

Exploring Drivers of Microfinance Access for Women Vegetable Marketers in Mwanza City

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Abstract

This study examined the drivers influencing microfinance access among women vegetable marketers in Mwanza City. A cross-sectional research design was employed to collect data from 150 randomly selected respondents across three farmers' markets: Buhongwa, Dampo, and Mkuyuni. Data were analyzed using descriptive statistics and a probit regression model. The results revealed that higher income levels, greater educational attainment, financial literacy, and possession of collateral significantly enhanced access to microfinance. Conversely, older age, high interest rates, membership in financial solidarity groups, and stringent lending terms were found to impede access. Additionally, women faced several challenges in accessing and utilizing microfinance services, notably the lack of collateral security, high borrowing costs, diversion of loans for household expenses, limited financial management skills, and fear of credit risks. Based on these findings, it is recommended that microfinance institutions adopt innovative lending models such as group guarantees, lower collateral requirements, and flexible repayment structures. Further, integrating tailored financial literacy and business development training programs is essential to empower women entrepreneurs and improve loan utilization. These measures are critical for enhancing women's economic participation, strengthening vegetable market businesses, and promoting sustainable economic growth in Mwanza City.

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1. Introduction

Microfinance has emerged as a powerful tool for poverty reduction and economic empowerment, particularly among marginalized populations in developing countries (Dimoso & Andrew, 2021; Yunus, 1999). By providing access to small loans, savings accounts, and other financial services to those traditionally excluded from the formal banking sector, microfinance fosters entrepreneurship, promotes income generation, and improves household welfare (Morduch, 1999). Empirical studies show that microfinance initiatives can lead to increased investment, asset accumulation, and enhanced living standards, particularly among women (Armendáriz & Morduch, 2005; Khandker, 2005).

Women, especially those engaged in informal economic activities, are often the primary beneficiaries of microfinance programs (Kitole & Genda, 2024). In sub-Saharan Africa, the informal economy accounts for a substantial share of employment and income generation, with women forming a significant proportion of informal sector workers (Chen, 2012). Women vegetable marketers, in particular, contribute significantly to household income, food security, and urban food supply chains (Ellis & Freeman, 2004; Kitole & Sesabo, 2024). However, despite their crucial role, women entrepreneurs often face considerable barriers to accessing formal financial services, including limited financial literacy, lack of collateral, gender biases in financial institutions, and socio-cultural constraints (Johnson & Rogaly, 1997; Mayoux, 2001).

In Tanzania, the informal sector continues to expand rapidly, accounting for approximately 55% of the national employment (ILFS, 2014; Utouh & Kitole, 2024). Mwanza City, as one of Tanzania's major urban hubs, hosts a thriving informal economy, with vibrant markets where women dominate vegetable trading activities. These women often operate in challenging business environments characterized by limited working capital, inadequate access to credit facilities, poor infrastructure, and vulnerability to market shocks (Mmasa & Msuya, 2012). Recognizing the transformative potential of microfinance, several microfinance institutions (MFIs) in Mwanza have initiated targeted programs aimed at empowering women entrepreneurs (Nelly & Dunford, 1998).

Understanding the drivers of microfinance access among women vegetable marketers in Mwanza City is crucial for informing policy interventions that aim to promote financial inclusion, reduce gender inequalities, and foster sustainable urban development. Previous research identifies multiple factors influencing microfinance access, including the availability of market information, the strength of social networks, the perceived benefits of microfinance services, and individual socio-demographic characteristics (Coleman, 1999; Pitt & Khandker, 1998; Bhatt & Tang, 2001).

Access to microfinance can empower women entrepreneurs to scale up their businesses by enabling bulk purchasing, securing better market prices, investing in transportation and storage facilities, and diversifying their product offerings, all of which can significantly enhance profitability (Hulme & Mosley, 1996). Furthermore, social capital, through participation in informal groups and networks, plays a pivotal role in facilitating access to microfinance services. Social networks not only disseminate critical information about financial opportunities but also build trust between borrowers and lenders, reduce transaction costs, and encourage collective accountability (Granovetter, 1985; Woolcock & Narayan, 2000).

Group-based lending models, such as solidarity groups, are a common feature of microfinance programs and have proven effective in empowering women entrepreneurs by fostering mutual learning, peer monitoring, and risk-sharing (Todd, 2002; Ghatak, 2000). However, cultural and gender norms continue to influence women's access to and control over financial resources. In many African societies, gendered expectations around household responsibilities and financial decision-making can limit women's participation in formal financial systems (Mayoux, 2001; Kabeer, 2001).

