

DIGITAL FINANCIAL CAPABILITIES AND FINANCIAL INCLUSION AMONG WOMEN MICRO-ENTREPRENEURS IN JUBA'S INFORMAL ECONOMY

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ABSTRACT

In Juba, levels of financial inclusion among women micro-entrepreneurs remain considerably low, with fewer than 5% holding functional financial accounts, less than 3% regularly using mobile money services, approximately 1% accessing formal credit facilities, and overall active digital financial usage remaining below 2%. This study examined the effect of digital financial capabilities on the financial inclusion of women micro-entrepreneurs operating within Juba's informal economy. Specifically, the study evaluated the influence of basic digital capability, digital savings capability, digital credit capability, and advanced digital capability on financial inclusion among women-owned informal enterprises. The study was guided by the Diffusion of Innovations Theory, Life-Cycle Hypothesis, Credit Rationing Theory, Technology Acceptance Model, and Financial Intermediation Theory. An explanatory cross-sectional research design was utilized. The target population comprised approximately 900 women-owned informal enterprises operating across major market clusters within Juba City. Using Yamane's (1967) formula, a sample of 277 respondents was chosen through simple random sampling techniques. The findings revealed that basic digital financial capability had a positive and statistically significant effect on financial inclusion by strengthening women's ability to engage with digital financial services. Digital savings capability also recorded a

positive and significant effect, suggesting that women who utilized digital saving mechanisms demonstrated stronger participation in formal financial systems. The findings further established that digital credit capability positively influenced financial inclusion by improving women's interaction with formal lending channels through digital platforms. Advanced digital financial capability equally had a positive and statistically significant effect on financial inclusion, suggesting that use of digital bookkeeping systems, merchant payment platforms, and electronic payment services strengthened engagement with formal financial systems. The study concludes that digital financial capabilities remain important determinants of financial inclusion among women micro-entrepreneurs operating within Juba's informal economy. The study recommends strengthening community-based digital financial literacy initiatives, promoting flexible digital saving systems suited to informal incomes, simplifying digital lending processes through borrower guidance mechanisms, and supporting development of localized digital business management tools tailored to women-owned informal enterprises.

Key words: Advanced Digital Financial Capability, Basic Digital Financial Capability, Digital Credit Capability, Digital Savings Capability.

INTRODUCTION

Background of the Study

Digital financial capability is commonly understood through different levels of engagement with digital finance. GSMA (2023) identifies dimensions such as digital transactions, digital savings behaviour, digital credit usage, digital payment adoption, and use of advanced digital tools for business operations as important indicators of effective digital participation. AFI (2022) equally notes that capability-related barriers continue to constrain meaningful financial participation even within environments where digital financial infrastructure has expanded considerably. Within the current study, four dimensions were considered particularly relevant to women micro-entrepreneurs operating within informal economies: basic digital financial capability, digital savings capability, digital credit capability, and advanced digital financial capability. Together, these dimensions capture the practical competencies required for effective participation in digital financial systems among women engaged in small-scale enterprise activities.

Financial inclusion in South Sudan is relatively low in all five indicators, which are driven by low banking penetration and cash-based transactions, as well as the weak financial infrastructure. Current evidence shows that a small proportion of adults have formal or mobile money accounts in comparison to other neighboring countries like Kenya, Uganda and Rwanda, where levels are significantly higher (World Bank, 2021; IMF, 2023). The number of transactions is also low, because of the lack of confidence in digital financial systems, poor agent liquidity and network instability leading to many inactive accounts (GSMA, 2024; OECD, 2022). Access to formal financial products is very limited and the share of formal credit uptake stands at under 3%, which is one of the lowest in the region (World Bank, 2023; IMF, 2022).

The majority of Juba's micro-entrepreneurs are women and work in a context of poorly regulated markets, few licensing systems, and lack of institutional supervision. Due to the lack of efficient monitoring systems and lack of structured mechanisms for business registration, the informal sector in South Sudan is largely under-documented (International Labour Organization, 2023; Oxfam South Sudan, 2022). In those settings, cash transactions and informal business networks remain very important for the survival of many female business enterprises. This institutional gap creates an obstacle for women-owned businesses to gain access to formal financial institutions and to be included in formal and digital financial systems.

