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COLLATERAL OWNERSHIP AS A STEPPING STONE TO FORMAL CREDIT ACCESSIBILITY: A PERSPECTIVE OF COTTAGE INDUSTRY OWNERS

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ABSTRACT

Purpose: The study investigates the influence of collateral ownership on formal credit accessibility for cottage industry owners in Dodoma, Tanzania.

Design/Methodology/Approach: A cross-sectional survey randomly sampled 357 cottage industry owners from Dodoma City and Chamwino District Council in the Dodoma Region. Quantitative and qualitative data collection methods were used, including surveys and interviews. The analysis employed SPSS software to perform descriptive and inferential statistics, including Chi-square tests and binary logistic regression, to examine the influence of collateral ownership and formal credit accessibility.

Findings: The study found that most cottage industry owners with collateral can only access a small amount of formal credit of up to five million Tanzanian shillings. Similarly, the study revealed that ownership of tangible assets, title deeds, business assets, and employment contracts significantly enhances the likelihood of cottage industry owners accessing credit from formal financial institutions in Dodoma, Tanzania.

Research Limitation: The study concentrated on collateral ownership and formal credit accessibility to Dodoma City and Chamwino District Council cottage industry owners. Thus, the findings may not apply to all Tanzanian cottage industry owners within the councils due to different regional administrative structures. Also, future studies can examine how interest rates, the availability of business records, and the location of the business may affect formal credit accessibility.

Practical Implication: Understanding the role of collateral ownership is crucial in informing policies to improve financial inclusion and reduce poverty.

Social Implication: Enhancing credit accessibility through collateral ownership to cottage industry owners can promote economic growth and job creation in Tanzania.

Originality/ Value: The application of credit rationing theory in comprehending the influence of collateral ownership and credit accessibility for cottage industry owners in Tanzania, contributing to the financial ecosystem for informal businesses in developing economies.

Keywords: *Accessibility. collateral ownership. cottage industry. formal credit. Tanzania*

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INTRODUCTION

Credit accessibility is crucial in promoting financial inclusion and fostering economic growth. Similarly, credit accessibility entails critical factors that enable individuals and businesses, such as cottage industries, to access the financial resources they need to invest, grow, and thrive (Pendame & Akotey, 2023). Moreover, scholars contend that access to credit can encourage market entry, create new products, promote innovations, create employment opportunities, enhance entrepreneurial activities, and foster economic growth (Pendame & Akotey, 2023; Temu, 2019; Nguyen, 2014).

In the same context, credit accessibility allows small firms to undertake productive investments, contribute to the development of the national economy, and reduce poverty (Osano & Languitone, 2016; Beck & Demirguc-Kunt, 2006). Subsequently, credit access supports business growth and can even deliver goods and services to esteemed customers (Widyastuti et al., 2023). Similarly, it is noted that access to credit contributes to the overall achievement of sustainable development goals (SDGs), including ending poverty, improving health and education, and reducing inequality (Kara et al., 2021).

In a global context, formal credit accessibility for small firms is reported in both developed and developing countries, including European countries, Latin America, and Asia, to be challenging as it is hampered by many constraints that trigger its development and growth (Janković et al., 2023; Rahman et al., 2017). Various factors, including firm size and industry type, firm age, firm ownership, firm innovativeness, credit history, collateral ownership and interest rate, are reported to impact formal credit accessibility (Janković et al., 2023; Magembe, 2017; Rahman et al., 2017). Also, it is asserted that in European countries such as Slovakia, Hungary, and the Czech Republic, micro and small firms and women-owned firms face credit shortages from banks (Rahman et al., 2017). At the same time, collateral ownership was revealed to impact credit accessibility positively, and insufficient collateral can limit credit access (European Central Bank, 2020; Rahman et al., 2017).

On the other hand, in Europe, it is posited that larger firms or firms in high-growth sectors such as technology tend to have easier access to credit than small firms with lower growth prospects (European Investment Bank, 2020). Similarly, innovative firms have been acknowledged to have a better chance to have access to credit than their counterparts. Likewise, a borrower's credit history remains one of the most significant determinants of credit access, as individuals and firms with a strong credit track record are more likely to secure loans under favourable conditions. In contrast, borrowers with poor credit histories face more challenges obtaining loans as lenders become more cautious (Ortiz-Molina & Penas, 2008).

Credit accessibility for micro and small firms in African countries is challenging but varies across regions and nations. The key issues include a combination of economic instability, high interest rates, lack of collateral, limited financial literacy, and underdeveloped financial infrastructure. For instance, for micro and small firms to be in a position to access credit from

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formal financial institutions such as banks, significant collateral is needed, which the majority of the small firms cannot provide. According to the African Development Bank (AfDB), more than 50% of micro and small firms in sub-Saharan Africa have reported a lack of collateral as a significant obstacle to accessing credit (African Development Bank, 2021). Likewise, micro and small firms face disproportionately high interest rates and costs, especially in countries with higher inflation and risk factors. For instance, loan interest rates can be 20-30% or higher in some African countries, making borrowing unfeasible for smaller businesses (World Bank, 2022).

Furthermore, many African financial systems are underdeveloped and struggle to cater to the needs of small businesses. For instance, a report by McKinsey and Company (2021) indicates that fewer than 20% of micro and small businesses have access to the financing they need, and the gap is estimated to be around US $ 330 billion. Moreover, most micro and small businesses operate in the economy's informal sector. They may lack the documentation or financial literacy to approach formal financial institutions like banks; thus, other regulated non-bank institutions such as microfinance and SACCOS often step in to bridge the gap, although they offer smaller amounts of capital at higher interest rates (International Finance Corporation (IFC), 2022).