Individual characteristics also significantly influence access to microfinance. Factors such as age, education level, business experience, household size, and prior exposure to financial education programs have been associated with greater financial awareness and increased participation in microfinance schemes (Kitole & Sesabo, 2024; Bhatt & Tang, 2001; Lusardi & Mitchell, 2014). Women with higher educational attainment and business acumen are more likely to appreciate the benefits of financial services and to engage actively with microfinance institutions.

Despite the notable progress of the microfinance sector, challenges remain. Issues such as high interest rates, bureaucratic loan application processes, insufficient loan sizes, and weak institutional support structures continue to limit the effectiveness of microfinance interventions (Ledgerwood, 1999; Robinson, 2001). Addressing these bottlenecks through the design of inclusive, context-specific financial products and services is essential for maximizing the developmental impact of microfinance programs and promoting sustainable women's entrepreneurship.

Therefore, this study seeks to investigate the drivers influencing access to microfinance among women vegetable marketers in Mwanza City, with a specific focus on Nyamagana Municipal Council. It also aims to explore the challenges these women face in accessing and utilizing microfinance services, thereby providing critical insights for the design of effective policies and programs that support women's economic empowerment in Tanzania.

2. Review of related literature

Several empirical studies have explored the factors influencing access to microfinance among women entrepreneurs across different regions. These studies offer critical insights into the determinants of microfinance access, yet important gaps remain, particularly concerning women vegetable marketers and the role of non-financial services.

Mwongera (2014) conducted a study on factors influencing access to microfinance by young women entrepreneurs in Athi River Sub-County, Kenya. Employing a descriptive research design and a sample size of 165 respondents determined using Morgan's sampling theory, data were collected through structured questionnaires and analyzed using descriptive statistics. The study found that the level of education, interest rates, distance to microfinance institutions, and the requirement for collateral securities were the most significant factors affecting young women's access to microfinance. These findings underscore the critical role that both institutional and personal factors play in shaping financial access among women entrepreneurs.

Similarly, Julien et al. (2021) examined factors influencing access to credit among vegetable marketers in the Gulf Prefecture of Togo. A sample of 452 market gardeners was selected, and a binomial logistic regression model was employed for data analysis. The study revealed that membership in financial solidarity groups, marital status, and interest rates significantly influenced

access to credit. The results highlighted the importance of social networks and socio-demographic characteristics in enhancing access to financial services for women engaged in agriculture-based informal markets.

In another related study, S.A. et al. (2022) analyzed factors influencing the amount of loan accessed by women entrepreneurs from microfinance banks in Gombe State, Nigeria. Utilizing a multistage sampling technique, the study surveyed 141 women entrepreneurs, collecting data through questionnaires and analyzing it via multiple linear regression. It was found that educational attainment, interest rates, and marital status significantly affected the amount of loan accessed. These findings reinforce the importance of personal and household factors, alongside financial institution practices, in determining microfinance accessibility.

Panjinegara et al. (2024), citing Metu and Nwogwugou (2022), investigated the management challenges faced by women micro-entrepreneurs participating in government microfinance schemes in Indonesia. Through a qualitative research design involving interviews with 15 less successful women entrepreneurs, the study identified lack of collateral security, high interest rates, information asymmetry, and the diversion of microfinance funds for personal use as major hindrances to young women's access to microcredit. This qualitative insight reveals structural and behavioral barriers that are often overlooked in quantitative research.

In Kenya, Kathuku (2014) studied factors influencing women's small businesses in accessing microfinance loans. Using a stratified sampling technique and a sample of 114 participants, the study applied a descriptive research design and analyzed data through descriptive statistics. It was found that financial illiteracy, lack of tangible collateral, and high-interest rates were significant impediments for women aged 26–35 years in accessing microfinance services. This study emphasized the need for financial education and structural reform within microfinance institutions to better serve young women entrepreneurs.

Ekpe and Minh (2022) explored the enabling environment for gender inclusion in the irrigated vegetable value chain in Mali. Reviewing a total of 88 documents through cluster and cross-cluster analysis, the study found that limited access to extension services and credit were major constraints limiting young women's participation in the value chain. This study brings attention to the importance of supportive institutional frameworks in promoting gender equality and financial access in agricultural sectors.

