Women's adoption of mobile money: An fsQCA analysis of national financial inclusion strategies, entrepreneurship, mobility, marriage, parenthood, and asset ownership

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1. Purpose/Aims of the paper

Using fuzzy set qualitative comparative analysis (fsQCA) and data from 16 SSA countries, we analyse which combinations of National Financial Inclusion Strategies (NFIS) and key gender-based policies related to entrepreneurship, mobility, marriage, parenthood, and asset ownership will lead to high mobile money (MOMO) adoption among women in SSA.

2. Research Methodology

This research utilises fsQCA to investigate the interplay of NFIS and gender-based policies related to entrepreneurship, mobility, marriage, parenthood, and assets on adopting MOMO among women in SSA. FsQCA, a methodology rooted in Boolean algebra and cross-case comparative analysis, offers a unique perspective on complex causation, mainly when traditional statistical approaches fall short in elucidating the interactive effects of multiple antecedents on an outcome (Ragin, 1987; Rihoux & Ragin, 2009). Unlike conventional statistical methods, which often focus on individual antecedents, fsQCA delves into the configurations of conditions leading to a specific outcome. Put simply, fsQCA delves into the intricacies of causal complexity, wherein a particular outcome can result from various combinations of causal conditions akin to different causal recipes (Ragin, 2009). As a result, fsQCA is often considered a suitable methodology for investigating the "multiple conjectural causation" of research phenomena, where "multiple" denotes the various pathways leading to the same outcome, and "conjectural" implies that each pathway is a combination of conditions (Rihoux and Ragin, 2009, p. 8). To analyse these diverse configurations of conditions, fsQCA utilises a Boolean algebra framework, incorporating concepts such as "logical and" (represented as *), "logical or" (represented as +), and "logical not" (represented as ~) (Saridakis et al., 2022).

The fsQCA operates on three key assumptions—conjunction, equifinality, and asymmetry—rendering it particularly suitable for this study. Firstly, concerning conjunction, fsQCA examines how various conditions collectively influence the outcome, acknowledging their interdependence (Rihoux & Ragin, 2009). Secondly, equifinality posits that different configurations can produce the same outcome, allowing for a nuanced understanding of causality (Saridakis et al., 2022). Lastly, asymmetry, encompassing both conditional and causal aspects, acknowledges that certain conditions or configurations may have varying

effects on the outcome, highlighting the complexity of causation (Ragin, 2009; Rihoux & Ragin, 2009). By adhering to these assumptions, fsQCA facilitates a granular examination of how NFIS and gender-based policies related to entrepreneurship, mobility, marriage, parenthood, and assets combine to influence MOMO adoption among women. It enables the identification of diverse pathways leading to the same outcome (e.g., high MOMO adoption), shedding light on the intricacies of this phenomenon within the context of SSA. In summary, since the objective of this study is to uncover the intricate causal relationships among NFIS and key gender-based policies (related to entrepreneurship, mobility, marriage, parenthood, and assets) while also presenting alternative pathways to achieve significant MOMO adoption rates among women in SSA, fsQCA emerges as an ideal methodology. Therefore, we employed fs/QCA 4.1 software to analyse this study.

3. Findings/Conclusions

The results suggest five compelling solutions and configurations in 78% of the cases, covering 61%.

Configuration 1: f_Mobility*~f_Entrepreneurship*f_Marriage*~f_Parenthood*f_Asset

Configuration 1 boasts the highest raw coverage (37%) and unique coverage (22%), indicating its significant role in facilitating high MOMO adoption. This configuration represents the primary pathway leading to high MOMO adoption rates. It entails gender-based policies focused on mobility, marriage, and assets, coupled with the absence of gender-based policies centred on entrepreneurship and parenthood. This suggests that in SSA developing economies, gender-based policies addressing mobility, marriage, and assets can drive high MOMO adoption among women in SSA, even without policies targeting entrepreneurship and parenthood.

Configuration 2: f_Financialinclusionstrategy*f_Entrepreneurship*~f_Marriage*f_Parenthood*f_Asset

Configuration 2, holding the third largest raw coverage at 23% and demonstrating 86% consistency, is notable. It highlights a scenario where high MOMO adoption in SSA developing economies is associated with the presence of NFIS and gender-based policies emphasising entrepreneurship, parenthood, and assets, while policies centred on marriage are absent. This suggests that even without marriage-centered policies, NFIS and gender-based policies related to entrepreneurship, parenthood, and assets can foster high MOMO adoption among women in SSA.

Configuration 3: f_Financialinclusionstrategy*f_Mobility*f_Entrepreneurship*f_Parenthood*f_Asset

Configuration 3 has the second most immense raw coverage (26%) with 72% consistency. NFIS and gender-based policies centred on mobility, entrepreneurship, parenthood and assets are linked to high MOMO adoption among women in SSA developing economies.

Configuration 4:
~f_Financialinclusionstrategy*~f_Mobility*f_Entrepreneurship*~f_Marriage*~f_Parenth ood*f_Asset

Configuration 4 exhibits the following significant statistics: an 18% raw coverage coupled with an impressive consistency rate of 86%. Notably, the prevalence of gender-based policies concentrating on entrepreneurship and assets, despite the absence of NFIS and gender-based policies related to mobility, marriage, and parenthood, is associated with heightened MOMO adoption rates in developing economies across SSA. This suggests that even in the absence of NFIS and gender-based policies targeting mobility, marriage, and parenthood, the presence of gender-based policies focused on entrepreneurship and asset plays a pivotal role in fostering MOMO adoption among women in SSA.