Statement of the Problem

Although micro-enterprises play a crucial role in women's livelihoods, women micro-entrepreneurs' financial inclusion in Juba is still very low. Current evidence shows that less than 5% have an operational financial account for enterprise activities and less than 3% make regular mobile money transactions, which is significantly lower compared to other countries in the region, like Kenya and Uganda (UN Women, 2022; GSMA, 2023). The rate of formal credit uptake among

women micro-traders is estimated to be around 1%, with most of them lacking collateral, lack of formality in the way they run their businesses and inadequate financial records (World Bank, 2023; FinScope South Sudan, 2021). Digital financial usage is also comparatively low, as many women do not have their own mobile phones, and are not very confident in using digital financial technology (AFI, 2022; GSMA, 2024). All these indicators suggest that there is a high level of financial exclusion of women entrepreneurs in the informal sector of Juba's economy.

Digital competence in research is often addressed at the narrow scale of indicators without including other aspects of behaviour, including saving confidence, managing repayments, making decisions using digital tools and record-keeping practices (Alvarez & Ortega, 2021; Mwenda & Oluoch, 2021; Okoro, 2022). Both methodologically, many studies still use the convenience sampling and descriptive outcomes without having the inferential analysis to meet the criteria of establishing the relationship between variables with statistically valid results (Dube, 2022; Lado & Malish, 2023). In the context, much of the current evidence comes from relatively stable and technologically advanced environment like Kenya, Malaysia and Brazil (Muthoni & Cheruiyot, 2021; Kim & Tan, 2021). The differences restrict the applicability and generalizability of the findings to conflict-affected informal economies like Juba. The gaps that were identified in the current study were addressed using probability sampling, and structured multi-item capability scales, as well as regression analysis, specifically for women micro-entrepreneurs in the informal economy sector within Juba.

General Objective

To examine the effect of digital financial capabilities on financial inclusion among women micro-entrepreneurs in Juba's informal economy

Specific Objectives

- i. To examine the effect of basic digital financial capability on financial inclusion among women micro-entrepreneurs in Juba's informal economy.
- ii. To determine the effect of digital savings capability on financial inclusion among women micro-entrepreneurs in Juba's informal economy.
- iii. To evaluate the effect of digital credit capability on financial inclusion among women micro-entrepreneurs in Juba's informal economy.
- iv. To ascertain the effect of advanced digital financial capability on financial inclusion among women micro-entrepreneurs in Juba's informal economy.

Hypotheses of the Study

- H₀₁** Basic digital financial capability has insignificant effect on financial inclusion among women micro-entrepreneurs in Juba's informal economy.
- H₀₂** Digital savings capability has insignificant effect on financial inclusion among women micro-entrepreneurs in Juba's informal economy.

- H₀₃** Digital credit capability has insignificant effect on financial inclusion among women micro-entrepreneurs in Juba's informal economy.
- H₀₄** Advanced digital financial capability has insignificant effect on financial inclusion among women micro-entrepreneurs in Juba's informal economy.

THEORETICAL REVIEW

Diffusion of Innovations Theory

The Diffusion of Innovations Theory was developed by Rogers (1962) which suggests that new technologies move through a social system based on the perception of relative advantage, compatibility, simplicity, trialability, and observability. These characteristics have a bearing on the acceptance of technology especially in contexts where digital literacy is low and users' trust and familiarity are more important than new and unfamiliar tools. For fragile economies, OECD (2022) and Nchake (2021) note that access to basic digital services, like transfers and balance inquiries, can be the first step on the ladder to more comprehensive digital engagement. The theory thus offers a useful starting point for comprehending the gradual build-up of confidence in digital financial systems.

In the context of the current study, the theory contributes to basic digital financial competence by providing an explanation about how women micro-entrepreneurs in Juba slowly build up digital financial capacities to make them part of digital finance systems. The theory makes sense because basic digital skills emerge as women go from being aware of digital to using the most rudimentary functions, like navigating menus, checking balances, and confirming transaction messages. These initial behaviours of adoption serve as the first doorstep that opens up to greater digital competencies gradually being introduced to women involved in the Juba informal economy, and thus to financial inclusion.

Life Cycle and Precautionary Savings Theory

Life Cycle and Precautionary Savings Theory, introduced by Modigliani and Brumberg (1954), explains that individuals save in order to manage future consumption and protect themselves against uncertainty. The theory suggests that when individuals save they are trying to manage or cope with income volatility and future shocks, especially those of the vulnerable population in an economically volatile environment. In fragile economies, saving is not just a long-term planning device, but also a short-term shock-absorber against sudden changes in the financial landscape, Deaton (2021) writes. The theory is thus helpful for explaining the saving behavior of women running micro-enterprises in the informal sector with uncertain markets.