Further, Ukanwa et al. (2018) investigated the experiences of poor women entrepreneurs with microfinance and its effects on their livelihood strategies. Through purposive sampling, 15 women operating small vegetable businesses in two Nigerian villages were selected, with data collected via focus groups and interviews. Findings revealed that perceived risks associated with microcredit and lack of collateral security significantly deterred women from accessing credit. This study highlighted the psychological barriers and risk perceptions that shape microfinance participation among low-income women.

Despite the valuable contributions of these empirical studies, several critical gaps remain. Firstly, while many studies have broadly examined women entrepreneurs' access to microfinance, few have specifically focused on women engaged in vegetable marketing. Vegetable marketing is a sector characterized by seasonality, price volatility, and unstable supply chains, which present unique financial and operational challenges distinct from other forms of entrepreneurship.

Therefore, this study seeks to specifically address the experiences of women vegetable marketers, offering insights into how microfinance services can be tailored to their needs.

Secondly, the reviewed studies have largely overlooked the role of non-financial services such as financial literacy training, business development support, and access to market information. Non-financial services can significantly enhance the ability of women entrepreneurs to utilize financial resources effectively and sustainably. This study aims to investigate the combined effect of microfinance provision and non-financial support services, thereby offering a more comprehensive understanding of how to strengthen women's participation and success in vegetable marketing businesses in Mwanza City.

3. Theoretical framework

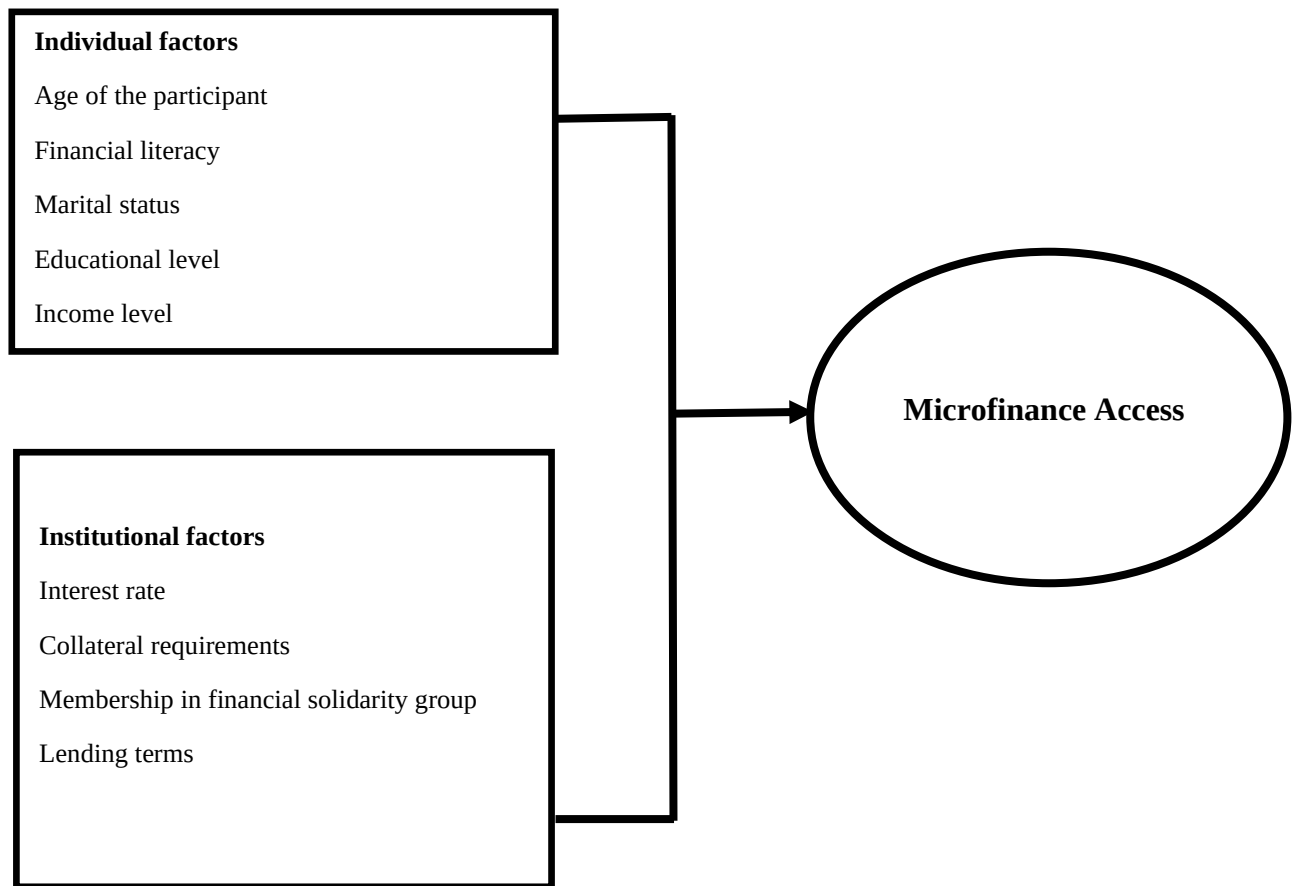
This study is guided by the Financial Inclusion Theory, which emphasizes the critical role of accessible and affordable financial services in fostering economic development and reducing poverty among marginalized groups. According to Sarma and Pais (2011), financial inclusion involves the process of ensuring access to appropriate financial products and services needed by vulnerable groups such as low-income earners, at an affordable cost, in a fair and transparent manner. Access to microfinance services is one of the most important components of financial inclusion, especially for women entrepreneurs operating in informal sectors such as vegetable marketing. Financial inclusion helps bridge the gap between the formal financial system and underserved populations, enabling greater economic participation and financial security.

