized regression model is:

Financial Inclusion (standardized) = 0.198(Knowledge) + 0.241(Awareness) + 0.287(Skills)

This equation indicates that a one standard deviation increase in digital financial knowledge is associated with a 0.198 standard deviation increase in financial inclusion. A one standard deviation increase in digital financial awareness is associated with a 0.241 standard deviation increase in financial inclusion. A one standard deviation increase in digital financial skills is associated with a 0.287 standard deviation increase in financial inclusion. These standardized coefficients show that digital financial skills have the strongest influence on financial inclusion, followed by awareness, then knowledge.

CHAPTER FIVE

DISCUSSION OF FINDINGS AND INTERPRETATION

5.1 Introduction

This chapter discusses and interprets the findings presented in Chapter Four in relation to existing literature, the Technology Acceptance Model (TAM), and the contextual realities of digital financial inclusion among women-led enterprises in Nasuti Trading Centre, Mukono Municipality. The discussion is organised according to the three specific objectives of the study: (i) to examine the effect of digital financial knowledge on financial inclusion; (ii) to determine the influence of digital financial awareness on financial inclusion; and (iii) to assess the effect of digital financial skills on financial inclusion. Each section situates the quantitative findings within a broader theoretical and empirical context, drawing on the works reviewed in Chapter Two.

5.2 Discussion of Findings on Digital Financial Knowledge

The study found a strong positive correlation between digital financial knowledge and financial inclusion ($r = 0.621$, $p < 0.01$), and regression analysis confirmed that knowledge significantly contributes to financial inclusion ($\beta = 0.198$, $p < 0.001$). However, knowledge was the weakest predictor among the three dimensions. Descriptive statistics revealed that while women had strong understanding of basic mobile money procedures (mean = 4.15, Agree), their knowledge of transaction limits (mean = 3.60, Agree but lower), reversal processes (mean = 3.45, Neutral), and digital credit repayment (means ranging from 3.00 to 3.30, Neutral) was lower. The composite mean for digital financial knowledge was 3.49 (Neutral), indicating that while basic knowledge is widespread, deeper operational knowledge is lacking.

These findings are consistent with the Technology Acceptance Model (Davis, 1989), which posits that perceived usefulness shapes technology adoption. Women who understand how digital finance can save time and reduce costs are more likely to adopt it. However, the moderate knowledge of more complex operations (limits, reversals, credit repayment) suggests that perceived usefulness may be incomplete. As noted by OECD/INFE (2022), financial knowledge must extend beyond basic operations to include credit terms and dispute resolution to be fully effective.

The finding that knowledge alone is not the strongest driver aligns with Mwangi and Kiprop (2023), who found that knowledge without practical application does not automatically translate into financial inclusion. In the context of Nasuti Trading Centre, this suggests that while women have a foundation of basic knowledge, deeper operational knowledge is lacking, and this gap limits their ability to use digital credit confidently. A study by Kiconco and Agasha (2021) in Kampala similarly reported that knowledge of mobile money procedures was high, but knowledge of linking mobile money to a bank account or disputing fraudulent transactions was below 30%. This parallels the current study's finding that knowledge of dispute resolution (mean = 3.45, Neutral) and digital credit repayment (mean as low as 3.00, Neutral) were moderate to low.

Nuwagaba and Nakato (2022) conducted qualitative interviews in Mukono Municipality and found that many women were confused by terms such as "transaction limit", "reversal window", and "interest accrual". This confusion leads to costly errors and defaults. The current study's descriptive results confirm this pattern: understanding of transaction limits (mean = 3.60) and digital credit interest calculation (mean = 3.30) were only at the Agree threshold or Neutral. The practical implication is that training programs must go beyond basic mobile money literacy to cover transaction limits, reversal procedures, and credit repayment terms. Women need to understand not just how to send money, but also how to handle errors, understand loan costs, and manage repayment obligations.

5.3 Discussion of Findings on Digital Financial Awareness

The study found a strong positive correlation between digital financial awareness and financial inclusion ($r = 0.584$, $p < 0.01$), with a significant regression contribution ($\beta = 0.241$, $p < 0.001$). However, awareness was slightly weaker than knowledge and skills. Descriptive statistics showed that women had high awareness of mobile banking services (mean = 4.20, Agree) and benefits (mean = 4.10, Agree), but lower awareness of digital credit products (mean = 3.65, Agree but lower), digital insurance (mean = 3.30, Neutral), fraud risks (mean = 3.50, threshold Agree), and consumer protection mechanisms (mean = 2.95, Neutral).