The theory contributes to the current study by explaining how women micro-entrepreneurs use the digital platforms in order to create financial buffers, both in relation to life-cycle and precautionary purposes. Digital savings capability is thus defined as being able to make regular savings, access

digital savings tools, establish a savings goal, and check their balances via digital channels. These features enhance financial inclusion and make financial transactions more liquid, while also decreasing the need for women in the informal sector in Juba to rely on risky informal financial transactions.

Credit Rationing Theory

Credit Rationing Theory, introduced by Stiglitz and Weiss (1981), explains why lenders restrict credit even in situations where borrower demand remains high. The theory also suggests that the problems with information, monitoring, and borrower risk profiles frequently cause lenders to ration credit rather than merely raise the interest rate, as Jaffee (2020) also points out. The theory can also help understand why women owned businesses are often not part of formal credit markets in informal economies, even when there is a constant demand for credit.

Within the framework of this research, the theory facilitates in establishment of digital credit capability by articulating the need for practical skills among women micro-entrepreneurs for engaging with digital lending platforms. Digital credit capability is thus the capacity to obtain credit and understand its terms and conditions, to use digital platforms, and to handle credit obligations. These capabilities allow women to enter into financial alternatives that lie outside of the traditional rationed credit market, and enhance financial inclusion in this regard by increasing access to liquidity.

Technology Acceptance Model

Technology Acceptance Model, introduced by Davis (1989), explains technology adoption through two central perceptions: perceived usefulness and perceived ease of use. The model suggests that people are more likely to accept technologies that they perceive as useful and feasible in their lives, which is also consistent with Venkatesh (2021). The model is especially relevant when it comes to the adoption of advanced digital financial tools in informal business contexts, as it emphasizes on user perception and behavioural intention.

The model contributes to advanced digital financial capability in the present study by discerning the path by which women take to using more sophisticated digital tools, including digital payment for merchants, receipts, bookkeeping systems, and digital bill payments. The model proposes that if women think they can use and control these tools, they are more likely to incorporate them into their day-to-day business. The integration could lead to more efficient transactions, better data quality, and overall financial inclusion results for women micro-entrepreneurs in the informal sector of the economy in Juba.

Financial Intermediation Theory

This Theory, developed during the 1960s by Gurley and Shaw, provides a description of how financial intermediaries provide access to saving, credit and payment services, lower transaction costs and reduce information asymmetry. Levine (2019) and Beck (2020) stresses that

intermediaries help to make financial systems more efficient because they offer more structured and reliable financial products that facilitate the allocation of financial resources. The theory then serves as an important basis of understanding access and use of formal financial services by individuals.

Within the present study, the theory supports financial inclusion by explaining how women become progressively integrated into formal and digital financial systems as their digital financial capabilities improve. As women acquire skills necessary to use accounts, conduct transactions, access digital credit, and engage with multiple financial channels, they participate more effectively within the intermediation process. This participation strengthens financial inclusion through improved service usage, broader access to financial products, and greater reliability of financial interactions among women micro-entrepreneurs operating within Juba's informal economy

Empirical Review

Alvarez and Ortega (2021) examined how basic digital skills influenced financial inclusion among low-income women in Peru using a survey of 412 respondents and probit regression analysis to determine whether simple tasks such as balance checking and mobile transfers predicted account usage. The study found that basic digital capability increased participation in digital payments and improved the likelihood of operating an active account. The study had a limited definition of basic digital competence (conceptual gap). In methodological terms, financial inclusion was assessed based on a single indicator and, in context, the study was conducted in a relatively stable economy. In order to fill these gaps the present study focused on various indicators of basic digital capability, introduced a multidimensional measure for financial inclusion, and investigated the relationship between these two within fragile informal markets in Juba.

Dube (2022) examined the impact of mobile savings on financial access among Zimbabwean informal traders using structured questionnaires and ordinal regression analysis. The study found that mobile savings increased formal saving while reducing cash transactions. However, it did not examine savings goal-setting behaviour and relied on convenience sampling, creating conceptual and methodological gaps. Similarly, Dafala and Gitagia (2026) found that mobile banking adoption and digital credit platform usage significantly improved access to capital among youth-owned enterprises in Mombasa County, Kenya. However, the study focused on access to capital rather than digital savings behaviour and targeted youth-owned enterprises instead of women micro-entrepreneurs. These conceptual and contextual gaps justify the present study among women micro-enterprises in Juba, South Sudan.

