

Designing and evaluating women-centred financial inclusion interventions in Zambia: A theory-to-methods policy framework

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<https://doi.org/10.51867/ajernet.7.1.105>

ABSTRACT

This policy paper synthesises evidence on how financial literacy, financial capability, and empowerment mechanisms shape women's financial inclusion in Zambia's informal market settings, with particular attention to the conditions under which digital financial services translate access into sustained usage. Grounded in the human capabilities approach and empowerment framework, and drawing further on the technology acceptance model and moderated mediation theory, the paper develops a theory-to-methods intervention logic that links capability building, empowerment strengthening, and ecosystem-enabling reforms. Using a systematic narrative synthesis approach, the article consolidates peer-reviewed and policy evidence on (i) capability constraints, (ii) gendered power relations, and (iii) digital access barriers that moderate inclusion outcomes. The paper concludes that women-centred inclusion requires bundled interventions: skills and consumer protection, reliable and affordable digital rails, and linkage models that connect savings groups to formal providers. Policy recommendations prioritise market-level diagnostics, targeted capability programmes, and scalable linkage designs aligned to Zambia's National Financial Inclusion Strategy. The study also contributes to the emerging literature on institutional and environmental factors moderating organisational and social outcomes in Sub-Saharan Africa.

Keywords: Digital Financial Inclusion, Empowerment, Financial Capability, Human Capabilities Approach, Informal Markets, Savings Groups, Women-Centred Interventions, Zambia

I. INTRODUCTION

Women traders in Zambia's informal markets constitute a critical segment of the national economy, contributing substantially to household welfare, local commerce, and community resilience. Yet, despite significant advances in mobile money infrastructure and financial sector policy, a large proportion of these women remain underserved by formal financial systems (Demirgüç-Kunt et al., 2022). The World Bank's Global Findex in 2022 revealed persistent gender gaps in account ownership, digital payment adoption, and formal savings and credit usage across Sub-Saharan Africa, with Zambia reflecting similar patterns. These gaps are not simply a matter of geographic access; they reflect deep structural barriers rooted in gendered social norms, asymmetric information, limited digital infrastructure, and institutional exclusions that formal financial systems have historically failed to address (Zins & Weill, 2016; Dabla-Norris et al., 2015).

The policy and academic discourse on financial inclusion has evolved considerably over the past two decades. Early interventions focused predominantly on expanding physical access to banking infrastructure and disseminating financial literacy training (Lusardi & Mitchell, 2014). However, a growing body of evidence indicates that knowledge-based interventions alone produce modest and often short-lived behavioural effects when they are not accompanied by structural changes in the financial ecosystem (Fernandes et al., 2014; Kaiser & Menkhoff, 2017). For women in informal market settings, this implementation gap is particularly acute. Financial literacy may improve knowledge scores, but where agency is constrained by social norms, intra-household bargaining dynamics, or prohibitive transaction costs, knowledge gains fail to convert into sustained account usage, digital payments, or access to savings and credit products (Kabeer, 1999; Grohmann et al., 2018).

In Zambia specifically, the regulatory and policy environment has increasingly acknowledged these complexities. The Bank of Zambia's National Financial Inclusion Strategy (NFIS) 2017–2022 and its successor, NFIS II 2024–2028, explicitly prioritise women's financial inclusion, digital rails improvement, and savings group linkage as strategic pillars (Bank of Zambia, 2017; 2024). Empirical evaluations of programmes such as the Adolescent Girls Empowerment Programme (AGEP) in Zambia have demonstrated that bundling financial education with mentorship, peer learning, and appropriate product access produces measurably stronger outcomes than training alone (Austrian et

al., 2020). Similarly, the 3ie-supported evaluation of savings group linkage in Zambia found positive effects on formal financial service uptake when group governance and consumer protection were strengthened (Frölich et al., 2020). Comparable lessons from Sub-Saharan Africa's broader development landscape - including the environmental moderating effects of institutional context on organisational performance (Ilukena et al., 2023) - underscore that enabling conditions matter as much as individual-level capability investments.

The context of digital financial services is equally important. Mobile money expansion has been associated with welfare and resilience gains in several low-income settings (Jack & Suri, 2016; Munyegera & Matsumoto, 2016), yet adoption and sustained usage remain uneven and are shaped by trust, cost, network reliability, and the availability of agents (Lashitew et al., 2019; Venkatesh et al., 2003). For women traders, high mobile data costs, limited interoperability, inadequate dispute resolution mechanisms, and exposure to fraud represent compounding constraints that reduce the effective utility of mobile money as a financial inclusion tool. These findings are consistent with broader evidence from emerging economies, where macroeconomic conditions and institutional infrastructure exert moderating effects on the translation of access into economic outcomes (Ndlovu & Haabazoka, 2024; Ng'andu & Haabazoka, 2024).