Financial Inclusion Theory suggests that barriers such as financial illiteracy, lack of collateral, high transaction costs, and discrimination within financial institutions hinder access to financial services for disadvantaged groups (Demirgüç-Kunt et al., 2018). In the context of Mwanza City, women vegetable marketers face multiple challenges that restrict their access to credit and other financial services. These challenges align with the theoretical assumptions that without targeted interventions, the financially excluded remain trapped in cycles of low productivity and poverty. Thus, understanding the factors that either enable or constrain women's access to microfinance is critical for designing effective inclusion strategies that empower them economically.

Moreover, the theory highlights the importance of tailored financial products and supportive infrastructure to enhance usage among marginalized communities. For women vegetable marketers, access to appropriately designed microfinance products can lead to business expansion, improved market competitiveness, and increased household welfare. Financial inclusion not only allows them to invest in their businesses but also builds resilience against economic shocks. Therefore, microfinance institutions play a central role in realizing the promises of financial inclusion by addressing the specific needs of women entrepreneurs in the informal economy.

In applying the Financial Inclusion Theory, this study seeks to identify the drivers that influence women vegetable marketers' access to microfinance in Mwanza City. The theory provides a framework for analyzing both structural factors (such as institutional practices and product design) and individual characteristics (such as financial literacy and business experience) that affect financial access. By grounding the research in this theoretical framework, the study contributes to a deeper understanding of how financial inclusion initiatives can be strengthened to support the economic empowerment of women in Tanzania's informal sector.

Figure 1: conceptual framework



Source: Author' design (2025)

4. Methodology

The study was conducted in Nyamagana municipal council located 02°35'S032°55E. It is bordered to the North by Ilemela District, to the East by Magu District, to the South by Misungwi District and the West by the Mwanza Bay of Lake Victoria (Mwanza city council profile, 2016). More specifically the study was conducted in Buhongwa, Dampo and Mkuyuni farmers markets. These markets were purposively selected since are the largest in Nyamagana municipal council and consist of a huge number of women vegetable marketers. The study applied convenience sampling technique for the purpose of obtaining data from respondents easily. Participants were selected from the study population based on their accessibility and availability to the researcher to make up a sample size of 150 women involved in marketing vegetables. The sample was obtained using Yamane's formula (1967) since the population is finite.

4.1 Analytical model

This study employed probit model to estimate factors influencing access to microfinance among women vegetable vendors in Mwanza city. Therefore, for Probit model, the study considered an equation which describes microfinance access such that:

$$y_i^* = \beta w' + \mu_i \text{ where } \mu_i \sim (0, \delta^2) \dots \dots \dots (1)$$

y_i^* is the dependent variable which assume unobservable status, β represents the independent variable, w' represents the coefficient of the independent variable and μ_i is the error term with standard normal distribution. Basing on this function, the probit model is delivered to analyze drivers for microfinance access. Since y_i^* is unobservable, what we observe is y_i which takes only two values as described in equation 2

The likelihood of a woman's microfinance access is herein presented by unobservable factors through the dependent variable as follows:

$$\text{Microfinance access} = \begin{cases} 1 & \text{if has access to microfinance} > 0 \\ 0 & \text{if no access to microfinance} < 0 \end{cases} \dots \dots \dots (2)$$