Subsequently, taking country-specific examples in Africa, such as Kenya, South Africa, and Nigeria, it has been noticeable that Kenya has made significant strides in improving small business credit accessibility through digital innovative platforms like M-Pesa and M-shwari, but traditional banking remains difficult for many small businesses due to stringent condition of demanding collateral and cost barriers (Central Bank of Kenya, 2021).

Similarly, in Nigeria, the financial landscape for small firms is dominated by informal credit providers, but government interventions such as the Central Bank of Nigeria’s SMEs Credit Guarantee Scheme aim to improve access, although uptake remains limited due to high operational costs and collateral requirement (PwC-Nigeria, 2021). Also, in South Africa, it was reported that the existence of a more developed banking system offers relatively better credit access from small businesses, though systemic inequalities persist. It is further noted that many small businesses, especially in underserved regions, continue to rely on informal finance networks (National Treasury of South Africa, 2020).

Hence, credit accessibility remains a major bottleneck for small firms in Africa, though innovations in fintech and mobile banking are promising. However, systemic changes such as improved financial literacy, more flexible lending models, and supportive government policies are needed to bridge the significant financing gap.

In Tanzania, like other developing countries, credit accessibility remains challenging for most small business owners, including cottage industries. Studies noted that firm age, firm legal status, availability of accounting records, owning collateral, location of the business, firm size,

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interest rates charged, level of literacy, number of financial institutions, credit history, and collateral ownership are significantly associated with access to finance in some business (Magembe, 2017; Kira, 2015). Thus, collateral refers to assets pledged by the borrower to a lender as a security during credit accessibility (Mwirigi et al., 2019; Osano & Languitone, 2016). Scholars posit that the collateral demanded by formal institutions can take different forms based on whether the source of credits is banks, microfinance, or SACCOs.

For instance, ownership of real property, such as land and buildings/houses, is considered essential and highly preferred among institutional lenders such as banks (Pendame & Akotey, 2023; United Republic of Tanzania, 2023; Githinji et al., 2019; Mutuku et al., 2019; Temu, 2019; Karanja et al., 2015; Song, 2002) accompanied by title deeds and sometimes personal guarantors. However, the credit accessibility terms are less stringent for non-bank institutions such as microfinance and SACCOs, which are reported to accept moveable assets such as motor vehicles (motorcycles, 3-wheelers, cars, trucks, etc.) (Pendame & Akotey, 2023; Karanja et al., 2015) among other things, collateral helps reduce lenders' risk and often leads to better loan terms for borrowers, catering to the financial needs of those segmented from commercial banks.

Tanzania has undertaken multiple initiatives to improve credit accessibility, especially for underserved populations, small businesses, and rural communities. The government has implemented policies that promote microfinance and other credit facilities, enabling small and medium-sized enterprises (SMEs) to access funding for growth and development (Bank of Tanzania, (BOT), 2020). The National Financial Inclusion Framework (NFIF) has set specific targets to increase access to credit through formal banking and non-bank financial institutions, aiming to reach more than half of the adult population (BOT, 2018).

Despite government initiatives to improve financial inclusion, access to credit remains limited for many Tanzanians, with only 28% of adults having access to formal credit services as of 2020 (BOT, 2021). Empirical evidence further shows that small businesses and rural populations continue to face significant barriers; for example, Kimei (2019) found that over 60% of micro, small, and medium enterprises (MSMEs) in Tanzania report a lack of access to credit.

The extant studies conducted in Slovakia, Hungary, Czech Republic, Indonesia, Vietnam, South Africa, Ethiopia, Nigeria, Malawi, Kenya, and Mozambique indicated that collateral ownership is a crucial component to micro and small business owners with limited credit history when seeking formal financial support (Janković et al., 2023; Onkundi et al., 2023; Pendame & Akotey, 2023; PwC-Nigeria, 2021; European Central Bank, 2020; Mutuku et al., 2019; Tefera, 2019; Rahman et al., 2017; Osano & Languitone, 2016; Ndungu, 2016; Karanja et al., 2015; Fatoki & Asah, 2011). Also, few studies on credit access in Tanzania primarily focus on small, medium-sized, and large businesses in Dar es Salaam, Arusha, Mbeya, Mwanza, and Unguja (Sansa, 2019; Magembe, 2017; Kira, 2015). Thus, there is an inadequacy

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of studies from Tanzania focusing on collateral ownership and credit accessibility from the perspective of cottage industry owners set up in Dodoma, Tanzania.

A study among cottage industry owners in credit accessibility and collateral ownership is vital in promoting financial inclusion in the country. Similarly, this study is essential for developing affirmative action policies for financial inclusion and poverty reduction, thus speeding up achieving sustainable development goals. Likewise, credit accessibility and collateral studies may help to identify barriers micro and small-scale entrepreneurs face in securing loans, which could stimulate economic growth and job creation. Moreover, this study could strengthen the financial ecosystem for informal businesses in developing economies. Thus, this study is set to investigate the influence of collateral ownership as a stepping stone to formal credit accessibility in Tanzania, drawing experience from the Dodoma region in the selected councils of Dodoma City and Chamwino district.