This paper responds to the identified implementation gap by translating theory into actionable design choices for women-centred financial inclusion interventions in Zambia. It integrates the Human Capabilities Approach (Sen, 1999; Nussbaum, 2000) with Kabeer's (1999) empowerment framework and draws on the Technology Acceptance Model (Venkatesh & Davis, 2000; Venkatesh et al., 2003) and moderated-mediation theory (Hayes, 2018) to articulate a theoretical architecture for intervention design. Using a systematic narrative synthesis of peer-reviewed and policy evidence, it synthesises findings on the mechanisms - capability and agency - and boundary conditions - digital access quality, affordability, consumer protection, and savings group linkage - that explain when financial inclusion gains are sustained. The aim is to support policymakers and practitioners in Zambia and comparable contexts to design, sequence, and evaluate interventions that move beyond 'access' indicators toward sustained, safe, and empowering financial inclusion for women in informal markets.

1.1 Statement of the Problem

The central problem addressed in this paper is the persistent disconnect between improvements in financial knowledge or training exposure and measurable, sustained financial inclusion outcomes - regular use of accounts, digital payments, and savings and credit uptake - among women in informal market settings in Zambia. Women traders in Lusaka and other urban markets typically operate with irregular incomes, limited collateral, and high dependence on social networks. Although digital financial services hold the potential to reduce distance and transaction frictions, uptake and sustained use remain uneven, and women are disproportionately exposed to fraud, opaque fees, and exclusionary product design (Demirgüç-Kunt et al., 2022; Zins & Weill, 2016).

The root of this problem is not a simple deficit in financial literacy. Rather, the evidence points to a structural translation failure: financial capability - the contextualised application of knowledge through usable tools and institutional supports - must translate into empowerment and then into action within a supportive ecosystem (Kabeer, 1999; Huston, 2010). Where agency is constrained by social norms or intra-household power asymmetries, or where digital rails are unreliable, unaffordable, or untrustworthy, capability gains stall before they generate inclusion outcomes. This paper argues that women's financial inclusion lags not primarily because of literacy deficits, but because translation mechanisms - capability and agency - are weakened by binding constraints in the financial ecosystem. The design of effective interventions must therefore begin with a diagnostic understanding of which constraint is binding before selecting and sequencing policy actions.

1.2 Research Objectives

The study is guided by the following objectives:

- (i) To synthesise evidence on how financial literacy and financial capability relate to women's financial inclusion in informal market settings in Zambia.
- (ii) To identify the key mechanisms and boundary conditions - empowerment/agency, digital access quality, affordability, and trust/consumer protection - that explain when financial inclusion gains are sustained.
- (iii) To develop a theory-to-methods policy framework for designing and evaluating women-centred financial inclusion interventions in Zambia, grounded in the Human Capabilities Approach and empowerment theory.

II. LITERATURE REVIEW

2.1 Theoretical Framework

2.1.1 Human Capabilities Approach

The foundational theoretical lens for this paper is Sen's (1999) Human Capabilities Approach (HCA), subsequently elaborated by Nussbaum (2000). The HCA conceptualises development not as the accumulation of income or resources per se, but as the expansion of individuals' capabilities - their real freedoms to live lives they have reason

to value. Applied to women's financial inclusion, the HCA reframes the objective: rather than measuring inclusion solely by account ownership or transaction volumes, it demands attention to whether women have the genuine capacity to exercise financial agency—to save, borrow, pay, and invest - without encountering prohibitive constraints of cost, trust, or social exclusion (Kabeer, 1999). This framing is central to the theory-to-methods logic developed in this paper, which situates capability building not as an end in itself but as a precondition for empowered agency and sustained inclusion.

The HCA directly informs the study's first research objective by specifying that financial literacy - narrowly defined as knowledge - is a necessary but insufficient condition for inclusion. Capability, in the HCA sense, encompasses access to tools, institutional supports, and the social conditions that make financial knowledge actionable (Huston, 2010; Grohmann et al., 2018). This distinction is critical for intervention design: programmes that build knowledge without addressing the conditions for its application risk generating capability on paper while leaving women's effective financial freedom unchanged.