Therefore, the probability that a woman has access to microfinance assumes that the probability density function of e_i assumed being $f(\mu_i)$ which results in the creation of new parameter

$$\text{Prob}(y_i = 1|x) = \int_{-\infty}^{x'\beta} f(\mu_i) du = F(x'_i \beta) \dots \dots \dots (3)$$

$$\text{Prob}(y_i = 1|x) = 2\pi^{-\frac{1}{2}} \exp\left(-\frac{(\beta x_i)^2}{2}\right) \dots \dots \dots (4)$$

Now, based on the variables used in this study the Probit model is therefore presented as;

$$Y_i = \beta_0 + \beta_1 X_i + \beta_2 D_i + \mu_i \dots \dots \dots (5)$$

Of which the β_0 is the constant term while $\beta_1 Y$ and β_2 are the parameters that will be estimated in the probit equation. On the other hand, X_i are the covariates while D_i represents group of all dummy variables used in this study. Now, since the Probit model is well addressed under the marginal effects which help to explain the extent of microfinance access, then equation 5 is therefore transformed in order to get the marginal of variations in the repressors as shown at equation 6:

$$\frac{dy}{dx_i} = \beta_i \phi(\beta_1 + \beta_n) \dots \dots \dots (6)$$

However, variables used in the analysis of this study have been presented at Table 1 with the detailed description and their measurement.

Table 1: variables measurements and their expected signs

S/NO	Variable name	Measurement
1	Age of the respondent	Continuous, Years
2	Financial literacy	Categorical, 1, financially literate, 0 otherwise.
3	Collateral securities	Categorical, 1 have, 0 not having
4	Interest rate	Categorical, 1 high, 0 low
5	Access to credit	Categorical, access, 0 otherwise
6	Education level	Continuous, years of schooling
7	Marital status	Categorical, single, 0 married
8	Membership in financial solidarity group	Categorical, 1 member, 0 not a member
9	Lending terms	Categorical, 1 stringent, 0 flexible
10	Income level	Continuous, monthly income

5. Results

5.1 Drivers of access to microfinance among women vegetable marketers in Mwanza city

The results from the Probit regression model (Table 2) provide important insights into the factors influencing access to microfinance among women vegetable marketers in Mwanza City. The age of the respondent was found to have a negative but weakly significant relationship with access to microfinance at the 10% level ($p = 0.073$). Specifically, the coefficient of -0.075 suggests that as the age of a woman marketer increases, the probability of accessing microfinance slightly decreases. This could be attributed to microfinance institutions possibly favoring younger clients who are perceived as more dynamic, entrepreneurial, and able to engage in longer-term repayment commitments compared to older entrepreneurs.

Income level showed a positive and statistically significant influence on microfinance access at the 5% level ($p = 0.0105$). The coefficient of 0.043 indicates that an increase in income level enhances the likelihood of a woman marketer obtaining microfinance services. Higher-income individuals are likely considered less risky by microfinance institutions, as they are presumed to have a better capacity to repay loans. Thus, women with better income streams from their vegetable businesses or supplementary sources are more attractive to lenders.

Educational level also positively affected access to microfinance and was marginally significant at the 10% level ($p = 0.079$). A coefficient of 0.137 means that an increase in education level is associated with a greater probability of accessing microfinance. Education may enhance women's ability to understand loan terms, manage financial resources more efficiently, and navigate application processes, thus making them more appealing clients to microfinance providers. This underscores the role of education in improving financial access for women entrepreneurs operating in informal sectors.

Table 2 Probit model results on the drivers of microfinance access

Access to microfinance	coefficients	Robust Standard error	P value
Age of the respondent	-0.075041*	5.17e ⁻⁰⁶	0.073
Income level	0.043033**	0.0418199	0.0105
Educational level	0.1372562*	0.0780821	0.079
Financial literacy (1= financially literate)	1.276449**	0.5696546	0.025
Interest rate(1=high)	-3.360291***	0.8747176	0.000
Collateral security (1= having required collaterals)	7.114211***	0.586511	0.000
Membership in financial solidarity group (1=member)	-3.058433**	1.205009	0.011
Marital status (1=single)	-0.614966	0.4116725	0.135
Lending terms(1=stringent)	-1.546916**	0.6776356	0.0225

* $P < 0.1$; ** $P < 0.05$; *** $P < 0.001$

Source: Author's findings 2025

Financial literacy showed a strong positive and statistically significant impact on microfinance access at the 5% level ($p = 0.025$). Women who were financially literate were much more likely to access microfinance services, as indicated by the large positive coefficient of 1.276. Financial literacy likely equips women with the skills needed to prepare loan applications, understand interest rates and repayment terms, and make informed borrowing decisions. This finding highlights the critical need for integrating financial education programs into microfinance interventions targeting women in vegetable marketing.