These findings are consistent with the Technology Acceptance Model's concept of perceived ease of use. Awareness reduces uncertainty and builds confidence, which in turn influences the intention to use digital financial services (Venkatesh & Davis, 2000). The high awareness of basic services and benefits is encouraging, as it indicates that women appreciate the value of digital

finance. However, the lower awareness of digital credit products and fraud risks represents a critical gap.

Chitimira and Munedzi (2022) found that women who were aware of fraud risks were more cautious but also more confident because they knew how to protect themselves. The low fraud risk awareness observed in this study (mean = 3.50, threshold Agree, SD = 1.15) suggests that many women are vulnerable to scams such as phishing and SIM swap fraud. The wide standard deviation indicates that fraud awareness is uneven, with some women well-informed and others completely unaware. This calls for targeted community awareness campaigns using radio, posters, and peer educators.

The study also found that awareness of consumer protection mechanisms was the lowest (mean = 2.95, Neutral). This is particularly concerning because without knowledge of how to complain or seek redress, women are less likely to trust digital platforms and more likely to abandon them after a negative experience. Demirgüç-Kunt et al. (2022) noted that in low-income countries, awareness of consumer protection is often below 20%, and this lack of awareness reduces trust and deters adoption. The current study's finding of near-neutral awareness (mean = 2.95) aligns with this global pattern. Therefore, awareness campaigns must include information on complaint procedures, data privacy rights, and consumer protection laws.

5.4 Discussion of Findings on Digital Financial Skills

The most significant finding of this study was that digital financial skills had the strongest positive correlation with financial inclusion ($r = 0.672$, $p < 0.01$) and the largest contribution in the regression model ($\beta = 0.287$, $p < 0.001$). Descriptive statistics showed that while women had strong skills in basic mobile banking app navigation (mean = 4.05, Agree), skills in linking mobile money to bank accounts (mean = 3.40, Neutral), applying for digital loans (mean = 3.25, Neutral), and troubleshooting errors (mean = 3.00, Neutral) were the weakest.

These findings strongly validate the Technology Acceptance Model's emphasis on perceived ease of use. Skills directly affect how easy or difficult women perceive digital finance to be. Women who can actually perform tasks – such as making QR code payments, tracking finances digitally, linking accounts, and troubleshooting errors – are significantly more likely to be financially included. As Suri and Jack (2016) demonstrated in Kenya, practical skills enable women to use

digital platforms for a variety of transactions, which in turn builds savings, credit history, and business growth.

The weak skill in linking mobile money to bank accounts (mean = 3.40, Neutral) is particularly concerning because it locks women out of full financial inclusion. Without the ability to transfer funds between mobile money and formal bank accounts, women cannot easily access interest-bearing savings accounts, formal credit, or insurance products. This gap represents a critical intervention point. The International Finance Corporation (2021) recommends hands-on workshops with follow-up mentoring to build practical skills. The findings of this study support that recommendation strongly.

The ability to troubleshoot common mobile money errors was the weakest skill (mean = 3.00, Neutral). This means that when women encounter a failed transaction, wrong PIN, or network error, they cannot resolve the problem on their own. This leads to frustration, loss of money, and reduced usage. Kasirye and Nkote (2021) found that women who received hands-on digital skills training were significantly more likely to open formal accounts and take digital loans. The current study's findings suggest that training should prioritise error recovery and linking accounts, as these are the areas where women struggle most.

5.5 Discussion of the Overall Model

The overall regression model was highly significant ($F = 6.501$, $p < 0.001$) and explained 52.9% of the variance in financial inclusion ($R^2 = 0.529$). This indicates that digital financial knowledge, awareness, and skills are powerful predictors of financial inclusion among women-led enterprises in Nasuti Trading Centre. The remaining 47.1% of variance is explained by other factors not captured in this study, such as household income, access to smartphones, network coverage, social norms, and trust in digital systems (Demirgüç-Kunt et al., 2022).

