Demographic Determinants for Owning Bank Accounts: A Case of Tanzania

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Abstract
This study investigates the demographic determinants of owning bank accounts among Tanzanians. This study used cross-sectional secondary data from the Tanzania Mainland Household Budget Survey of 2017. Data analysis was performed by using a logistic regression model because of having a binary dependent variable. The study reveals that age, marital status, education level, employment status, and place of residence significantly affect ownership of bank accounts among Tanzanians. However, no evidence to suggest gender influences ownership of bank accounts as both males and females have similar odds of owning bank accounts. The study recommends banks promote the practice of saving money in banks for individuals not engaged in formal employment, such as the self-employed, domestic workers, and casual labourers. In addition, banks and the government should participate in enhancing financial literacy education among Tanzanians, especially from lower levels of education. Moreover, the government should create conducive infrastructures in rural areas that will permit banks to provide banking services. This is important as the majority of Tanzania's population resides in rural areas.

1. Introduction

Recent evidence indicates that the banking industry is the second fastest-growing service sector after mobile phone services (World Bank, 2018). This sector significantly contributes to economic development through efficient and effective practices, offering unparalleled benefits

to users in terms of security of cash balances, convenience, and interest earnings (Rhaiti, 2016). A report by the International Monetary Fund (IMF, 2017) notes that financial inclusion is rising globally; between 2014 and 2017, 515 million adults worldwide opened bank accounts. However, according to Findex 2017, a database compiled by the World Bank, only 69% of adults (3.8 billion people) worldwide have bank or mobile money accounts. Particularly, 78% of wage-earners without bank accounts possess mobile phones, suggesting substantial growth potential for mobile payment services. Bank account ownership serves as a primary financial inclusion indicator and is an essential tool for poverty reduction (Zins & Weill, 2016).

In developed countries, internet banking has played a significant role in this development, influenced by factors such as service quality, gender, education, risk, convenience, deposit rates, security, computer skills, and image (Al-Ajam et al., 2015; Martins et al., 2014). In developing countries, the share of adults with a bank account increased from 54% to 63% between 2014 and 2017. However, progress remains sluggish due to disparities between genders and economic statuses (IMF, 2017). Since 2011, women in developing economies have been 9% less likely to have bank accounts compared to men (IMF, 2017). Factors such as deposit rates, quality of services, perceived usefulness, ease of use, and trust are crucial in consumers' decisions to utilize mobile banking in Africa (Tobbin, 2012).

Access to banking services is notably lower in low-income countries than in high- and middle-income ones (Chipeta & Kanyumbu, 2018). However, mobile money accounts are more common than bank accounts (IMF, 2017). In Sub-Saharan Africa, financial inclusion is primarily driven by mobile money services. The share of adults with a financial institution account remains unchanged, while the share of adults with mobile money accounts has nearly doubled to 21% since 2014 (World Bank, 2018). In Tanzania, access to financial services remains a significant issue, with only 8% of the population owning bank accounts (World Bank, 2018). This limited use of banking services is primarily due to Tanzanians' reluctance to pay high transaction fees, leading them to prefer informal financial networks that offer more accessible services at lower rates (World Bank, 2018)

Given the low number of Tanzanians with bank accounts, identifying barriers to financial inclusion is crucial. Examining bank account ownership to facilitate financial transactions can provide valuable insights into the entrepreneurial nature and economic roles of the population (Mbogo, 2010). Understanding the extent and drivers of bank account ownership can help design and implement interventions to lift people out of poverty. This includes easing and securing money transfers. The proposed study is poised to provide evidence guiding financial institutions and mobile money service providers in reviewing and enhancing their policies to expand coverage, security, and product offerings. Identifying key sociodemographic factors will be crucial in this process. Moreover, the study aims to disseminate findings that will inform consumers and stakeholders about the business opportunities and risk mitigation strategies associated with financial transactions.