Several institutional factors were also found to significantly affect microfinance access. High-interest rates were negatively and strongly associated with access to microfinance at the 0.1% significance level ($p = 0.000$), with a coefficient of -3.360. This result suggests that high-interest rates deter women from seeking microfinance services. Additionally, having the required collateral securities was positively and very strongly associated with access to microfinance (coefficient = 7.114, $p = 0.000$). This emphasizes that women possessing the necessary collateral are much more likely to secure loans, pointing to collateral requirements as a major barrier for those without assets. Similarly, stringent lending terms were negatively associated with microfinance access (coefficient = -1.547, $p = 0.0225$), suggesting that tough borrowing conditions discourage women from participating in microfinance programs.

Finally, membership in a financial solidarity group was surprisingly found to negatively influence microfinance access at the 5% significance level ($p = 0.011$), with a coefficient of -3.058. This could indicate that not all solidarity groups are effective at enhancing access, possibly due to reputational risks, weak group cohesion, or financial instability within groups. Marital status, on

the other hand, was not statistically significant ($p = 0.135$), indicating that whether a woman is single or married does not independently influence her likelihood of accessing microfinance services in this context. Overall, the results underline the interplay between personal attributes, financial knowledge, and institutional practices in shaping women's access to microfinance in Mwanza City.

5.2. Multicollinearity test

The Variance Inflation Factor (VIF) results presented in Table 3 were used to test for multicollinearity among the independent variables included in the Probit regression model. Generally, a VIF value greater than 10 indicates a serious multicollinearity problem that could bias the estimates of the regression coefficients (Gujarati & Porter, 2009). In this analysis, the variables "Collateral security" and "Membership in financial solidarity group" displayed exceptionally high VIF values of 30.83 and 29.98, respectively. These results suggest a strong linear relationship between these two variables and other predictors in the model, which could distort the reliability of their estimated effects.

Table 3 Multicollinearity test by variance inflation factor

Variable	Vif	1/vif
Collateral security	30.83	0.032431
Membership in financial solidarity group	29.98	0.03352
Income level	1.65	0.607683
Interest rate	1.62	0.617176
Age	1.61	0.621354
Education level	1.19	0.840559
Lending terms	1.06	0.940791
Marital status	1.06	0.945745
Financial literacy	1.05	0.949565
Mean vif	7.78	

Source: Author's Findings (2025)

On the other hand, all other variables recorded VIF values below 2, including "Income level" (1.65), "Interest rate" (1.62), "Age" (1.61), "Education level" (1.19), "Lending terms" (1.06), "Marital status" (1.06), and "Financial literacy" (1.05). These low VIF values indicate very low multicollinearity among these predictors, suggesting that they provide independent information in the model. Furthermore, the 1/VIF column reinforces this observation, showing values close to 1 for these variables, meaning they are not strongly correlated with each other.

The mean VIF for the model was found to be 7.78, which, although below the critical threshold of 10, still suggests moderate overall multicollinearity among the variables. However, given the extremely high VIFs for collateral security and membership in financial solidarity groups, there is a risk that their standard errors are inflated, potentially weakening the precision of the estimated coefficients. This situation warrants careful interpretation of their effects in the Probit model results and may suggest a need to either center, transform, or reconsider the inclusion of these highly collinear variables in future modeling.

Generally, while most of the independent variables used in the model do not pose a multicollinearity threat, the high VIF values of "Collateral security" and "Membership in financial solidarity group" are concerning. Therefore, any policy recommendations or theoretical conclusions drawn based on these two variables should be made cautiously. Further diagnostic checks or remedial measures such as variable transformation or dimensionality reduction could be considered in future research to improve model stability and accuracy.

5.3 Challenges faced by women vegetable marketers in accessing and utilizing microfinance

Table 4 presents the distribution of responses regarding the major challenges faced by women vegetable marketers in accessing and utilizing microfinance services in Mwanza City. The findings highlight several key barriers that significantly affect women's ability to fully benefit from microfinance interventions. Across most challenges, a majority of respondents either strongly agreed or agreed, indicating that these obstacles are widely experienced and impactful among the study participants.