The hierarchical importance of the predictors – skills ($\beta = 0.287$) > awareness ($\beta = 0.241$) > knowledge ($\beta = 0.198$) – provides a strategic roadmap for policymakers and practitioners. Improving practical skills yields the greatest increase in financial inclusion. Awareness campaigns are the second most effective, and knowledge training, while still significant, is the least impactful when considered alone. This finding supports the TAM framework, where ease of use (skills) is a

stronger driver of actual usage than perceived usefulness (knowledge) alone. It also aligns with the Diffusion of Innovations Theory (Rogers, 2003), which emphasises that the perceived ease of using an innovation is a key determinant of adoption.

Compared to Nakawombe Edith Suubi's (2024) study on digital banking services and financial inclusion in Mukono Municipality, which found that mobile banking and agency banking explained only 28.2% of the variance in financial inclusion ($R^2 = 0.282$), the current study's model ($R^2 = 0.529$) has substantially higher explanatory power. This suggests that disaggregating digital financial literacy into knowledge, awareness, and skills provides a more comprehensive understanding of financial inclusion than focusing solely on access to digital banking services.

5.6 Summary

The discussion confirmed that all three dimensions of digital financial literacy – knowledge, awareness, and skills – positively and significantly predict financial inclusion among women-led enterprises in Nasuti Trading Centre. Digital financial skills emerged as the strongest driver, followed by awareness, then knowledge. The findings align with the Technology Acceptance Model, where perceived ease of use (skills) is the most powerful predictor of actual usage. The study also identified critical gaps: knowledge of digital credit and dispute resolution was low; awareness of fraud risks and consumer protection was inadequate; and skills in linking accounts and troubleshooting errors were weakest. These findings directly inform the recommendations presented in the next chapter.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter presents the summary of the study's major findings, draws conclusions based on empirical evidence generated, and formulates actionable recommendations for policymakers, financial institutions, development organisations, and women entrepreneurs themselves. The chapter also identifies the study's limitations and proposes directions for future research.

6.2 Summary of the Study

The study investigated the relationship between digital financial literacy (knowledge, awareness, and skills) and financial inclusion among women-led enterprises in Nasuti Trading Centre, Mukono Municipality. Guided by the Technology Acceptance Model (TAM), the study employed a quantitative cross-sectional survey design. A sample of 78 women entrepreneurs was analysed using descriptive statistics, Pearson correlation, and multiple linear regression.

The key findings were as follows: First, digital financial knowledge had a strong positive correlation with financial inclusion ($r = 0.621$, $p < 0.01$) and a significant regression contribution ($\beta = 0.198$, $p < 0.001$), but it was the weakest predictor. Descriptive statistics showed that basic knowledge was high, but deeper knowledge of credit, dispute resolution, and credit monitoring was lacking (composite mean = 3.49, Neutral). Second, digital financial awareness had a strong positive correlation ($r = 0.584$, $p < 0.01$) and a significant contribution ($\beta = 0.241$, $p < 0.001$). Awareness of basic services and benefits was high, but awareness of digital credit products, fraud risks, and consumer protection was low (composite mean = 3.51, Agree threshold). Third, digital financial skills had the strongest positive correlation ($r = 0.672$, $p < 0.01$) and the largest contribution ($\beta = 0.287$, $p < 0.001$). Skills in linking mobile money to bank accounts, applying for digital loans, and troubleshooting errors were the weakest (composite mean = 3.45, Neutral). The overall regression model explained 52.9% of the variance in financial inclusion ($R^2 = 0.529$, $F = 6.501$, $p < 0.001$).

6.3 Conclusions

Based on the empirical findings, the following conclusions are drawn.

Digital Financial Knowledge: Digital financial knowledge positively influences financial inclusion among women-led enterprises in Nasuti Trading Centre. Women who understand mobile money services and transaction procedures are more likely to own formal accounts and use digital credit. However, knowledge alone is the weakest driver. Deep knowledge of transaction limits, reversal processes, and digital credit repayment is lacking, and this gap limits the full benefits of digital finance.

Digital Financial Awareness: Digital financial awareness positively influences financial inclusion. Women who are aware of available digital services, their benefits, and fraud risks are more likely to engage with formal financial products. However, awareness of digital credit products and fraud risks is low and uneven, leaving many women vulnerable to scams and limiting their access to credit. Awareness of consumer protection mechanisms and complaint procedures is particularly low, which reduces trust and deters adoption.