Despite the increasing number of banks in Tanzania, less than 50% of Tanzanians have access to banking or mobile money services (CEIC, 2017). The figure drops to just 22% when considering banking services alone as of 2016 (Lotto, 2018). This indicates the presence of access barriers and signifies a need for further research to inform suitable interventions. Being a middle-income country with an industry-driven economy, Tanzania's banking industry is expected to be a key source of capital. Understanding the factors influencing access to and use of banking services is, therefore, crucial. Previous studies have highlighted several challenges to financial inclusion, including gender disparities such as lack of collateral, insufficient

financial education, and limited business experience (Demirgüç-Kunt et al., 2012). Additionally, rural-urban variations, which can be attributed to inadequate infrastructure and uneven distribution of banking services, have also been noted (Chipeta & Kanyumbu, 2018).

Although the determinants of access to banking services through ownership of bank accounts are documented (Chipeta & Kanyumbu, 2018; Lotto, 2018; Maradung, 2013; Nandru et al., 2016), the literature remains inconclusive. Predictors of financial inclusion differ significantly between high-income and low-income countries due to variations in income, technology usage, literacy, and connectivity (Fungáčová & Weill, 2015; Sarma & Pais, 2011). Intra-country variations also exist, largely owing to cultural and contextual differences. Moreover, a qualitative description of why individuals do not have bank accounts is noticeably absent from the literature despite its significance.

Given that service uptake is primarily a behavioural phenomenon (Danyali, 2018), exploring people's perceptions regarding bank account ownership may be an essential initial step toward devising appropriate strategies for universal financial inclusion in Tanzania. Financial inclusion is integral to poverty alleviation. When individuals are financially included, they gain access to capital and other financial services, which can enable them to start income-generating activities, acquire money management skills, and ultimately improve their livelihoods by meeting their basic needs at both individual and household levels. Building on the discussion above, this paper aims to establish the demographic determinants for utilizing bank accounts.

2. Literature Review

A recent study examining the status and determinants of financial inclusion in Tanzania found that individuals who are male, financially stable, well-educated, and relatively older are more likely to be financially included (Abel et al., 2018; Tuesta et al., 2014). Additionally, the likelihood of financial inclusion increases with higher levels of education (Lotto, 2018). However, it is important to note that this study's reliance on a mobile phone survey introduces potential information bias, which may affect the reliability of its findings.

Research on the determinants of access to banking services in Malawi, utilizing household-level data from 2008 and 2014 surveys on the demand for financial services, revealed that access improves from rural to urban areas and among higher-income earners. Conversely, access is lower among individuals with low and irregular incomes. The study also found that higher education levels and proximity to bank branches positively influence access to banking services. Additionally, financial innovation plays a significant role in enhancing access (Chipeta & Kanyumbu, 2018). Beck et al. (2007) conducted a study on global barriers to accessing and using banking services. They found that better communication and transportation infrastructure, along with improved governance, are correlated with greater outreach. This study, conducted in Brazil, the West Bank and Gaza, the Czech Republic, Bolivia, and Guatemala, faced bias due to a 75.6% response rate, which is below the recommended threshold, and it also neglected demographic factors such as age and did not utilize inferential statistics.

Supporting this argument, Cudjoe et al. (2015) identified perceived credibility and financial cost as major barriers to the adoption of mobile banking services in Ghana. The study, which relied on descriptive statistics, recommended raising awareness among Ghanaian banks through personal interactions with customers and the development of quality initiatives to build confidence. The limitation of this study was its lack of inferential statistical methods, which could have provided deeper insights into consumer behaviour changes. Hyz (2011) used a

qualitative research design, interviews, and questionnaires to examine barriers to banking services access for Small and Medium Enterprises (SMEs) in Greece. The study identified high interest rates and collateral security as significant hindrances, alongside factors such as insufficient service awareness, high transaction costs, concerns about money safety, unfriendly interface design, and lack of procedural training. However, the study's purely descriptive analysis lacked correlational tests like Chi-square and t-tests, which could have provided a more nuanced understanding of the data.