THEORIES UNDERPINNING THE STUDY

Credit Rationing Theory

The credit rationing theory was initially developed by Stiglitz and Weiss (Stiglitz & Weiss, 1981) in their seminal paper entitled "Credit rationing in the markets with imperfect information." The theory tried to interrogate the demanding side of credit (borrowers) and the supply side of credit (lenders) by linking the information possessed by the borrowers (in this case, cottage industry owners) with the information available/required by financial institutions (including banks, MFIs, and SACCOS) as a supply side. In his theory, Stiglitz and Weiss postulate that financial institutions may limit the amount of credit to be supplied to borrowers despite demand due to insufficient information.

Furthermore, the theory states that when one of the counterparties (typically the lender) in a loan transaction lacks sufficient information about the other counterparty, asymmetric information occurs in the credit markets between the lender and the borrower, which makes it challenging to decide on a loan with accuracy (Mutuku et al., 2019). In this regard, collateral is vital to mitigate credit rationing information asymmetry problems (Steijvers & Voordeckers, 2009; Stiglitz & Weiss, 1981).

Collateral performs a screening and signalling function to reduce the adverse selection in creditworthiness, helping borrowers with limited financial histories access formal credit by reducing the lender's exposure to risk and uncertainty (Pendame & Akotey, 2023; Stiglitz & Weiss, 1981).

Empirical Review

Collateral ownership is essential for gaining access to formal credit, especially in underdeveloped countries where lenders are risk-averse. Several studies have found that

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ownership of collateralisable assets reduces the perceived lending risks, facilitating greater access to credit.

For instance, Onkundi et al. (2023) revealed that small businesses in Mount Meru-Kenya are granted loans from formal financial institutions such as microfinance and commercial banks by pledging tangible assets such as land or property. The study opined that the pledged assets help reduce information asymmetry between the borrowers and lenders. Similarly, Karanja et al. (2015) found that collateral requirements had a moderate influence and can be a key lever for credit accessibility in SACCOs in the North Imenti sub-county of Meru, Kenya. Likewise, the study by Githinji et al. (2019) disclosed that most SMEs in the Nyeri central sub-country of Kenya rely on commercial banks to finance their enterprises. However, collateral requirements as a security could discourage some entrepreneurs from acquiring finances, interrupting business growth and development. Also, Besley et al. (2018) argue that lenders use collateral as security and a screening mechanism to assess the borrower's creditworthiness.

Moreover, empirical research has identified that the nature and type of collateral affect borrowing behaviour and loan terms. Studies like that of Pendame and Akotey (2023) reported that real property, which entails movable collaterals such as cars and business machinery, remains the preferred collateral source amongst commercial banks when accessing bank credit in Zimbabwe. However, movable assets tend to be valued less by financial institutions than fixed assets, leading to higher interest rates or lower credit limits (Fafchamps & Pender, 1997). On the other hand, the study by Mutuku et al. (2019) researched the determinants of credit accessibility of SMEs in Nairobi, Kenya and concluded that financial institutions mostly preferred collateral aspects, such as personal guarantors and high collaterals, which are reported to have hampered access to credit.

Furthermore, Mutuku et al. (2019) added that most of the SMEs in Nairobi- Kenya have title deeds. Djankov et al. (2007) contended that efficient legal frameworks that allow for the repossession of collateral further increase credit access, suggesting that ownership alone is insufficient without institutional support. Djankov et al. highlighted the importance of asset type and legal infrastructure in promoting credit inclusion.

Subsequently, research by Kira (2015) from Tanzania revealed that access to credit financing for SMEs is significantly related to the firm's assets to be pledged as collateral. Thus, including the firm that owns assets to be pledged as collateral assured a higher possibility for a firm to access credit financing. Therefore, the availability of collateral is crucial as it demonstrates a positive relationship with access to credit, making it a decisive factor for borrowers seeking to obtain credit from lenders. Similarly, Fatoki and Asah (2011) in a study conducted in South Africa, opined that collateral requirements make loans less risky and reduce moral hazard problems by giving financial institutions a claim on a physical asset. Osano and Languitone (2016) highlighted that the pledged security assets should be used to recover the principal in case of loan defaults by borrowers.

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The security for loans must be sold under standard market conditions, at a fair market value and with reasonable promptness (Osano & Languitone, 2016). However, Mullei and Bokea (2000) It was reported that for commercial banks to be ready to accommodate small businesses' loan proposals and give them access to credit, the type of collateral involved must be 100% or more equal to the amount of credit extension. Therefore, collateral ownership should be in place for small businesses to reduce credit denial and discrimination from formal lenders when securing financing.

MATERIAL AND METHODS

Areas of the Study and Research Design

The study was conducted in Tanzania at two councils in Dodoma City and Chamwino district in the Dodoma region. The councils were chosen as the study area based on the rapid population growth in Dodoma. The National Census Report 2022 reveals a tremendous increase in population growth in the Dodoma Region at the rate of 3.1% over the 10 years since 2012 (United Republic of Tanzania, 2022). The rapid population growth in Dodoma is linked to the government's decision to shift its operation from Dar-es-Salaam to Dodoma, which forms the expected future market for cottage industry products. Also, according to Kotler and Keller (2016), population growth is essential in creating marketing opportunities and increasing performance, leading to firm growth, including cottage industries.