Lack of collateral security was identified as a major constraint. Out of the respondents, 43 strongly agreed and 91 agreed that collateral requirements hinder their access to microfinance services. Only a small number (16) disagreed, and none strongly disagreed or remained neutral. This pattern suggests that the inability to provide collateral remains a widespread and critical barrier, reinforcing findings from previous studies that asset ownership disparities disadvantage women when seeking financial support.

High-interest rates were also prominently highlighted, with 68 respondents strongly agreeing and 78 agreeing that elevated interest rates pose a significant challenge. Only three respondents disagreed, and one remained neutral. These results show that the cost of borrowing is a major deterrent, making microfinance less accessible or even unsustainable for women who are trying to maintain or expand their vegetable businesses in low-margin market environments.

Table 4 challenges faced by women in accessing and utilizing microfinance for vegetable business.

Challenges	Strongly agree	Agree	Disagree	Strongly disagree	Neutral
Lack of collateral securities	43	91	16	0	0
Higher interest rate	68	78	3	0	1
Diverging the loan for home expenses	60	69	11	0	8
Perceived danger of micro credit	11	61	65	1	11
Lack of financial skills	44	64	34	4	4

Source: Author's findings (2025)

Another challenge identified was the diversion of microfinance loans for household expenses. Sixty respondents strongly agreed and 69 agreed that funds intended for business purposes are often redirected toward urgent family needs. Eleven respondents disagreed while eight were neutral. This behavior reflects the dual financial pressures faced by women, who must balance business investments with pressing domestic responsibilities, sometimes undermining the intended impact of microfinance on enterprise growth.

Other notable challenges included a lack of financial skills and the perceived danger of microcredit. A considerable number of women (44 strongly agreed and 64 agreed) reported lacking the necessary financial management skills to use loans effectively. Meanwhile, perceptions of microcredit being risky or dangerous were moderately noted, with 11 strongly agreeing and 61 agreeing, though 65 disagreed. This mixed perception suggests that while many women recognize microcredit's potential benefits, a substantial group remains cautious, fearing debt entrapment or unmanageable repayment obligations. Overall, these findings underline the need for integrated microfinance programs that not only provide capital but also offer financial literacy training and flexible, client-friendly lending models.

6. Discussion

The findings of the study reveal that various personal, financial, and institutional factors significantly influence women vegetable marketers' access to microfinance in Mwanza City. Age was found to negatively affect access, suggesting that younger women are more likely to secure microfinance support compared to their older counterparts. This observation aligns with earlier research suggesting that microfinance institutions tend to view younger entrepreneurs as more dynamic, adaptable, and capable of sustaining long-term repayment (Pitt & Khandker, 1998; Coleman, 1999). Conversely, older women may face implicit age biases or may themselves exercise greater caution in financial engagements due to risk aversion.

Income level emerged as a positive and significant driver of access to microfinance. Women with higher or more stable income streams were better positioned to secure credit, a finding supported by Morduch (1999), who argued that microfinance institutions prefer clients who demonstrate a better ability to repay. Similarly, educational attainment showed a positive relationship with microfinance access, consistent with findings from Bhatt and Tang (2001) and Kebede and Abera (2014), which emphasized that education improves women's understanding of loan products and enhances their ability to comply with repayment conditions. Financial literacy played an even stronger role; women who were financially literate had significantly greater chances of obtaining microfinance services, a result that corroborates Lusardi and Mitchell (2014) who demonstrated that financial literacy is fundamental for improving individuals' financial behavior and outcomes.

Institutional factors, notably interest rates, collateral requirements, membership in financial solidarity groups, and lending terms, were also critical determinants of access. High interest rates were shown to severely deter women from seeking microfinance, resonating with the work of Ifelunini and Wosowei (2013) and Julien, Kossi, and Akiso (2021), who found that prohibitive borrowing costs significantly restrict access for women entrepreneurs. Possession of collateral significantly increased the probability of loan approval, confirming earlier research by Johnson and Rogaly (1997) and Stiglitz and Weiss (1981), which established that collateral remains a principal screening tool in credit markets. Interestingly, membership in financial solidarity groups was negatively associated with access, suggesting that group-based lending mechanisms may not always function effectively — a nuance discussed by Todd (2000) in highlighting the weaknesses of group lending when cohesion and trust break down. Additionally, stringent lending terms reduced access to microfinance, echoing findings by Armendáriz and Morduch (2005) who pointed to rigid loan conditions as barriers particularly for informal sector clients.