Efobi et al. (2014) investigated the factors influencing access to and use of banking services in Nigeria using the World Bank Household Survey of 2011 and a mixed-methods design. The study analyzed three dependent variables: use of accounts for savings, use of bank services, and frequency of bank withdrawals. The results indicated that income level, age, and ICT inclination significantly influenced access to and use of banking services. However, the study did not account for the individual's residence location (rural/urban) or the distance to the nearest bank branch, which could have confounded the results due to inadequate adjustment for these factors. Soumaré et al. (2016) found that gender and marital status did not significantly determine bank account ownership in West Africa but were significant factors in Central Africa.

A study by Abdinoor & Mbamba (2017), using the Technology Acceptance Model (TAM) and primary data with regression analysis, assessed consumers' adoption of mobile financial services. The findings indicated that individual awareness, perceived usefulness, and perceived benefits were positively associated with adoption, whereas cost effects had a negative association. The study also noted that demographic characteristics significantly influenced adoption. Given that cost was identified as a barrier to adopting mobile financial services in Tanzania, service providers should consider the affordability and availability of financial services to better serve the low-income population.

A few studies which have attempted to analyze barriers and facilitators to the use of banking services have had notable limitations, including a lack of generalizability due to smaller geographical coverage, smaller sample sizes (e.g. (Mkoka, 2014)), and limited use of rigorous statistical methods for proper identification of the factors associated with utilization of banking services. Others, such as Efobi et al. (2014), have lacked the inclusion of key social demographic variables such as place of residence and distance. For instance, some evidence shows that rural residences are negatively associated with financial inclusion (Wokabi & Fatoki, 2019). This suggests that the bigger the rural population a country has, the less the financial inclusivity.

Since over 65% of the Tanzanian population lives in rural areas, there is an urgent need to devise mechanisms to enhance financial inclusion in the country, with special attention to rural areas. This implies that confounding may have been a significant limitation in those studies, thus raising questions about whether the identified factors in previous studies are statistically justified. Confounding requires robust statistical techniques such as regression analysis that employs multivariate models to address (Pourhoseingholi et al., 2012) or performing stratified analyses to account for colossal differences in contexts. This study adhered to that. Furthermore, published research evidence of the utilization of banking services and associated factors in Tanzania is scanty; thus, a need for more scientific evidence.

This study is guided by the following conceptual framework, as per Figure 1. The independent variables of interest (demographic factors) in this study are age, gender, marital status, employment status, education level, and place of residence. The dependent variable is

ownership of the bank account. However, this study included the average credit processing time as a control variable.
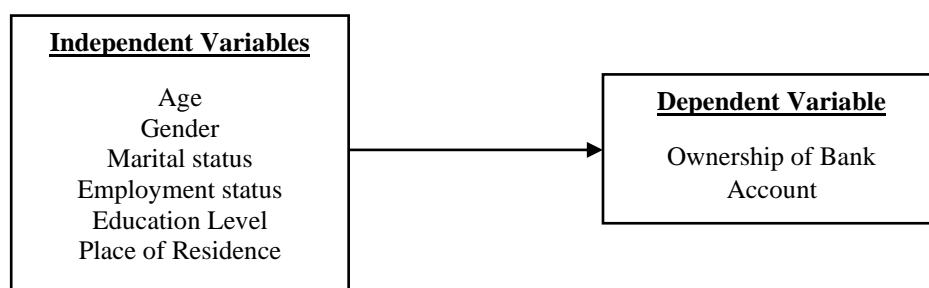
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┌─────────────────────────────────┐
│    Independent Variables        │                    ┌──────────────────────────┐
│                                 │                    │   Dependent Variable     │
│           Age                   │                    │                          │
│          Gender                 │────────────────────▶  Ownership of Bank       │
│       Marital status            │                    │      Account             │
│     Employment status           │                    │                          │
│       Education Level           │                    └──────────────────────────┘
│      Place of Residence         │
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Figure 1 : Conceptual Framework