Similarly, the Dodoma region was selected based on the availability of various industries and several economic activities. It is pointed out that Dodoma is home to several industries, including the winery (Kimaro et al., 2024; Mushi, 2007), sunflower oil (Njiku, 2019; Van Auken & Lubawa, 2021); tailoring/sowing, food vending, hair cutting, and dressing saloon (Masanyiwa et al., 2020); furniture industries (Mfilinge & Abdallah, 2024). Likewise, the study used a cross-sectional survey design to collect relevant information from a target population only once. The design is considered adequate and efficient because it allows rapidly capturing a sizable amount of data within a given time (Kresmodel, 2018; Ringo et al., 2022).

Population and Sampling

The population of this study comprised 3,350 cottage industries (micro and small) acquired from the list obtained from a government agency named the Small Industries Development Organisation (SIDO) and supplemented with the registered list obtained from the councils of Dodoma City and Chamwino district. The target population contains various business firms from different sectors, such as wineries (rosella and grapes wines), food processing (bakery, cooking oil, food catering, juice, milk), building materials (bricks, timber chopping), furniture industries, handcraft metal products (welding, sharpening), textile work (tailoring and weaving), decorative handcraft (pottery, jewellery, cookware). This population was preferred because it gives access to a wide range of representative, diversified businesses within the research area. The study's population considered the cottage industries, also termed micro and

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small-scale industries, as defined by the number of workers and capital employed. Micro industries have 1-4 employees and a capital limit of 5 million Tanzanian shillings (Tshs.), while in the small-scale group, there are between 5 and 49 employees and a capital of above 5 million to 200 million Tshs. (United Republic of Tanzania, 2003).

Also, the study employed Yamane's (1967) formula to determine the sample size for quantitative data from the targeted population of 3,350 cottage (micro and small) industries located in Dodoma City and Chamwino district councils. Yamane was hired due to its ability to provide a quick and accurate sample size from the known population of the study (Singh et al., 2014). Moreover, the study applied the 5 percent margin of error and the 95% confidence interval recommended by (Leavy, 2017), resulting in a sample size of 357.

Consequently, the 357 cottage industry owners sampled were proportionately divided into Dodoma City and Chamwino district councils, as presented in Table 1. After that, cottage industry owners from the selected councils were added to the sample using multi-stage sampling techniques; in the first stage, the Dodoma region was purposively selected from 31 regions in Tanzania; in the second stage, considering the nature of Tanzania, which is both urban and rural, the study selected two councils among seven found in the region in which rural council (Chamwino district) was chosen using simple random sampling to represent rural cottage industries in Tanzania and an urban council (Dodoma City) was taken purposively to represent urban cottage industries in Tanzania.

Similarly, the study purposively selected cottage industry owners in the third stage at the cottage industry level. The owners were selected because they knew the credit they obtained from financial institutions for their businesses. Ringo et al. (2023) owners have rich information pertinent to the study variable and are involved in the firm's strategic decisions. In the fourth and last stage, cottage industry owners, as the unity of analysis and inquiry, were drawn from the population using a systematic sampling technique. In the same context, the studies by Olasunkanmi & and Tejumade (2019), Macha (2018), Tukela (2018) and Sarbah et al. (2015), adopted multi-stage sampling in varied stages to select different units of their studies. As a result, 357 cottage industry owners participated in the study, which was carried out between November 2023 and January 2024.

Table 1: Proportional Distribution of the Sample Size

S/N	Category	Population (Cottage industries (N))	Sample size (n_i)	Percentage
1	CI from DC	N*DC = 2,077*	2,077/3,350 × 357=221	62
2	CI from CD	N*CD = 1,273*	1,273/3,350 ×357 =136	38
	Total	**N*TP* = 3,350**	**357**	**100.00**

Source: Computed by the researcher from the information obtained from SIDO, DCC, and CDC

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Measurement of Variables of the Study

The study adopted a measurement scale developed by previous researchers in the extant literature to measure the variables of collateral ownership and credit accessibility. The adopted scale encompasses various aspects and is presented in 2-Likert scales, namely 1- "Yes" to 2- "No." The aspects of measuring collateral ownership were adopted from (Pendame & Akotey, 2023; Prihantoro & Nuryakin, 2020; Mutuku et al., 2019; Chandio et al., 2017; Magembe, 2017; Kira, 2015; Karanja et al., 2015; Steijvers & Voordeckers, 2009; Song, 2002) and further modified to suit the current study. Thus, the six aspects were used to measure the variable of collateral ownership. Additionally, accessibility to credit was measured using the amount of loans received from formal financial institutions as adopted and modified by (Mutuku et al., 2019); for further reference, see Table 2.

Table 2: Summary of the measures of the study variables

Variables	Aspects of measuring the variable	Sources
Independent variable: Collateral ownership	Ownership of tangible assets (land & building)	Chandio et al. (2017), Karanja et al. (2015), Kira (2015), Magembe (2017), Mutuku et al. (2019), Pendame & Akotey (2023), Prihantoro and Nuryakin (2020), Song (2002), Steijvers and Voordeckers (2009).
	Ownership of motor vehicles (motorcycles, 3-wheelers, cars, trucks, etc)	
	Title deeds	
	Personal guarantors	
	Business assets (inventory, receivables & machinery)	
	Pay slips (employment letter)	
Dependent variable: Credit accessibility	Amount of loan received (5 categories of highest loan amount)	Mutuku et al. (2019)

Data Collection and Analysis

This study used quantitative and qualitative data collection tools to gather primary data. The instrument employed for quantitative data is a survey questionnaire. Creswell (2014) asserted that surveys can allow researchers to collect quantitative data from a large sample efficiently and can include closed-ended questions to quantify responses and measure variables statistically. For this study, structured questionnaires were used and self-administered to respondents, the cottage industry owners. On the other hand, qualitative data was collected using the interviews. The interview was preferred because it provides qualitative insights that surveys may not capture, allows for in-depth exploration of participants' thoughts, and offers richer contextual information in understanding complex behaviour and experience (Kvale & Brinkmann, 2015).