The multicollinearity diagnostic showed that most predictor variables were sufficiently independent, with low variance inflation factors, suggesting that the regression results are reliable (Gujarati & Porter, 2009; Ojo et al., 2024). However, the high collinearity observed between

collateral security and membership in financial solidarity groups suggests some caution in interpreting the magnitude of their effects. Nonetheless, the substantive importance of these two factors is validated both by the statistical results and the qualitative experiences reported by participants, reinforcing the idea that both institutional requirements and group dynamics are critical in shaping women's financial access (Granovetter, 1985; Mayoux, 2001).

In addition to the factors influencing access, the study identified key challenges faced by women in utilizing microfinance effectively. Lack of collateral security was overwhelmingly recognized as a major obstacle, echoing findings by Ukanwa, Xiong, and Anderson (2018), who noted that asset scarcity restricts women's borrowing opportunities. High interest rates similarly emerged as a major burden, consistent with Karanja (2017) and Olateju et al. (2017) who found that costly credit discourages small entrepreneurs. The tendency to divert microfinance loans toward household expenses was also reported, reflecting the overlapping financial demands women face, an issue discussed by Ellis and Freeman (2004) in the context of rural livelihoods. Furthermore, lack of financial skills was widely acknowledged as a limiting factor, supporting previous observations by MkNelly and Dunford (1998) that training in business and finance is essential for microfinance to truly empower women. Some women also expressed fear of the risks associated with microcredit, an anxiety also observed by Opoku–Mensah and Agbekporu (2015), suggesting that the design of microfinance products needs to account for risk perceptions among vulnerable borrowers.

Together, these findings suggest that while microfinance holds great potential for enhancing women's economic empowerment in vegetable marketing, significant barriers related to affordability, financial capacity building, loan conditions, and perceived risks must be addressed to fully unlock this potential. Policymakers and microfinance institutions must integrate both financial and non-financial services to create a more supportive ecosystem for women entrepreneurs in Mwanza City and similar contexts (Hulme & Mosley, 1996; Yunus, 1999).

7. Conclusions

This study examined the drivers of access to microfinance and the challenges faced by women vegetable marketers in Mwanza City. The results revealed that access to microfinance is influenced by a combination of personal attributes, financial knowledge, and institutional conditions. Key personal factors such as income level, education, and financial literacy were positively associated with improved access to financial services. Younger women and those with better financial knowledge were more likely to obtain microfinance, highlighting the importance of individual capacity in financial participation.

Institutional factors also played a crucial role in shaping access. High-interest rates, strict collateral requirements, and stringent lending conditions were found to significantly discourage women from accessing microfinance services. Moreover, contrary to common assumptions, membership in financial solidarity groups did not always improve access and, in some cases, hindered women's ability to secure loans. These findings emphasize that beyond individual readiness, the structure and terms offered by microfinance institutions critically affect the inclusion of women entrepreneurs.

Women vegetable marketers also faced significant challenges in utilizing microfinance effectively. The most prominent issues included lack of collateral security, high borrowing costs, diversion of loans for household needs, and inadequate financial skills. Additionally, fear of the risks associated with microcredit discouraged some women from fully engaging with financial services. These

challenges demonstrate that financial access alone is not sufficient; supportive measures must also be in place to ensure the sustainable use of microfinance by women entrepreneurs.

Based on the findings, several recommendations are proposed. First, microfinance institutions should design more flexible loan products that minimize collateral requirements and offer lower interest rates to accommodate low-income women entrepreneurs. Secondly, integrating financial literacy training and business development services into microfinance programs is crucial to enhance women's ability to manage loans effectively and grow their businesses. Special attention should also be given to improving group-based lending models, ensuring that solidarity groups are better managed and provide genuine support for their members.

Lastly, policymakers should promote gender-responsive financial policies that address systemic barriers to women's financial inclusion. This includes supporting alternative forms of collateral, like group guarantees or movable assets, and encouraging microfinance institutions to develop products tailored to the specific needs of informal-sector women. A holistic approach that combines access to finance with education, capacity building, and supportive institutional frameworks is essential to empower women vegetable marketers and drive inclusive economic development in Mwanza City and similar contexts.

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