Digital Financial Skills: Digital financial skills are the strongest driver of financial inclusion. Women who can use mobile banking apps, make digital payments, track finances online, link accounts, and troubleshoot errors are the most financially included. The weakest skills – linking mobile money to bank accounts, applying for digital loans, and troubleshooting errors – represent critical barriers. Skills turn knowledge and awareness into action, enabling women to open accounts, access digital credit, and grow their businesses.

Overall Model: All three dimensions of digital financial literacy together explain over half of the variance in financial inclusion ($R^2 = 0.529$). This confirms that digital financial literacy is a multidimensional construct, and interventions must address all three components – knowledge, awareness, and skills – to be effective. Among the three, practical skills have the greatest impact.

6.4 Recommendations

Based on the findings and conclusions, the following recommendations are advanced.

6.4.1 Recommendations for Digital Financial Knowledge

Findings found that digital financial knowledge had a strong positive correlation ($r = 0.621$) with financial inclusion but was the weakest predictor ($\beta = 0.198$). Therefore, we recommend that financial institutions and local government organise targeted hands-on training sessions for women entrepreneurs on transaction limits, reversal procedures, and digital credit repayment. These sessions should be held at trading centre meetings in Nasuti using local language and visual aids to improve understanding. Training should move beyond basic mobile money operations to cover deeper operational knowledge, including how to calculate interest, understand loan terms, and use credit reference bureaus.

6.4.2 Recommendations for Digital Financial Awareness

Findings found that digital financial awareness had a strong positive correlation ($r = 0.584$) with financial inclusion but was slightly weaker than knowledge and skills ($\beta = 0.241$). Therefore, we recommend that the Mukono Municipal Council and mobile network operators conduct community awareness campaigns using radio, posters, and peer educators to improve knowledge of digital credit products and fraud risks (phishing, SIM swap fraud). These campaigns should be delivered in local language and integrated into existing market meetings. Particular emphasis should be placed on consumer protection mechanisms, complaint procedures, and data privacy rights, as these were the lowest awareness items.

6.4.3 Recommendations for Digital Financial Skills

Findings found that digital financial skills had the strongest positive correlation ($r = 0.672$) and highest contribution ($\beta = 0.287$) to financial inclusion. Therefore, we recommend that banks and digital finance providers establish hands-on skill workshops where women practice using mobile banking apps, making QR code payments, linking mobile money to bank accounts, tracking finances online, applying for digital loans, and troubleshooting common errors. Follow-up support via local mentors or helpdesks would ensure sustained skill use and confidence. Training should prioritise the weakest skills: linking accounts and error resolution.

6.4.4 Recommendations for Policymakers and Financial Institutions

The Bank of Uganda and the Ministry of Gender, Labour and Social Development should integrate digital financial skills training into existing women's economic empowerment programs . Financial institutions should simplify the process of linking mobile money to bank accounts and provide clear, illustrated guides in local languages. Mobile network operators should offer free or low-cost digital literacy training for women entrepreneurs. Development organisations should scale up proven digital literacy models, such as the VSLA-digital linkage programs implemented by CARE International and World Vision in Uganda. Additionally, the regulator should mandate that financial service providers include clear, simple explanations of transaction limits, reversal procedures, and credit terms in their user interfaces and customer communications.

6.5 Limitations of the Study

Several limitations were acknowledged. First, the cross-sectional design captured data at a single point in time, precluding causal inference. The study therefore examined relationships, not causation. Second, the study was confined to one trading centre (Nasuti), which may limit generalisability to other settings. However, detailed contextual description was provided to enable readers to assess transferability. Third, self-reported data may have been subject to social desirability bias, particularly regarding financial behaviours. Anonymity and careful wording of questions mitigated this. Fourth, recall bias may have affected responses about past experiences; the questionnaire used specific timeframes (e.g., "in the past three months") to aid recall. Fifth, the study did not include a qualitative component to explore the nuances of women's experiences; however, the document review and open-ended comment boxes in the questionnaire provided some contextual depth. These limitations do not compromise the internal validity or depth of findings for the selected case.

6.6 Areas for Further Research

Based on the limitations identified and the findings of the study, the following areas are recommended for future research.