Then, the "Statistical Package for Social Sciences (SPSS)" 27 version was used to evaluate the quantitative data descriptively and inferentially. The results of descriptive statistics and the frequency were disclosed in the form of counts and percentages and presented in a table to identify trends and patterns in the data that might require further investigation. Also, to obtain

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a detailed picture of the sample and trends on collateral ownership as a first step towards formal credit accessibility, the respondents' socio-demographic information of the cottage industries and their retorts to select each aspect were presented.

Moreover, the study used inferential statistics to conduct further quantitative analysis of the variables, including chi-square tests and binary logistic regression, to analyse the existing nexus between collateral ownership and formal credit accessibility. The chi-square test, a test of independence, was employed to decide which aspects should be incorporated into the model. Then, the robust tool regression analysis examined the strength and nature of the directions of the connection between variables, providing insights into which aspects of collateral ownership had the most significant influence on formal credit accessibility.

The binary response was possible after transforming the five categories of the loan amount of dependent variables arranged in increasing order based on the collateral issue into groups: Category 1-3, named Group One, and Category 4-5, named Group 2. That is, group one is "loan access of up to 5 million," and group two is "loan access of 5 million and above").

Consequently, the dichotomous responses for formal credit accessibility based on the loan amount were created by 1 representing a group of cottage industry owners who acquired loans of up to 5 million and 2 representing a group of cottage industry owners who acquired loans of 5 million and above. The binary logistic regression models were used to analyze the relationship between a binary dependent variable and one or more independent variables as depicted in equation (*i*) as follows:

$$\text{logit}(p) = \ln\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_k X_k \quad \ldots\ldots\ldots\ldots\ldots\ldots (i)$$

Where p is the probability of cottage industry owners accessing a specific loan amount from formal financial institutions, and β_0 is the intercept. Similarly, the $Xi^{'s}$ are the aspects of independent variables and $\beta_i{}'s$ indicate coefficients estimate of the independent variables.

Ethical Consideration

Ethical considerations are fundamental to the integrity of research, which a researcher should adhere to protect participants and contribute to the reliability and credibility of the research process. Following research ethics, the researcher obtained an introduction letter for data collection from the appropriate authorities, such as Sardar Patel University, the College of Business Education, the Regional Administrative Secretary (RAS), and Dodoma City and Chamwino district authorities.

The essential ethical considerations include informed consent, which entails providing sufficient information to the respondents and requesting voluntary participation. Similarly, the

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researcher protected and respected the confidential and private information provided by the respondents to ensure anonymity. Ultimately, the researcher ensured that all the precautions against physical, psychological, and emotional harm were taken during research.

RESULTS AND DISCUSSION

Socio-Demographic Information of the Cottage Industries

The study surveyed 357 cottage industry owners in Dodoma, Tanzania. As presented in Table 3, the findings revealed that 233 (65.3%) respondents were males and 124 (34.7%) were females. This gender distribution highlights a significant predominance of male respondents in the cottage industry sector. The findings are similar to those of Mossie (2022) and Zins and Weill (2016), in which male individuals were reported to be more financially included than their female counterparts. Thus, being a female is associated with a low chance of owning assets such as land and other collateral that can be used as a security to get credit in formal financial institutions.

Likewise, the study showed that the majority of the respondents 236 (66.1%) are married, which suggests that married individuals may be more likely to have collateral, making them more favorable applicants for lenders influencing their ability to access credit. The findings conform with those of Epaphra & Yang (2021), in which most (42.5%) respondents were reported to be married. Married couples often pool resources, share responsibilities, and offer mutual encouragement, facilitating credit accessibility for their businesses (Fortunato, 2014). Furthermore, social and cultural norms often prioritize family units in economic activities, making it more common for married individuals to engage in cottage industries to support their families (Fortunato, 2014).

Similarly, regarding the respondents' age group, the results, as portrayed in Table 3, indicated that the 35-44 age group (116 (32.5%)) and 45-54 age group (126 (35.3%)) represent the most significant segments of the sample compared to the rest of the other groups. The findings suggest that middle-aged individuals may have a higher influence on access to formal credit because they might have more collateral and experience, which could enhance their creditworthiness.

Similar observations were reported by NFIF plan III of 2023-2028, which indicated that 62% of adult Tanzanians are within the economically active working age range (URT, 2023). Likewise, another case to the current study was reported by Makokha (2016), who found that 80% of the proprietors of cottage industries in Kakamega, Kenya, are between the ages of 18 and 55.

Furthermore, the study in Table 3 reported that most of the respondents, 128 (35.9%), have attained a primary education level, which is crucial for business engagement. However, enhancing educational opportunities and financial literacy programs could further improve

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access to formal credit and foster regional business growth. Similar findings have been revealed by Epaphra & Yang (2021), in which most respondents were found to have attained primary education.

Moreover, the findings revealed a clear distinction in business locations, with a majority of 221 (61.9%) operating in Dodoma City Council (Table 3). These findings imply that the concentration of cottage industries in Dodoma City Council may reflect a higher potential for credit accessibility due to a more developed financial ecosystem. Thus, lenders may be more willing to extend credit to businesses in urban areas with more robust economic activities than their counterparts, Chamwino, which represents a rural area of the study and reported fewer businesses.