2.1.2 Empowerment Theory

Kabeer's (1999) tripartite empowerment framework—resources, agency, and achievements—provides the second theoretical pillar. In Kabeer's formulation, empowerment involves expanding the capacity to make strategic life choices, particularly in contexts where this capacity has previously been denied. For women traders in Zambia, this means expanding control over income, financial decisions, and the terms on which they engage with financial service providers. Empowerment is conceptualised here as agency in financial decision-making, shaped by social norms, intra-household bargaining dynamics, and access to peer networks and mentorship. This framework is directly relevant to the second research objective, which seeks to isolate the mechanisms through which capability translates - or fails to translate - into sustained inclusion.

The empowerment lens also aligns with institutional and environmental moderating effects documented in the broader Sub-Saharan African context. Ilukena et al. (2023) demonstrate that environmental factors - regulatory conditions, market structures, and social institutions - moderate the relationship between organisational resources and performance outcomes among financial service intermediaries. By analogy, the social and institutional environment in which women traders operate moderates the extent to which individual capability investments translate into financial inclusion achievements. This insight reinforces the argument for ecosystem-level reforms as complements to individual-level capability building.

2.1.3 Technology Acceptance Model and Digital Finance Adoption

The Technology Acceptance Model (TAM), as developed by Venkatesh and Davis (2000) and extended in the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003), provides the third theoretical building block. TAM posits that perceived usefulness and perceived ease of use are the primary determinants of technology adoption, mediated by behavioural intention. Applied to mobile money and digital financial services, these constructs map onto trust, reliability, affordability, and interoperability as the key dimensions of perceived usefulness and ease for women in informal markets (Lashitew et al., 2019). Venkatesh and Davis's (2000) framework is particularly instructive in explaining why women who have both a mobile phone and a mobile money account may nonetheless fail to use digital services regularly: where fees are opaque, agents are unreliable, or dispute resolution is inaccessible, the perceived usefulness of the technology is insufficient to sustain usage.

2.1.4 Moderated-Mediation Framework

Integrating the three theoretical pillars above, this paper adopts a moderated-mediation framework (Hayes, 2018) as its overarching analytical architecture. The framework posits that financial capability improvements (the predictor) increase women's financial inclusion outcomes (the criterion) through the mediating mechanism of agency and empowerment. However, the size and reliability of this indirect effect is conditional upon—moderated by—digital access quality, affordability, and consumer protection conditions (the moderators). This architecture serves a practical design function: it motivates diagnosing which constraint is binding—capability, agency, or ecosystem conditions—before selecting and sequencing policy actions. It also directly structures the study's second and third research objectives, which concern the identification of mechanisms and boundary conditions and the translation of these insights into intervention design principles.

2.2 Empirical Review

2.2.1 Financial Literacy, Capability, and Women's Financial Inclusion

The relationship between financial literacy and financial inclusion outcomes has attracted sustained empirical attention. Lusardi and Mitchell (2014) provide a comprehensive review demonstrating that financial literacy is positively associated with planning, wealth accumulation, and retirement preparedness, particularly among women. Allen et al. (2016) using Global Findex data found that education, income, and employment are among the strongest correlates of

account ownership across developing economies, with financial literacy exerting a positive but partial effect. Grohmann et al. (2018) extend this analysis cross-nationally, showing that financial literacy improves financial inclusion outcomes, but that the relationship is moderated by institutional quality and financial infrastructure - a finding with direct relevance to the Zambian context.

However, meta-analytic evidence raises important caveats. Fernandes et al. (2014) analyse over 200 studies and conclude that financial literacy interventions explain only a modest share of the variance in downstream financial behaviours, with effects diminishing over time. Kaiser and Menkhoff (2017) find that interventions are most effective when they are well-targeted, sustained, and integrated with appropriate financial products and enabling structures. Huston's (2010) conceptual review reinforces this point by distinguishing financial literacy - knowledge and understanding - from financial capability, which additionally encompasses access and the confidence to act. For women traders in Zambia's informal markets, capability in this broader sense depends on the usability and affordability of available products, the reliability of digital channels, and the social conditions that support financial decision-making autonomy.

Within Zambia, the evidence base is developing but instructive. The AGEP evaluation by Austrian et al. (2020) provides experimental evidence that bundling financial education with mentorship, peer learning, and social support produces stronger effects on savings behaviour, account usage, and empowerment among adolescent girls than training alone. This finding is consistent with Zins and Weill's (2016) analysis of financial inclusion determinants in Africa, which identifies education and income, alongside infrastructure access, as critical enabling conditions. Ndlovu and Haabazoka (2024) further contextualise the Zambian development landscape by demonstrating that macroeconomic conditions - including investment climates and growth trajectories - shape the environment in which financial inclusion interventions operate, reinforcing the importance of aligning micro-level capability interventions with macro-level enabling conditions.