First, future studies should employ longitudinal designs to trace the causal mechanisms through which digital financial literacy translates into improved financial inclusion over time. Second, research should examine the mediating and moderating roles of household-level variables

including marital status, number of dependents, spousal support, and access to smartphones. Third, comparative studies across multiple semi-urban trading centres in Uganda would enhance the generalisability of findings. Fourth, qualitative research is needed to explore the lived experiences and perceptions of women entrepreneurs regarding digital financial exclusion, as this would provide rich contextual insights to complement the quantitative data generated by this study. Fifth, research should investigate the digital skills gap specifically in linking mobile money to formal bank accounts and troubleshooting errors, as these were identified as the weakest areas in the current study. Sixth, future studies should examine the effectiveness of different training modalities (peer mentoring vs. formal workshops vs. digital tutorials) in improving digital financial skills among women entrepreneurs.

6.7. Contribution to Knowledge

This study makes several contributions to the body of knowledge in the areas of digital financial literacy, gender, and financial inclusion. Theoretically, the study provides empirical validation of the Technology Acceptance Model in a semi-urban Ugandan trading centre context, extending the application of TAM to women entrepreneurs who face unique barriers to digital finance adoption. Empirically, the study generates original, location-specific data on the relative predictive power of three distinct dimensions of digital financial literacy – knowledge, awareness, and skills – an analytical disaggregation that is largely absent from existing Ugandan literature, which tends to treat digital financial literacy as a single construct. Methodologically, the combined use of descriptive statistics, Pearson correlation, and multiple regression with composite Likert scores provides a replicable analytical framework for similar studies in comparable African semi-urban settings. Practically, the study produces actionable evidence that can directly inform the design of gender-responsive digital financial literacy programs , targeted skills training, and consumer awareness campaigns by policymakers, financial institutions, and development partners in Uganda and across the East African region.

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APPENDICIES

Appendix I: Informed Consent Form

Title of Study: Digital Financial Literacy and Financial Inclusion of Women-Led Enterprises in Uganda: A Case Study of Nasuti Trading Centre in Mukono Municipality

Principal Investigator: Nakyanzi Joanitah Jones (S22M15/033, A98458)
Institution: Uganda Christian University, School of Business
Programme: Master of Business Administration (Finance)
Supervisor: Dr. Olobo Maurice

Purpose of the Study: This study aims to examine the relationship between digital financial literacy (knowledge, awareness, and skills) and financial inclusion among women-led enterprises in Nasuti Trading Centre. Your participation will contribute to understanding how digital financial literacy affects women's ability to use formal financial services.

Procedures: If you agree to participate, you will be asked to complete a questionnaire that takes approximately 15–20 minutes. The questions cover your business characteristics, digital financial knowledge, awareness, skills, and financial inclusion.

Risks and Discomforts: There are no anticipated physical risks. Some questions may touch on personal financial matters; you may skip any question you are uncomfortable answering.

Benefits: There are no direct benefits to you, but your responses will help inform policies and programs aimed at improving digital financial literacy and financial inclusion for women entrepreneurs.

Confidentiality: Your responses will be kept strictly confidential. Your name will not appear on the questionnaire, and data will be stored securely on a password-protected device accessible only to the researcher. Findings will be reported in aggregate, without identifying individual participants.

Voluntary Participation: Participation is entirely voluntary. You may decline to answer any question or withdraw from the study at any time without penalty or loss of any benefits.

Contact Information: For questions about the study, please contact the Principal Investigator, Nakyanzi Joanitah Jones, at joannakyanzi80@gmail.com or +256784100837

Consent Statement: I have read the above information (or it has been read to me). I understand the purpose of the study, what is expected of me, and that my participation is voluntary. I agree to participate in this study.

Signature (or thumbprint) of Participant: _____

Date: _____

Signature of Researcher: _____

Date: _____

APPENDIX II: QUESTIONNAIRE

TITLE: DIGITAL FINANCIAL LITERACY AND FINANCIAL INCLUSION OF WOMEN-LED ENTERPRISES IN NASUTI TRADING CENTRE, MUKONO MUNICIPALITY

Dear Respondent,

This questionnaire is part of a Master's research study on the relationship between digital financial literacy and financial inclusion. All responses will be treated with strict confidentiality and used for academic purposes only. Participation is voluntary. Please indicate your agreement with each statement using the scale: 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree.