Configuration 5:
f_Financialinclusionstrategy*f_Mobility*~f_Entrepreneurship*~f_Marriage*f_Parenthoo d*~f_Asset

Configuration 5 demonstrates notable statistics, boasting a raw coverage of 17% alongside perfect consistency at 100%. Remarkably, financial inclusion strategies and gender-based policies targeting mobility and parenthood, even without gender-based policies centred on entrepreneurship, marriage, and assets, correlate with increased MOMO adoption rates in developing economies across SSA. This indicates that despite the lack of gender-based policies focusing on entrepreneurship, marriage, and assets, financial inclusion strategies and policies addressing mobility and parenthood significantly contribute to the widespread adoption of MOMO among women in SSA.

4. Discussion

This study reveals configurations to achieve high MOMO adoption among women in SSA, significantly reducing the ongoing gender disparities in financial inclusion across the region. Recognising that NFIS aimed at improving financial inclusion among women does not operate in isolation but alongside other critical gender-based policies, we evaluated how they combine to achieve high MOMO adoption. Our results suggest that no single condition alone is necessary or sufficient for the high adoption of MOMO among women in SSA. Instead, five critical configurations and pathways emerge as key. Our results underscore the value of embracing causal complexity in management research, as Saridakis et al. (2022) suggested, for understanding phenomena in developing economies with complex institutional settings. Our findings complement those of Senyo et al. (2021), who also used fsQCA to analyse MOMO adoption, focusing on consumer intentions and perceptions in Ghana. We extend their insights by focusing on women and evaluating the combinations of NFIS and critical gender-based policies.

Our theoretical considerations challenge the assumption that recently introduced NFIS are crucial and effective on their own. Instead, the effectiveness of NFIS is contingent upon the presence of critical gender-based policies. In specific scenarios, NFIS is unnecessary in improving MOMO adoption and financial inclusion in the SSA region. For instance, in Configuration 1, NFIS does not matter when effective gender-based policies on mobility, marriage, and asset ownership are present, even without policies targeting entrepreneurship

and parenthood. Gender-based policies focused on mobility, marriage, and asset ownership are particularly crucial, as women in SSA often face mobility challenges due to marital restrictions that limit their ability to travel (Gincherman et al., 2022). When women can move freely and access financial services physically, they are more likely to adopt and use MOMO services. This is particularly relevant, especially when women need to visit a physical bank branch to complete the enrolment process for MOMO (Demirgüç-Kunt et al., 2018).

Additionally, marital requirements can limit their control over assets, including mobile phones, often provided and possessed by spouses, reducing women's ability to use them for MOMO (Nonvide & Alinsato, 2022). In these instances, the presence or absence of NFIS is irrelevant, given the importance of addressing mobility, marital, and asset ownership issues confronting women. Moreover, another pathway to high MOMO adoption exists without NFIS (see Configuration 4). Similar to Configuration 1, key gender-based policies around asset ownership and entrepreneurship are crucial. Policies that facilitate asset ownership, especially assets usable as collateral, are essential to enhance MOMO adoption (GruverAriel, 2024). In SSA, where informal economies are prevalent, women often lack formal property rights (Simba et al., 2023). Without collateral, they may struggle to access credit or fully participate in MOMO services (Kim, 2022). This finding emphasises the need for a multifaceted approach combining NFIS with supportive gender-based policies to promote high MOMO adoption and financial inclusion among women in SSA.

5. Research limitations
This study has mainly focused on the developing economies within SSA, which might not apply to other contexts.

6. Impact on policy
For policymakers, this means that designing NFIS in isolation is insufficient. Effective strategies must incorporate and align with critical gender-based policies, such as those enhancing women's mobility, marriage rights, and asset ownership. For example, gender-based policies that reduce mobility restrictions on women or address marital property rights can significantly impact MOMO adoption. This is crucial in contexts where cultural norms and legal constraints limit women's financial independence and access to mobile technologies (Nonvide & Alinsato, 2022). Moreover, the study highlights the importance of gender-based policies that support women's entrepreneurship and asset ownership. By facilitating ownership of assets that can be used as collateral, women gain greater access to financial services. This approach addresses the issue of informal economies prevalent in SSA, where women often lack formal property rights, making it difficult for them to access credit or fully utilise MOMO services. Practitioners and development agencies can use these insights to develop targeted interventions that address these specific barriers, thus enhancing the effectiveness of financial inclusion programs.

7. Originality/What is new about your research
The newness of this study lies in its application of the fsQCA approach to unravel the complex interplay between NFIS and critical gender-based policies in promoting MOMO

adoption among women in SSA. This methodological approach allows for exploring multiple pathways to high MOMO adoption rates, acknowledging the causal complexity inherent in developing economies with intricate institutional settings. Although very few scholars have used the fsQCA approach to analyse MOMO adoption and financial inclusion (Senyo et al., 2021), the literature is still limited to multiple regression analysis and qualitative research, often overlooking the gender dimension (Asongu & Le Roux, 2023; Dorfleitner & Nguyen, 2022). We deviate from the previous study and use fsQCA to analyse the factors influencing MOMO adoption among women in SSA. Hence, we obtain different combinations of conditions specific to women that cause a particular outcome and unearth the implicit logic underlying different configurations. The study contributes to the broader discourse on gender equality in financial services. Identifying practical policy configurations provides a framework for understanding how critical gender-based policies can be leveraged to enhance women's financial inclusion and MOMO adoption in similar contexts. This theoretical insight is valuable for researchers exploring similar issues in other developing regions, offering a basis for comparative studies and further theory development.