Kilonzo and Mwangi (2021) examined the mobile loan usage of small traders using survey data of 239 mobile loan users among small traders in Nairobi. They observed that small-scale traders' familiarity with digital credit led to an increase in their frequency of formal borrowing. There was, however, a conceptual limitation in the study as it did not differentiate between digital credit and

digital competencies in general. The study also used one financial inclusion outcome and took place in a very developed digital market context. The current study overcame these limitations, by defining digital credit capability as a separate construct, by applying the multidimensional approach to financial inclusion and by focusing on financial behaviour in Juba where the use of digital credit systems is not yet fully developed.

Hoffman and Silva (2020) analysed digital payment sophistication among informal businesses in Brazil using cross-sectional data and probit regression analysis. Their findings showed that skills relating to digital invoicing and merchant payments strengthened engagement with formal financial systems. The study, however, excluded digital record management from measurement of advanced digital capability, thereby creating a conceptual limitation. Methodologically, the study placed considerable emphasis on self-reported outcomes, and contextually looked at a relatively stable economic climate with a greater digital infrastructure than that of South Sudan. The current study aimed to overcome these limitations by using a wider indicator of financial inclusion, the principles of digital record keeping, and the informal economy of Juba, which is more vulnerable.

RESEARCH METHODOLOGY

This study used positivist philosophy because it aimed to look at measurable relationships between women micro-entrepreneurs' digital financial capabilities and financial inclusion in Juba. His philosophy relates to the use of structured questionnaires, measurable variables, and statistical methods of testing hypotheses. In addition, positivism facilitates the production of objective, reliable, and applicable results in the context of other studies in the informal market in fragile-state environments (Kivunja, 2020).

A cross-sectional survey and explanatory research design, with the intent of ascertaining the direction and strength of the relationships among the study variables, was used in this study. The research's target population was women's informal enterprises in the main market clusters of Juba City (Konyo-Konyo, Custom, Jebel and Gudele). The existing assessments show that women are the dominant segment in petty trade and micro-enterprise activities in these markets (International Labour Organization, 2023; Oxfam South Sudan, 2022). A total business register does not exist, but from the available economic and gender-specific reports, it is estimated that there are around 900 women-owned informal businesses in Juba.

The empirical model was designed to determine how four dimensions of digital financial capability; basic digital capability, digital savings capability, digital credit capability, and advanced digital capability are expected to influence financial inclusion among women micro-entrepreneurs in Juba. The overall regression model was:

$$FI_i = \beta_0 + \beta_1 BDC_i + \beta_2 DSC_i + \beta_3 DCC_i + \beta_4 ADC_i + \varepsilon_i$$

Where:

$$\begin{aligned}
 FI_i &= \text{Financial inclusion of enterprise } i \\
 BDC_i &= \text{Basic Digital Capability} \\
 DSC_i &= \text{Digital Savings Capability} \\
 DCC_i &= \text{Digital Credit Capability} \\
 ADC_i &= \text{Advanced Digital Capability} \\
 \beta_0 &= \text{Constant} \\
 \beta_1, \beta_2, \beta_3, \beta_4 &= \text{Coefficients} \\
 \varepsilon_i &= \text{Error term}
 \end{aligned}$$

Descriptive Analysis

The descriptive statistics for the key variables of this main study are presented, these are basic digital financial capability, digital savings capability, digital credit capability, advanced digital financial capability, and financial inclusion amongst women micro-entrepreneurs in the informal economy in Juba.

Table 1 Descriptive Statistics

Variable	M	Md	Max	Min	SD	Skew	Kurt	n
BDC	3.88	3.90	5.00	2.20	0.71	-0.18	2.74	242
DSC	3.61	3.65	5.00	2.00	0.79	-0.11	2.68	242
DCC	3.34	3.30	5.00	1.80	0.86	0.09	2.59	242
ADC	3.12	3.10	5.00	1.60	0.91	0.16	2.54	242
FI	3.74	3.78	5.00	2.10	0.73	-0.14	2.71	242

Source: Research Data, 2026

Table 1 also reveals that basic digital financial capability had a mean score of 3.88 and median score of 3.90, which indicates that most of respondents generally agreed that they had the basic skills needed to make simple financial transactions using digital means. The range of values (5.00–2.20), and a relatively small variation (0.71), infer that there are variations in digital ability among respondents, but they appear to be relatively small. Slightly negative skewness (-0.18) indicates that more respondents had higher levels of basic digital capability, relative to the others. The kurtosis value (2.74) also suggests that the responses were fairly close to a normal distribution.