3. Material and Methods

The study covered Tanzania's mainland and used cross-sectional secondary data from the Household Budget Survey of 2017/2018 (NBS, 2019). In data analysis, the study used a logistic regression model because the dependent variable is binary. The dependent variable is either owning or not owning a bank account. Apart from the dependent variable, this study has six predictors, including age, gender, marital status, education level, employment status, and place of residence. In that regard, the logistic regression model is explained by:

$$ln(Y/Y\text{-}1) = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6$$

Where:
Y is a dependent variable (ownership of bank account)
a is an intercept
$(\beta_1 - \beta_6)$ are coefficients for predictor variables $(X_1 - X_6)$ i.e., age, gender, marital status, education level, employment status, and place of residence

4. Results and Discussion

This section presents the interpretation and discussion of the findings from this study. Table 1 presents the inferential statistics obtained from the analysis.

Table 1: Results from the Logistic Regression Model

Covariate	Adjusted Odds Ratios (aOR)	95% Confidence Interval (CI)		p-value
		Lower Limit	Upper Limit	
Gender				
Male	1.00	—	—	—
Female	1.02	0.81	1.29	0.860
Age group (years)				
18-30	1.00	—	—	—
31-40	1.95	1.52	2.52	<0.001
41-50	2.45	1.88	3.20	<0.001
51-60	3.20	2.41	4.25	<0.001
61+	5.09	3.76	6.89	<0.001
Marital status				
Never married	1.00	—	—	—
Married or living together	0.97	0.72	1.32	0.854
Divorced or separated	0.40	0.27	0.61	<0.001
Widowed	0.65	0.43	0.96	0.031
Education level				

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No education	1.00	—	—	—
Primary incomplete	1.67	1.06	2.62	0.026
Primary complete	5.15	3.58	7.40	<0.001
Secondary and above	32.46	22.26	47.33	<0.001
Place of residence				
Rural	1.00	—	—	—
Urban	2.57	2.20	3.00	<0.001
Employment status				
Employee	1.00	—	—	—
Self-employed	0.65	0.53	0.79	<0.001
Household worker	0.52	0.35	0.78	0.002
Unemployed	0.46	0.35	0.61	<0.001
Retired	1.15	0.81	1.65	0.438
Unknown	0.51	0.33	0.78	0.002

After adjusting for other independent variables, the likelihood of owning a bank account increases significantly with age. Respondents aged 31–40 are almost twice as likely to own a bank account as those aged 18–30, while those aged 41–50 are 2.45 times more likely. This probability continues to grow for older age groups, with those aged 51–60 being 3.20 times more likely, and those aged 61 and older being over 5 times more likely to own a bank account compared to the youngest group. The data shows a clear trend of increasing bank account ownership with advancing age, with stable estimates and narrow confidence intervals, indicating robust results. These findings are consistent with (Abel et al., 2018; Tuesta et al., 2014).

Also, after adjusting other demographic variables of this study, the likelihood of owning a bank account was found to be similar between men and women (adjusted odds ratio [aOR] = 1.02, 95% CI 0.81 – 1.29). Despite an initial statistically significant association between gender and bank account ownership in the bivariate analysis, this significance diminished in the multivariate analysis, highlighting the importance of considering multiple factors to avoid confounding variables that could potentially misrepresent the significance of gender on bank account ownership. The findings from (Chipeta & Kanyumbu, 2018) aligned with this observation, whereas another study (Lotto, 2018) reported that women were less likely than men to have bank accounts.

On the other side, marital status significantly influences bank account ownership, after adjusting for other independent variables. Divorced or separated individuals were 60% less likely to own bank accounts compared to single or never-married individuals (aOR = 0.40, 95% CI 0.27–0.61). Widowed individuals were 35% less likely to own bank accounts compared to the single or never-married group (aOR = 0.65, 95% CI 0.43–0.96). The likelihood of owning a bank account was higher for single or never-married respondents than for any other marital status group. Meanwhile, married individuals or those living with a partner had a similar likelihood of owning a bank account to their single counterparts, as the slight 3% less likelihood was not statistically significant (p = 0.854). In summary, divorced, separated, and widowed individuals were significantly less likely to own bank accounts compared to those who were single or never married. The results of this study align with prior research by Soumaré et al. (2016), which also revealed significantly lower levels of formal bank account ownership among individuals who were divorced or widowed in comparison to those who were single or married.