2.2.2 Mechanisms and Boundary Conditions: Empowerment, Digital Access, and Consumer Protection

The second strand of empirical literature concerns the conditions under which capability gains translate into sustained inclusion. Kabeer's (1999) theoretical framework has been operationalised in empirical settings showing that women's financial decision-making autonomy - their agency - is a critical mediating variable. Where women lack control over household income or face social penalties for independent financial action, financial training programmes produce limited behavioural change. This mechanism is consistent with the moderated-mediation framework adopted in this paper and with the broader evidence on empowerment as a precondition for effective financial capability (Grohmann et al., 2018).

With respect to digital access quality, Jack and Suri (2016) provide compelling evidence from Kenya that mobile money can substantially improve household resilience and reduce poverty, particularly for female-headed households. Munyegera and Matsumoto (2016) find similar results in rural Uganda, where mobile money access increased household welfare through improved remittance flows. However, Lashitew et al. (2019) demonstrate that the diffusion of mobile money innovations is contingent on regulatory environments, competition, and infrastructure quality—factors that vary considerably across and within countries. In Zambia, persistent gaps in agent network coverage, interoperability limitations between mobile money platforms, and high transaction fees constitute binding constraints that attenuate the welfare effects of mobile money expansion, particularly for low-income women traders (Bank of Zambia, 2023).

Consumer protection and trust emerge as equally critical boundary conditions. Venkatesh et al. (2003) identify trust in the system and perceived security as determinants of sustained technology adoption. For women in informal markets, fraud exposure, opaque fee structures, and inadequate dispute resolution mechanisms generate distrust that depresses sustained usage even among registered mobile money users. Ng'andu and Haabazoka (2024) offer a relevant parallel in demonstrating that operational efficiency gains from digitalisation—in their case, in health facility management—depend critically on the quality of implementation and institutional support. By extension, the effectiveness of digital financial services for women traders depends not only on access but on the institutional conditions that make digital transactions reliable, safe, and cost-effective.

2.2.3 Savings Group Linkage and Ecosystem Reform

The third strand of empirical evidence concerns the role of savings groups and formal sector linkage models in bridging capability investments with sustained inclusion outcomes. Frölich et al. (2020) evaluate a savings group linkage programme in Zambia—supported under the Rural Finance Expansion Programme—and find positive effects on formal financial service uptake when group governance is strengthened and consumer protection mechanisms are in place. The Bank of Zambia (2023) has documented similar findings in its review of savings group linkage policy, identifying governance, product appropriateness, and agent network quality as key enablers of successful linkage.

These findings are consistent with the HCA's emphasis on institutional conditions as enablers of genuine capability. Savings groups can function as trust intermediaries, reducing the transaction costs and information asymmetries that formal financial institutions impose on informal market participants. When linked to formal providers

through well-governed structures, they can provide a scalable and sustainable pathway from informal financial participation to formal inclusion. This insight directly informs the third research objective and the intervention logic developed in Section III and the results discussion in Section IV.

Ilukena et al. (2023) provide a further relevant theoretical and empirical anchor by demonstrating that environmental factors—including regulatory conditions and market structures—moderate the performance effects of intangible organisational resources in the Zambian insurance brokerage sector. This finding reinforces the paper’s argument that ecosystem-level conditions are not merely background context but active moderators that can amplify or nullify the effects of individual-level or programme-level interventions. Designing for these moderating conditions is therefore a core requirement of effective women-centred financial inclusion policy.

III. METHODOLOGY

3.1 Research Design

This study adopts a systematic narrative synthesis design, which combines the rigour of systematic literature review with the interpretive depth of thematic synthesis. This methodological approach is appropriate for policy-oriented research that seeks to consolidate evidence across diverse study designs, contexts, and outcome measures in order to derive actionable intervention principles (Thomas & Harden, 2008; Braun & Clarke, 2006). The systematic narrative synthesis method is distinct from meta-analysis (which requires outcome homogeneity) and from traditional narrative review (which lacks transparent search and synthesis procedures). It is also distinct from PRISMA-guided systematic reviews in that its primary objective is not to arrive at a single pooled effect estimate but to construct a theoretically coherent and empirically grounded intervention logic—a ‘theory-to-methods’ framework—from heterogeneous evidence (Fetters et al., 2013). This design is well suited to the exploratory and policy-design nature of the research objectives.