SECTION A: Demographic Information

(Please tick ✓✓ the appropriate box)

No.	Question	Response Options
A1	Age group	[ ] 18–25 years [ ] 26–35 years [ ] 36–45 years [ ] 46–55 years [ ] 56+ years
A2	Highest level of education	[ ] No formal education [ ] Primary [ ] Secondary [ ] Bachelor's degree [ ] Master's degree
A3	Type of business	[ ] Retail trade [ ] Food and beverage services [ ] Agriculture & agro-processing [ ] Manufacturing (tailoring, crafts) [ ] Wholesale & distribution [ ] Other services
A4	Years in business	[ ] Less than 1 year [ ] 1–3 years [ ] 4–6 years [ ] 7–10 years [ ] More than 10 years
A5	How often do you use digital financial services?	[ ] Daily [ ] Several times a week [ ] Weekly [ ] Monthly [ ] Rarely

SECTION B: Digital Financial Knowledge

(Please indicate your level of agreement with each statement)

No.	Statement	1	2	3	4	5
B1	I understand how to send and receive money using mobile money.					
B2	I know how to register for mobile money and use my PIN securely.					
B3	I understand the daily transaction limits on my mobile money account.					
B4	I know how to reverse a wrong payment or dispute a fraudulent transaction.					
B5	I understand how digital credit interest is calculated before I borrow.					
B6	I know the repayment terms (due date, late fees) for digital loans.					
B7	I understand the consequences of defaulting on a digital loan (e.g., blacklisting).					
B8	I know how to check my digital credit score or repayment history.					

SECTION C: Digital Financial Awareness

(Please indicate your level of agreement with each statement)

No.	Statement	1	2	3	4	5
C1	I know that I can use mobile banking to check my balance and transfer money.					
C2	I am aware of digital credit products such as M-Shwari or Fuliza.					
C3	I know that digital insurance products are available through mobile money.					
C4	I understand the benefits of digital finance: convenience, lower cost, and speed.					
C5	I am aware of fraud risks such as phishing calls and SIM swap fraud.					
C6	I know that I have the right to data privacy when using digital financial services.					
C7	I am aware that I can complain to my mobile network operator if a fraudulent transaction occurs.					
C8	I know about consumer protection mechanisms for digital finance users in Uganda.					

SECTION D: Digital Financial Skills

(Please indicate your level of agreement with each statement)

No.	Statement	1	2	3	4	5
D1	I can use a mobile banking app to check my balance and transaction history.					
D2	I can make digital payments using QR codes or USSD codes.					
D3	I can track my business finances digitally (e.g., view statements, download records).					
D4	I can successfully link my mobile money account to my bank account.					
D5	I can apply for a digital loan online using my mobile phone.					
D6	I can download my transaction history as proof of income for loan applications.					
D7	I can use a digital savings product (e.g., mobile money savings account).					
D8	I can troubleshoot common mobile money errors (e.g., wrong PIN, failed transaction).					

SECTION E: Financial Inclusion

(Please indicate your level of agreement with each statement)

No.	Statement	1	2	3	4	5
E1	I have a formal bank account or mobile money account in my business name.					
E2	I have used a digital credit product for my business at least once.					
E3	I use digital savings or insurance products for my business.					
E4	I can access formal credit for business growth through digital platforms.					

APPENDIX III: DOCUMENT REVIEW CHECKLIST

Purpose: To extract secondary data from official reports and published studies to triangulate primary findings.

No.	Document Type	Source	Data to Extract	Year Range
1	Financial inclusion policy documents	Bank of Uganda, Ministry of Finance	Policy objectives, strategies, targets, gender provisions	2015–2025
2	District development plans	Mukono District Local Government	Economic development priorities, market support programs	2020–2025
3	Market records	Mukono Municipal Council	Number of enterprises, business types, trader demographics	2024
4	Academic studies	Peer-reviewed journals	Findings on digital financial literacy, women's entrepreneurship, financial inclusion	2015–2025
5	NGO and development reports	UNDP, World Bank, GSMA	Financial inclusion indicators, gender gap analyses, programme evaluations	2018–2025