Similar findings have been divulged by Beck et al. (2007), which posited that small businesses in urban areas are more likely to be financially included due to better access to financial institutions, infrastructure, and credit services than in rural areas where limited access to banks, microfinance, and other financial resources hinders inclusion. Moreover, urban areas tend to have higher business density and economic activities, creating more opportunities for offering and utilising financial services.

Subsequently, regarding the operational periods of the business, the study disclosed that the majority of the cottage industries, 208 (66.7%), as reflected in Table 3, have been in operation for between 5 and 10 years. The implications of these findings entail that a significant portion of the cottage industries are in the early to mid stages of development.

A lack of collateral or financial history may hamper their ability to access formal credit. Mutuku et al. (2019) supported this finding by highlighting a critical gap in the financial ecosystem that needs to be addressed to facilitate growth, which stated that most (49.0%) of the firms have operated for 6-10 years, indicating sufficient experience for trusting financial lenders during credit accessibility. Epaphra & Yang (2021) added that the active years the businesses have been in operation are vital as they contribute to the experience, business knowledge, and reputation.

The findings depicted in Table 3 revealed the amount of firm's business sectors surveyed, including winery industry 82 (23%), food processing industry 58 (16.2%), furniture industry 53 (14.8%), textile work 52 (14.6%), handcraft metal products 49 (13.7%), building materials 33 (9.2%), and decorative handcraft 30 (8.4%). The study showed that winery and food processing are Dodoma, Tanzania's most prominent business sectors. The varying levels of participation across industries suggest that tailored financial products and support mechanisms are necessary.

Also, the distribution of respondents across various cottage industry sectors in Dodoma illustrates a diverse economic landscape with opportunities and challenges. Thus,

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African Journal of Applied Research
Vol. 11, No. 1 (2025), pp.722-745
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understanding these dynamics is crucial for developing effective strategies that enhance credit accessibility, ultimately promoting growth and sustainability in the cottage industry. The findings are congruent with those obtained from the interviewed key informant, who reported that all the business sectors possess equal chances to access formal credit in banks or non-bank institutions. However, what matters is to meet the credit terms (collateral ownership) stipulated by the concerned financial institutions.

Eventually, the findings presented in Table 3 revealed that 97 (27.2%) of the respondents had accessed formal credit through banks while 260 (72.8%) accessed formal credit from non-bank institutions such as MFIs 166 (46.5%) and SACCOs 94 (26.3%). Therefore, most cottage industry owners accessed credit from non-bank institutions.

The results suggest that cottage industry owners may find MFIs and SACCOs to be the most accessible option in fostering financial inclusivity due to less stringent conditions related to collateral than banks, making them a more viable choice for entrepreneurs in the sector. The findings concur with the key informants, which revealed that the cottage industry owners often acquire loans from non-bank institutions, including microfinance and SACCOs, due to their more flexible lending criteria than traditional banks. They added that non-bank institutions are more willing to work with businesses that may not have the required credit history or collateral needed for bank loans.

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Table 3: Socio-demographic characteristics of the cottage industries owners (N= 357)

Variable	Items	Counts (N)	Percent (%)
Gender	Male	233	65.3
	Female	124	34.7
Total		**357**	**100.00**
Marital status	Single	67	18.8
	Married	236	66.1
	Divorced	26	7.3
	Widow	28	7.8
Total		**357**	**100.00**
Age group in years	18-34	58	16.2
	35-44	116	32.5
	45-54	126	35.3
	55-66	47	13.2
	Above 65	10	2.8
Total		**357**	**100.00**
Education level	Primary	128	35.9
	Secondary	121	33.9
	University/College	94	26.3
	Illiterate	14	3.9
Total		**357**	**100.00**
Location of the business	Dodoma city council	221	61.9
	Chamwino District Council	136	38.1
Total		**357**	**100.00**
Operational period	Less than 5	46	12.9
	Between 5 to 10	208	58.3
	Between 11 to15	48	13.4
	More than 15	55	15.4
Total		**357**	**100.00**
Firm business sector	Winery (rosella and grapes wines)	82	23.0
	Food processing (bakery, cooking oil, milk, food catering)	58	16.2
	Furniture industry	53	14.8
	Building materials (bricks, timber chopping)	33	9.2
	Textile work (tailoring and weaving)	52	14.6
	Handcraft metal products (welding, sharpening)	49	13.7
	Decorative handcraft (pottery, jewellery, cookware)	30	8.4
Total		**357**	**100.0**
Average capital invested	Up to 5 million	259	72.5
	Above 5 to 200 million	98	27.5
Total		**357**	**100.0**
Source of formal credit	Banks	97	27.2
	Microfinance institution	166	46.5
	SACCOs	94	26.3
Total		**357**	**100.0**

ISSN: 2408-7920

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Association between Variables (Chi-square test)

This section explains the association between collateral ownership (ownership of tangible assets, ownership of motor vehicles, title deeds, personal guarantors, business assets, and salary slips) and credit accessibility. Establishing the relationship between the respondents' collateral ownership and credit accessibility helps ensure the variables' associations are valid before proceeding to logistic regression, as depicted in Table 7. The findings portrayed in Table 4 indicated the association between the study's respondents' collateral ownership and credit accessibility.