The mean and median of digital saving capability was 3.61, indicating moderate agreement among respondents on their capability to use digital saving platforms and tools. The minimum value is 2.00 and the maximum is 5.00, suggesting that some respondents faced challenges in their use of digital saving services, while others had relatively high levels of digital saving. The variation is 0.79, indicating moderate variation in the responses. The skewness value was -0.11, which indicated that there were more responses to the top end of the scale, and the kurtosis was 2.68, indicating the distribution was fairly stable and close to normal.

The mean score for digital credit capability was 3.34 and the median score was 3.30, showing moderate confidence and ability of the respondents to access and manage digital credit services. However, the relatively higher variation of 0.86 indicates higher changeability in digital credit experiences as compared to the previous variables. The variation may reflect the varying levels of digital literacy, loan awareness and access to mobile lending platforms of the respondents. The skewness value (0.09) shows that the distribution of responses is close to symmetrical, and the value of the kurtosis (2.59) indicates that the distribution of the responses is relatively normal.

This represents the lowest mean score of 3.12 and median of 3.10. This discovery indicates that the level of use of sophisticated financial technology products like digital bookkeeping, merchant payments and digital receipts was still relatively low for women micro-entrepreneurs from the informal sector in Juba. The standard deviation of 0.91 means there is relatively more variation in the responses, suggesting that the level of adoption of advanced digital tools varied significantly among respondents. Slightly more respondents reported lower levels of advanced digital capability with a slight positive skewness of 0.16. The responses were also found to be within acceptable range of distribution as the value of kurtosis was 2.54.

The mean score for financial inclusion was 3.74, with a median score of 3.78, which suggests an overall moderate level of access to and use of financial services. The variation value of 0.73 suggests a moderate level of consistency in the responses given. The small negative skewness of -0.14 suggests that a larger proportion of the respondents reported higher levels of financial inclusion, especially in terms of account use and transaction activity. The kurtosis value is 2.71 which is indicative of quite even and near normal distribution of the responses. Descriptive results indicate that women micro-entrepreneurs' overall financial capability and financial inclusion in Juba differed, with higher scores in basic digital than in advanced digital financial practices.

Normality Test Results

The Shapiro–Wilk test was conducted to check the normality in the residuals because it is widely recommended to be used in detecting deviations from normality in social science data (Razali & Wah, 2021). If the value of significance is more than 0.05, it means that the residuals are normally distributed.

Table 2 Shapiro–Wilk Test for Normality

Variable	Statistic	Sig.
Residuals	0.9914	0.1842

Source: Research Data, 2026

The findings in Table 2 indicate that the Shapiro–Wilk test produced a significance value greater than 0.05. This suggests that the residuals did not considerably deviate from a normal distribution. The results thus showed the normality assumption was met and hence the data was appropriate for regression estimation and hence for statistical inference.

Multicollinearity Test Results

Multi collinearity was checked by using the VIF which is a widely accepted measure of the extent of collinearity among explanatory variables. VIF values < 5 are not considered to be a problem of multicollinearity (Gujarati & Porter, 2021).

Table 3 Multicollinearity Test Results

Variable	VIF
Basic Digital Financial Capability	2.184
Digital Savings Capability	2.437
Digital Credit Capability	2.091
Advanced Digital Financial Capability	2.614

Research Data, 2026

Table 3 suggests that all the VIF values were below the recommended value of 5. This suggests the absence of substantive multicollinearity amongst the independent variables, confirming the individuality of each variable has a unique contribution in explaining variations in financial inclusion among women micro-entrepreneurs. The results revealed the absence of detrimental multicollinearity in the regression model.

Regression Analysis

Table 4 Regression Coefficients (Dependent Variable: Financial Inclusion)

Variable	Coefficient	Robust Std. Error	t-Statistic	Sig.
Constant	0.584	0.136	4.294	0.000
BDC	0.318	0.058	5.483	0.000
DSC	0.276	0.061	4.525	0.001
DCC	0.214	0.064	3.344	0.003
ADC	0.187	0.059	3.169	0.007

Source: Research Data, 2026

The coefficient estimates presented in Table 4 show that all dimensions of digital financial capability recorded favorable and statistically substantial coefficients. Basic digital financial capability produced the largest coefficient, followed by digital savings capability, digital credit capability, and advanced digital financial capability. The positive coefficients imply that improvements in the respective dimensions of digital financial capability were associated with increases in financial inclusion among women micro-entrepreneurs in Juba.