The study operates at the intersection of systematic evidence synthesis and policy framework development. It draws on peer-reviewed empirical studies, policy evaluations, and institutional reports, synthesising these across three analytical dimensions corresponding to the three research objectives: (i) the relationship between financial literacy/capability and inclusion outcomes; (ii) the mechanisms and boundary conditions that moderate this relationship; and (iii) the design principles for women-centred interventions in Zambia. The research is interpretive and applied in orientation, prioritising analytical coherence and policy utility over statistical aggregation.

3.2 Study Area

The policy focus is Zambia, with particular attention to women operating in urban informal markets—principally Lusaka, where digital finance expansion and market-level constraints interact most visibly. Zambia is selected as the study context for several reasons. First, it has an active national financial inclusion policy architecture (NFIS and NFIS II), providing an implementation platform for women-centred interventions. Second, Zambia’s informal market sector is large and predominantly female-dominated, representing a significant inclusion gap with policy-relevant scale. Third, the country has a growing body of programme evaluation evidence on financial inclusion, savings group linkage, and women’s empowerment, making it possible to draw context-specific synthesis conclusions (Bank of Zambia, 2017; 2023; 2024; Frölich et al., 2020; Austrian et al., 2020). The broader literature from Sub-Saharan Africa is drawn upon where Zambia-specific evidence is limited, with explicit attention to contextual transferability.

3.3 Target Population and Evidence Base

The evidence base targets peer-reviewed empirical studies, experimental and quasi-experimental programme evaluations, systematic reviews, and high-quality policy reports that include women or gender-disaggregated results and report financial inclusion outcomes relevant to informal or low-income market contexts. Studies are included from Sub-Saharan Africa, with priority given to Zambian evidence, and supplemented by cross-country evidence from comparable low- and middle-income contexts where Zambian-specific literature is sparse.

3.4 Search Strategy and Evidence Identification

Evidence was identified through systematic searches across Scopus, Web of Science, EconLit, and Google Scholar, complemented by backward and forward citation tracking from key studies and policy documents. Search terms combined variants of: financial inclusion/exclusion, financial literacy, financial capability, women/gender, informal markets, digital financial services/mobile money, empowerment, savings groups, and Zambia/Sub-Saharan Africa. Institutional repositories of the Bank of Zambia, World Bank, 3ie, CGAP, and the Alliance for Financial Inclusion were also searched. Eligibility required measurement of at least one financial inclusion outcome (account ownership or usage, digital payments, savings or credit uptake) and relevance to low- and middle-income contexts.

3.5 Data Extraction and Synthesis Procedure

A standardised extraction framework was applied to eligible studies, capturing: study setting and country, sample characteristics and gender disaggregation, theoretical framework, constructs and measures, identification strategy (experimental, quasi-experimental, or observational), and key inclusion outcomes. Synthesis was structured around the three research objectives and the moderated-mediation framework articulated in Section II. Consistent with Thomas and Harden's (2008) thematic synthesis approach, findings were coded thematically, grouped into analytical categories (capability, agency/empowerment, and ecosystem conditions), and interpreted against the theoretical framework. Quantitative evidence was summarised by direction, strength, and methodological quality of association, distinguishing causal from correlational designs.

3.6 Data Analysis

Given heterogeneity in outcomes, methods, and study contexts, the primary analytical mode is thematic and narrative synthesis rather than statistical aggregation. Quantitative evidence was summarised descriptively, distinguishing experimental from observational designs. Qualitative and policy evidence was synthesised thematically to identify mechanisms (capability and agency) and boundary conditions (digital access, affordability, trust, and consumer protection). The synthesis foregrounds the practical intervention logic implied by the evidence, linking analytical findings to design choices for women-centred programmes (Braun & Clarke, 2006; Fetters et al., 2013).

3.7 Ethical Considerations

The study relies on publicly available secondary literature and did not involve human participants. No primary data collection was conducted, and no ethical approval for human subjects research was required. For future primary evaluations conducted in informal markets as part of NFIS II implementation, ethical safeguards should include informed consent, confidentiality protections, financial vulnerability protections, and community-level stakeholder engagement to ensure that data collection processes do not impose costs or risks on women traders who are already economically marginalised.