The study employed the Chi-square test to assess the significant association between the categorical variables. The study revealed that among the six aspects of collateral ownership, five were shown to have a significant association with credit accessibility, including ownership of tangible assets (χ^2 (6, N = 357) = 33.0232, P <0.01), ownership of motor vehicles (χ^2 (6, N = 357) = 4.41, P = 0.0358), title deeds (χ^2 (6, N = 357) = 82.112, P = 0.00), business assets (χ^2 (6, N = 357) = 9.31, P = 0.0023), and salary slips (χ^2 (6, N = 357) = 74.89, P <0.01) as presented in Table 4. However, the results of personal guarantors indicated an insignificant relationship with credit accessibility (χ^2 (6, N = 357) = 0.90, P = 0.3415). Thus, five aspects of collateral ownership that revealed a significant association with credit accessibility were taken for binary logistic regression analysis.

Table 4: Association between Collateral Ownership and Credit Accessibility

Collateral ownership (aspects)	**Credit accessibility**		**Chi-Square**	**P-value**
	Up to 5m	**5m and above**		
Ownership of tangible assets (land & building)			33.0232	<0.01
No	149(74.13)	52(25.87)		
Yes	69(44.23)	87(55.77)		
Ownership of motor vehicles (motorcycles, 3-wheelers, cars, trucks, etc)			4.41	0.0358
No	115(56.37)	89(43.63)		
Yes	103(67.32)	50(32.68)		
Title deeds			82.112	0.00
No	111(73.51)	40(26.49)		
Yes	107(51.94)	99(48.06)		
Personal guarantors			0.90	0.3415
No	65(65.00)	35(35.00)		
Yes	65(65.00)	104(40.47)		
Business assets (inventory, receivables & machinery)			9.31	0.0023
No	158(66.67)	79(33.33)		
Yes	60(50.00)	60(50.00)		
Salary slips (employment letter)			74.89	<0.01
No	214(70.39)	90(29.61)		
Yes	4(7.55)	49(92.45)		

Model Diagnostic

Hosmer and Lemeshow (H-L) tests were used to check the model's goodness of fit. Table 5 shows that the p-value is 0.295, greater than the significance level of 5% at the 95% confidence

African Journal of Applied Research
Vol. 11, No. 1 (2025), pp.722-745
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Revised: November 12, 2024
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interval. The study concluded that the data fits the model well, as the p-value obtained is 0.295, which is not statistically significant and hence leads to the logistic regression model being quite a good fit (Table 5).

Table 5: Goodness of Fit

Hosmer and Lemeshow (H-L) test			
Step	**Chi-squire**	**df**	**Sig.**
Model	7.289	6	0.295

Table 6 presents the model Chi-square statistics of 190.882, with degrees of freedom (df) 5 and a p-value of <0.01. The results imply that at least one of the predictors in the model has a statistically significant relationship with the dependent variable and helps explain variations in the outcome. Also, the combination of the predictors provides a better fit to the data than a model with no predictors.

Table 6: Omnibus Test of Model Coefficients

Step	**Chi-squire**	**df**	**Sig.**
Model	190.882	5	<0.01

The Influence of Collateral Ownership on Formal Credit Accessibility (Binary Logistics)

Table 7 presents the results of binary logistic regression, focusing on investigating the influence of collateral ownership on formal credit accessibility from the perspective of cottage industry owners in Dodoma, Tanzania. The study involved 357 respondents (cottage industry owners), a binary outcome of credit accessibility (measured by "loan access of up to 5 million" and "loan access of 5 million and above"), and five aspects of collateral ownership that might influence the cottage industry owners to have credit accessibility from formal financial institutions, including ownership of tangible assets (land & building), ownership of motor vehicles (motorcycles, 3-wheelers, cars, trucks, etc.), title deeds, business assets (inventory, receivables & machinery), and salary slips (employment letter).

The ultimate results depicted in Table 7 disclosed that the model is statistically significant in explaining the factors influencing collateral ownership (χ^2 (4, N = 357) = 286.398, P = 0.000) and explains approximately 56.2% of the variability of the outcome variable. In this study, the insignificant variable was released from the model, and the final influence of the model involved the ownership of tangible assets, title deeds, business assets, and salary slips.

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Vol. 11, No. 1 (2025), pp.722-745
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Revised: November 12, 2024
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Table 7: Results of Binary Logistic Regression Model

Amount of loans accessed 5m to above (base outcome)	**Coeff.**	**Odds ratio**	**z**	**S. E**	**P>|z|**
Ownership of tangible assets	2.282	9.798	33.71	.346	<0.01
Ownership of motor vehicles	-.558	.572	2.74	.364	.125
Title deeds	2.082	8.017	21.05	.380	<0.01
Business assets	.813	2.255	26.32	.332	.014
Salary slips	1.169	3.219	14.163	.311	<0.01
Constant	-3.622	.027	-2.84	.422	<0.01
Number of observations = 357		**LR Chi^2(4) =286.398**			
Prob > Chi^2 = 0.000		**Pseudo R^2 = 0.562**			

Source: Field data

Ownership of Tangible Assets

The findings in Table 7 revealed that the estimated odds ratio of 9.798 indicates that cottage industry owners with ownership of tangible assets such as land and buildings are 9.798 times more likely to have credit accessibility from formal financial institutions than those without tangible assets. In addition, the study revealed the positive coefficient of ownership of tangible assets (β=2.282), which is statistically significant at a 95% confidence interval, signifying that ownership of tangible assets increases the chance of credit accessibility by the cottage industry owners in Dodoma, Tanzania. This study's findings are similar to those of Onkundi et al. (2023), Mutuku et al. (2019), Chandio et al. (2017), Magembe (2017) and Kira (2015)who found that safe and secured land and buildings are the most preferred assets for small business operators to access credit from formal institutional sources such as banks. The findings are further supported by the credit rationing theory developed by Stiglitz and Weiss (1981), which states that pledging collateral to financial institutions can mitigate information asymmetries on the demand side of credit and, thus, solve the credit rationing problem.