Regression Model

$$FI_i = 0.584 + 0.318BDC + 0.276DSC + 0.214DCC + 0.187ADC + \varepsilon$$

The estimated model indicates that changes in digital financial capabilities were positively associated with changes in financial inclusion among women micro-entrepreneurs operating within Juba's informal economy. Collectively, the findings suggest that improvements in digital financial capabilities were associated with higher levels of financial inclusion within the study area.

CONCLUSIONS AND RECOMMENDATION

Conclusions

In the context of this first objective, the positive and statistically significant impact of basic digital financial capacity confirms that basic digital skills have maintained a significant role in promoting financial inclusion across the informal sector. Women who are able to use mobile interfaces, and confirm transaction messages, balance, and perform basic digital transactions are more likely to engage with formal financial systems. The results indicate that, even low-level ICT skills have an impact on the ability of women micro-entrepreneurs to access and make use of financial services available.

The results for the second objective suggest that digital savings capacity positively impacts financial inclusion of women micro-entrepreneurs in informal economy in Juba. Women having access to digital saving platforms, keeping track of savings records, and conducting savings activities digitally exhibit greater interaction with formal financial systems. The study thus found that digital saving leads to more stable uptake of formal financial instruments and less reliance on informal cash saving.

The findings with regard to the third objective confirmed that digital credit capability positively and statistically significantly affected financial inclusion. Women who can apply for digital loans, know the terms and conditions of the loan and can manage the repayment process are more likely to avail formal financial services. The study thus finds that digital credit capability can foster financial participation by alleviating certain barriers that are often linked with traditional credit systems in informal economies.

Lastly, the positive impact of more advanced digital financial capability shows that deeper adoption of more advanced digital financial tools can boost financial inclusion for women micro-entrepreneurs in Juba. Women using digital bookkeeping tools, merchant payment services, digital receipts, and electronic financial transactions show increased formal financial channel use. The study thus concludes that advanced digital financial practices will increase financial participation, as they will enhance operational efficiency and increase interactions with digital financial systems.

Policy Implications and Recommendations of the Study

Regarding the first goal, the fact that basic digital financial competence has a substantial effect on financial inclusion justifies the inclusion of digital financial literacy in informal market support programs as a means to achieve the goal of financial inclusion, not as a separate training exercise. Government agencies, NGOs and financial institutions in South Sudan should be creating an informal trading zone-based digital learning centre with a simplified space for women to carry out simple digital financial transactions with ongoing hands-on support. Mobile network providers also need to rework the transaction interface so that it employs more natural language structures, visual cues and multiple languages appropriate to low-literacy settings. This would help to minimize technological intimidation and boost confidence in new users of digital finance.

As for the second goal, a positive effect of digital savings capability signals the need to re-think financial institutions and mobile money savers products that are based on the nature of irregular informal income. Instead of advertising the traditional savings schemes, providers are encouraged to offer highly flexible micro-saving schemes that enable women traders to save small amounts without incurring any penalties or thresholds. Organizers of digital saving groups for women entrepreneurs should be further supported by development agencies to formalize saving groups connected directly to secure mobile platforms. This would incrementally shift women traders from informal cash saving to safer and more traceable saving systems while maintaining the social systems they are familiar with through informal markets.

In regard to the third objective, the results of the digital credit capability show that the availability of digital lending services should go hand-in-hand with structured borrower guidance mechanisms instead of just relying on automated lending algorithms. Lenders and fintech companies in South Sudan should include digital-loan education nudges in mobile lending apps to better educate borrowers about their repayment requirements before they take out a loan. Regulators should also mandate easier formats for digital credit disclosures to enhance disclosure and the elimination of hidden borrowing fees. In addition to opening up access to credit, such measures would also enhance women micro-entrepreneurs' responsible use of digital credit in extremely precarious informal credit environments.

Lastly, the positive impact of improving digital financial competence reinforces the call for digital business management tools to be localized and made accessible for informal businesses and not formal businesses with a larger workforce. Mobile bookkeeping and transaction management applications should be developed specifically for small-scale women traders who are less familiar with the digital environment, with a focus on making tools easy to use, light, and accessible for their needs. Market-level digital ecosystems in which merchant payments and receipts, savings, and inventory records can communicate on a unified, low-cost platform should also be supported by public institutions supporting enterprise development. This would enhance financial visibility

within the WOE sector and pave the way towards better integration of WOE's with formal financial systems over the long-term.

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