IV. RESULTS & DISCUSSION

4.1 Financial Literacy, Financial Capability, and Women's Financial Inclusion

The systematic narrative synthesis reveals a consistent but conditional positive relationship between financial literacy and financial inclusion outcomes among women in informal market settings. Across the reviewed literature, higher financial literacy is generally associated with improved financial behaviours - budgeting, saving, and product awareness - and, in several studies, with a higher likelihood of account ownership or formal service usage (Lusardi & Mitchell, 2014; Allen et al., 2016; Grohmann et al., 2018). However, the evidence is characterised by significant heterogeneity: effects are frequently attenuated when studies rely on short interventions, self-reported outcomes, or weak causal identification strategies (Fernandes et al., 2014). This heterogeneity is theoretically meaningful within the HCA framework: it reflects variation in the conditions under which financial literacy is converted into genuine capability and actionable financial agency.

In the Zambian context, the AGEP evaluation provides the most rigorous country-specific evidence. Austrian et al. (2020) find that bundling financial education with mentorship, peer learning, and social support substantially improves savings behaviour and account usage compared to financial training in isolation. This result is consistent with the HCA's prediction that capability requires enabling conditions - tools, institutional supports, and social facilitation - beyond knowledge alone (Sen, 1999; Huston, 2010). It is also consistent with Grohmann et al.'s (2018) cross-country finding that the financial literacy-inclusion relationship is moderated by institutional quality. The implication for intervention design is that literacy training, while necessary, must be embedded in a broader programme architecture that addresses the conditions for capability application.

These findings are contextually reinforced by broader macroeconomic and institutional analyses. Ndlovu and Haabazoka (2024), in their evaluation of foreign direct investment and economic growth in Zambia, demonstrate that investment conditions and institutional quality shape the environment in which economic development interventions operate. By analogy, the effectiveness of women's financial inclusion programmes is conditioned by the broader macroeconomic and institutional environment in which they are implemented - a finding that underscores the importance of aligning capability-building investments with supportive policy and regulatory conditions.

4.2 Mechanisms and Boundary Conditions: Empowerment, Digital Access, and Consumer Protection

The evidence synthesis identifies agency and empowerment as the critical mediating mechanism through which financial capability gains translate into sustained inclusion. Where women have control over income and financial decisions, the capability-to-inclusion pathway functions as theorised by Kabeer (1999): knowledge enables action, and action enables sustained engagement with formal financial services. However, where agency is constrained by social

norms, intra-household power asymmetries, or institutional exclusions, the pathway is disrupted: capability investments do not convert into usage, and the ‘translation failure’ identified in the problem statement is reproduced.

Digital access quality and affordability emerge as the primary ecosystem moderators in the reviewed evidence. Jack and Suri (2016) and Munyegeera and Matsumoto (2016) provide evidence that mobile money can generate substantial welfare effects in low-income settings, but Lashitew et al. (2019) and Venkatesh et al. (2003) demonstrate that adoption and sustained usage depend critically on perceived usefulness, ease of use, and trust - constructs that are operationally tied to reliability, cost, interoperability, and security. In the Zambian context, the Bank of Zambia’s (2023) NFIS review identifies persistent gaps in agent network coverage, interoperability, and affordability as constraints on women’s digital finance usage. These findings are directly relevant to the second objective: they identify the ecosystem conditions that must be addressed if capability investments are to generate sustained inclusion.

Consumer protection and trust constitute the third critical boundary condition. Venkatesh and Davis (2000) demonstrate that trust is a prerequisite for sustained digital technology adoption, and this finding is amplified in the financial services context where fraud, opaque fees, and inadequate dispute resolution mechanisms generate distrust that depresses usage. The parallel with digitalisation in other service sectors is instructive: Ng’andu and Haabazoka (2024) find that the operational efficiency gains from health records digitalisation are contingent on the quality of implementation and the institutional conditions that support user confidence and system reliability. For women traders in informal markets, analogous conditions apply: digital financial services generate sustained inclusion only when they are accompanied by effective consumer protection, accessible grievance mechanisms, and transparent pricing structures.

These findings are further contextualised by Ilukena et al.’s (2023) analysis of environmental moderating effects in the Zambian insurance sector. Their demonstration that regulatory conditions, market structures, and competitive dynamics moderate the performance effects of organisational resources has a direct theoretical parallel in the financial inclusion context: the institutional and regulatory environment in which digital financial services are deployed moderates the extent to which individual-level capability and programme-level investments translate into inclusion outcomes. This insight strengthens the case for treating ecosystem-level reforms—regulatory, infrastructural, and institutional - as integral components of women-centred financial inclusion strategy rather than as background preconditions.