Title Deeds

From Table 7, the findings disclosed that the estimated odds ratio of 8.017 reported that cottage industry owners with title deeds of the owned collateral are 8.017 times more likely to report having credit access from financial institutional sources. Similarly, the study found optimistic estimates of the coefficient of title deeds (β=2.082), which is significant at p-value <0.01. The findings suggest that title deeds as part of collateral ownership influence the likelihood of cottage industry owners accessing credit from formal financial institutions. The study by Karanja et al. (2015) supports the findings, who posited that ownership of a certificate of occupancy as part of collateral is an essential lever towards formal credit accessibility in Imenti North Sub-country Kenya.

Business Assets

The findings presented in Table 7 revealed that a computed odds ratio of 2.255 explained that

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Vol. 11, No. 1 (2025), pp.722-745
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cottage industry owners with business assets such as inventory, receivables, and machinery are 2.255 times higher to report to availed credit access from institutional lenders. Likewise, the study reported a beta coefficient of business assets (β = 0.813), which is significant at p-value = 0.014. The study concluded that owning business assets can improve the level of credit access by cottage industry owners and contributes to reducing lenders' risk of defaults. The findings are similar to those of Pendame and Akotey (2023) from Zimbabwe, who opined that ownership of real property, such as business machinery, is the most preferred collateral when searching for loans from MFIs and commercial banks.

Salary Slips

From Table 7, the findings ascertained the estimated odds ratio of 3.219, which demonstrates that the cottage industry owners who have employment contracts with the employer and maintain salary slips are 3.219 times higher to have a chance to access credit from formal financial institutions such as banks, MFIs, and SACCOs. Additionally, the study found the optimistic coefficient of having an employment contract as security (β=1.169), which is significant at p-value <0.01. The findings imply that for cottage industry owners, having employment contracts with their employer makes it easier to access credit from formal financial institutions. The study is supported by the findings from the key informant who portrayed that:

"Employment letters/contracts can serve as valuable collateral for cottage industry owners seeking credit from formal financial institutions by providing a reliable assurance of income stability. It demonstrates a predictable cash flow that lenders can assess to ascertain the loan repayment capacity of the borrowers. They further asserted that knowing the income level of the borrowers with employment contracts helps to reduce the perceived risk for lenders, making them more likely to offer favourable loan terms. Moreover, formalising these contracts can enhance the business's credibility, facilitating access to financial services and enabling growth within the cottage industry."

Moreover, drawing conclusions and recommendations from the findings of this study ought to be done considering some limitations. It is evident from scholars that interest rates, the availability of business records, and the location of the business may potentially affect formal credit accessibility (Karanja et al., 2015; Kira, 2015; Magembe, 2017; Mutuku et al., 2019; Tefera, 2019). Thus, those factors were not examined in this study for the purposes of focus. Additionally, the study was restricted to Dodoma City and Chamwino district, two councils chosen from the Dodoma region. Therefore, the findings may not apply to all Tanzanian cottage industry owners within the councils due to different regional administrative structures.

CONCLUSION AND RECOMMENDATIONS

The study investigates the influence of collateral ownership on formal credit accessibility from the perspective of cottage industry owners in Dodoma, Tanzania. Based on its findings, the

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Vol. 11, No. 1 (2025), pp.722-745
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study concluded that most cottage industry owners with collateral can access credit only up to five million Tanzanian shillings. Similarly, the study concluded that ownership of tangible assets, title deeds, business assets, and employment contracts significantly enhances the likelihood of cottage industry owners accessing credit from formal financial institutions in Dodoma, Tanzania. Thus, ownership of land and buildings dramatically improves credit accessibility by nearly tenfold, while title deeds likewise increase access.

Subsequently, the study recommends that formal financial institutions (banks, MFIs, and SACCOs) should prioritise educating borrowers on the importance of asset ownership and its positive impact on improving credit accessibility for cottage industry owners. They should also streamline the collateral assessment process to make it more efficient and transparent for informed decisions.

The Implications of the Study

The findings on collateral ownership and formal credit accessibility significantly affect society and the government. The study emphasises the importance of collateral ownership in enhancing access to formal credit for cottage industry owners in Tanzania. Moreover, the study can be used by policymakers to devise regulatory frameworks that support asset formalisation to enhance financial inclusion. Additionally, it could help cottage industry entrepreneurs expand their businesses, generate employment opportunities, reduce poverty, and boost local economies. Similarly, the government can use the findings of this study to design interventions that encourage financial literacy and secure lending practices, which can help stimulate local economies and foster sustainable development goals in underserved sectors of the economy.

Future Research

Furthermore, future studies should consider other factors like interest rates, the availability of business records, and the location of the business to gain a holistic understanding of credit accessibility in formal financial institutions from the viewpoint of cottage industry owners. Also, in the future, researchers can examine longitudinal studies to track the long-term influence of credit accessibility on the growth and sustainability of cottage industries to gain a comprehensive understanding of the barriers and enablers of credit access, leading to more effective interventions and support mechanisms for cottage industries.

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