Moreover, after adjusting for other independent variables, employment status was found to significantly impact the likelihood of owning a bank account. Specifically, Self-employed

individuals were 35% less likely to own a bank account compared to employed individuals (aOR = 0.65, 95% CI 0.53–0.79). Household workers were 48% less likely (aOR = 0.52, 95% CI 0.35–0.78). Unemployed individuals were 54% less likely (aOR = 0.46, 95% CI 0.35–0.61). Retired individuals were slightly more likely to own a bank account (aOR = 1.15, 95% CI 0.81–1.65), but this result was not statistically significant. Overall, compared to employed individuals, self-employed, household workers, and unemployed individuals had significantly lower chances of owning bank accounts, while retired individuals had a similar likelihood. The findings are in line with (Soumaré et al., 2016).

Furthermore, education level was found to be strongly linked to bank account ownership, even after accounting for factors like age, gender, marital status, employment, and location. The survey revealed compelling results: individuals who hadn't finished primary education were 1.67 times more likely to have a bank account than those with no education (aOR = 1.67, 95% CI 1.06 – 2.62). Completion of primary school increased the likelihood by five times compared to having no education (aOR = 5.15, 95% CI 3.58 – 7.40), while secondary education and above made individuals 32.5 times more likely to own a bank account (aOR = 32.46, 95% CI 22.26–47.33). These findings indicate a substantial leap in the probability of owning a bank account with each level of educational attainment, emphasizing the significant impact of education on financial inclusion. Several studies (Abel et al., 2018; Chipeta & Kanyumbu, 2018; Lotto, 2018) support the notion that individuals with higher levels of education are more inclined to be engaged in formal employment or business activities, leading to a higher likelihood of holding bank accounts as a necessary means to receive salaries or income.

Finally, place of residence was significantly associated with the ownership of bank accounts, after adjusting for other independent variables of this study. Specifically, respondents who were living in urban areas were 2.57 times more likely to own bank accounts compared to their rural counterparts (aOR = 2.57, 95% CI 2.20 – 3.00). These results meant that the chances of owning bank accounts were better in urban than in rural areas when other demographic characteristics of the respondents were adjusted for. Lack of bank accounts makes it difficult for people to save, and this is a bigger problem for most people in rural areas. Banking services are also rare in rural areas, partly due to limited enabling infrastructures such as electricity, roads etc. The problem also hampers rural residents' ability to take advantage of high-return investment opportunities. Likewise, with the absence of a safe place to keep an emergency cash buffer, response to family and individual vulnerabilities is jeopardized. Therefore, it is greatly important to devote attention to expanding access to financial services in rural areas where access remains very limited. This finding aligns with a study conducted in Malawi, indicating a greater likelihood of individuals owning bank accounts in urban areas compared to rural areas (Chipeta & Kanyumbu, 2018).

5. Conclusion and Recommendations

This study has revealed a lower rate of bank account ownership. Factors such as age, marital status, education, employment status, and urban/rural residence were found to be significant predictors of bank account ownership among Tanzanians. Ownership was positively correlated with age, education, employment status, and being retired, while it was lower among divorced, separated, and widowed individuals compared to single or married individuals, as well as lower among rural residents than urban. Gender did not show a significant association with bank account ownership, with men and women having similar odds of owning accounts.

As such, the study puts forward the following recommendations to policymakers, practitioners, and other individuals.

Recommendations to Banks and Government

Banks should promote the practice of saving money in banks for individuals not engaged in formal employment, such as the self-employed, domestic workers, and casual labourers. In addition, banks and the government should participate in enhancing financial literacy education among Tanzanians, especially from lower levels of education. Moreover, the Government should create a conducive infrastructure in rural areas that will permit banks to provide banking services. This is important as the majority of Tanzania's population resides in rural areas.

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