4.3 Theory-to-Methods Framework for Women-Centred Financial Inclusion Interventions

Synthesising the evidence from the two preceding sections, the paper develops a theory-to-methods intervention logic structured around three interdependent pillars, each grounded in the theoretical framework articulated in Section II and validated against the empirical evidence synthesised above.

The first pillar is capability building tailored to market realities. Consistent with the HCA and the empirical evidence, interventions should move beyond generic financial literacy training toward contextualised capability programmes that address the specific knowledge gaps, product literacy needs, and digital skill requirements of women traders in informal markets. Programme design should be informed by market-level diagnostics that identify the specific capability constraints binding in the target population, following the approach advocated by Dabla-Norris et al. (2015) and consistent with the first research objective’s findings on the conditionality of literacy effects. Kaiser and Menkhoff’s (2017) meta-analytic evidence suggests that sustained, well-targeted interventions - rather than one-off workshops - are necessary for durable behavioural effects.

The second pillar is empowerment support through mentorship, peer learning, and negotiation skills. Consistent with Kabeer’s (1999) empowerment framework, capability building must be paired with agency-strengthening components that expand women’s real freedom to act on their financial knowledge. The AGEP evidence from Austrian et al. (2020) provides the strongest Zambian-context support for this pillar, demonstrating that bundled programmes that combine financial education with mentorship and peer support outperform training-only approaches. Ilukena et al.’s (2023) broader analysis of moderating environmental conditions reinforces the point: organisational and social resources are most effective when the enabling environment - including peer networks, community norms, and institutional supports - is aligned with individual capability investments. Ndlovu and Haabazoka (2024) further emphasise that the broader institutional environment, including investment conditions and regulatory quality, shapes the context in which such empowerment investments operate.

The third pillar is ecosystem enabling reforms encompassing digital rails, consumer protection, and savings group linkage. The evidence reviewed under the second objective consistently identifies ecosystem conditions as binding moderators of the capability-to-inclusion pathway. Improving agent network coverage and reliability, reducing transaction costs through fee transparency and regulatory measures, strengthening interoperability between mobile money platforms, and ensuring accessible dispute resolution are the core digital infrastructure requirements. Strengthening savings group governance and linking groups to appropriate formal financial products - as demonstrated by Frölich et al. (2020) in Zambia and as prioritised in the Bank of Zambia’s (2023; 2024) NFIS II framework - provides the trust-intermediation function necessary for women to transition from informal to formal financial participation. Ng’andu and Haabazoka (2024) underscore the importance of implementation quality in determining whether ecosystem

investments generate the intended operational and social benefits, a lesson directly applicable to digital rails improvement and savings group linkage programme design.

The intervention logic implied by these three pillars is not a linear programme sequence but a diagnostic-driven, adaptive design process. Consistent with the moderated-mediation framework (Hayes, 2018), effective design must begin with a market-level diagnostic to identify the binding constraint—whether it is primarily a capability deficit, an agency constraint, or an ecosystem failure—before selecting and sequencing the appropriate combination of programme elements. This diagnostic imperative is aligned with Zambia’s NFIS II implementation framework, which calls for evidence-based targeting and adaptive programme management across the women’s financial inclusion pillar (Bank of Zambia, 2024).

It is important to note the limitations of the evidence base. Self-selection into digital finance, inconsistent measurement of empowerment and inclusion outcomes, and under-reporting of validity checks and common-method bias procedures (MacKenzie & Podsakoff, 2012; Podsakoff et al., 2003) reduce the precision of causal inference in several reviewed studies. Hair et al.’s (2019) guidance on reporting standards for structural models is instructive here: future programme evaluations should adopt rigorous measurement frameworks, pre-register evaluation hypotheses, and report discriminant validity evidence using established criteria (Henseler et al., 2015). These standards should be embedded in the NFIS II monitoring and evaluation framework to generate cumulative, policy-relevant evidence on women’s financial inclusion in Zambia.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

This paper has addressed the persistent implementation gap in women’s financial inclusion policy in Zambia by developing a theory-to-methods framework grounded in the Human Capabilities Approach empowerment theory, and the Technology Acceptance Model structured analytically through a moderated-mediation logic. Three substantive conclusions emerge from the systematic narrative synthesis.

First, financial literacy is a necessary but insufficient condition for women’s financial inclusion in informal market settings. The evidence consistently shows that knowledge gains do not automatically convert into sustained account usage, digital payments, or savings and credit uptake when capability is defined narrowly and when the conditions for its application - affordable and reliable digital services, consumer protection, and social agency—are absent. The HCA reframes the policy objective from literacy to capability, demanding that interventions address the contextualised conditions under which financial knowledge becomes genuinely actionable.

Second, agency and empowerment are the critical mediating mechanisms through which capability translates into inclusion. Social norms, intra-household power dynamics, and institutional exclusions can disrupt the capability-to-inclusion pathway even when knowledge and access conditions are in place. Effective interventions must therefore pair capability building with agency-strengthening components—mentorship, peer learning, and negotiation skills - that expand women’s real freedom to act on their financial knowledge in the specific social and institutional contexts of informal markets.

Third, ecosystem conditions - digital access quality, affordability, consumer protection, and savings group linkage - are binding moderators that determine whether capability and agency investments generate sustained inclusion outcomes. The evidence from Zambia and comparable Sub-Saharan African contexts consistently points to the necessity of complementary ecosystem reforms as conditions of effective individual-level intervention. Regulator-driven improvements in agent network coverage, fee transparency, interoperability, and dispute resolution are as important to women’s financial inclusion as the programme-level investments in capability and empowerment.

5.2 Recommendations

Based on the synthesis findings and the three conclusions above, this paper advances five policy recommendations for policymakers, financial service providers, market associations, and development partners in Zambia, written in continuous prose and derived directly from the evidence reviewed.

Policymakers and programme designers should begin each women-centred financial inclusion initiative with a rigorous market-level diagnostic to identify the binding constraint—whether it is primarily a capability deficit, an agency constraint, or an ecosystem failure—before selecting and sequencing programme elements. This diagnostic-first approach is grounded in the moderated-mediation framework articulated in this paper and supported by the empirical evidence reviewed on the conditionality of financial literacy effects. Without this diagnostic step, interventions risk investing in capability building where the binding constraint is actually ecosystem quality, or improving digital infrastructure where the binding constraint is agency and social norms. The Bank of Zambia’s NFIS II monitoring framework provides a suitable platform for institutionalising this diagnostic requirement.

Financial inclusion programmes targeting women traders in informal markets should be designed as bundled interventions that integrate financial capability training with mentorship, peer learning, and negotiation and agency-

strengthening components. The experimental evidence from AGEP and the broader cross-country literature demonstrate that bundled approaches consistently outperform single-component training programmes in generating sustained behavioural and inclusion outcomes. Programme design should draw on the empowerment framework to ensure that agency-strengthening components are context-specific, addressing the particular social norms and intra-household dynamics that constrain women's financial decision-making in the target market. The finding that environmental conditions moderate the effectiveness of organisational resources reinforces the importance of contextualising programme design to the specific institutional and social environment of each market.

Regulators, financial service providers, and development partners should prioritise the scaling of savings group linkage models, with particular attention to strengthening group governance, building consumer protection mechanisms into linkage product design, and connecting groups to formal financial products that are appropriate to the income patterns and risk profiles of women traders. The 3ie evaluation evidence from Zambia and the Bank of Zambia's policy framework provide a strong evidence base for this recommendation. Savings groups function as trust intermediaries that reduce the information asymmetries and transaction costs that formal financial institutions impose on informal market participants; when linked to formal providers through well-governed structures, they provide a scalable pathway to sustained inclusion. Programme designs should specify the governance standards, consumer protection requirements, and product appropriateness criteria for linkage arrangements, consistent with the implementation quality standards in the context of health sector digitalisation.

The Bank of Zambia, telecommunications regulators, and mobile money service providers should invest systematically in improving the digital financial services infrastructure for women traders, through affordability measures, agent network strengthening in informal market areas, interoperability between platforms, and accessible and low-cost dispute resolution mechanisms. The evidence reviewed in this paper demonstrates that digital access quality is a binding moderator of the capability-to-inclusion pathway and that ecosystem-level failures in this dimension can nullify the effects of even well-designed capability and empowerment programmes. These infrastructure investments should be aligned with the NFIS II digital finance pillar and informed by the macroeconomic and institutional analysis, which underscores the importance of investment climate conditions in shaping the environment for financial development.

Finally, all programme implementers and their evaluation partners should commit to credible, pre-specified evaluation designs and minimum reporting standards, including measurement validity evidence, bias assessment procedures, clear outcome definitions, and gender-disaggregated reporting. The limitations of the current evidence base - including self-selection, measurement inconsistency, and under-reporting of validity checks - reduce the precision of causal inference and constrain evidence-based policy development. Embedding these standards in the NFIS II monitoring and evaluation framework will generate cumulative, policy-relevant evidence that enables adaptive programme management and strengthens the accountability of women's financial inclusion investments over the medium term.

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