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### ASSESSMENT OF ACCESSIBILITY OF SMEs TO MICRO-CREDIT IN MMC, BORNO STATE, NIGERIA

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#### **ABSTRACT**

This study assessed the accessibility of SMEs to micro-credit in Maiduguri Metropolitan Council (MMC), Borno Sate, Nigeria. The study used structured questionnaire to obtained data from three hundred and fifty-six (356) Small and Medium Entrepreneurs located in MMC, Borno State. The three hundred and fifty-six (356) Small and Medium Entrepreneurs were selected through multi-stage and random sampling techniques. Multiple regression was employed for data analysis. The result of the multiple regression revealed high rate of interest, tedious procedure, delay in disbursement, embarrassment by bank staff and lack of due process have significant effect on credit accessibility in MMC. The Researcher recommended that Borno State Government should regulate and monitor the activities of MFBs to redress the identified weaknesses.

Key Words: Accessibility, Small and Medium Entrepreneurs, Micro-Finance Banks, Micro-Credit.

#### 1.1 INTRODUCTION

Small and medium enterprises (SMEs) play crucial role in employment creation and income generation in many developing economies. This role is particularly critical in the national efforts to eradicate poverty. SMEs also serve as breeding ground for emerging entrepreneurs as well as forming the backbone of the indigenous private sector. Some scholars believe that entrepreneurship has a critical role in the achievement of the United Nations blueprint on Millennium Development Goals (Shkolnikov and Sullivan, 2010; Alvarez and Barney, 2014). Thus, the need for apt development of the sector cannot be overemphasized, as it has the ability to

stimulate ingenious entrepreneurship, create jobs, mobilize raw materials and semi-processed products as inputs for large-scale enterprises besides its contribution to the gross domestic products (GDPs) of many countries (Udechukwu, 2003). SMEs are less capital intensive and have the flexibility to respond quickly to fluctuating demands of the market due to their size and innovativeness (Obokoh, 2011, p. 338). In addition, SMEs sector also serves as incubator for new ideas and testing ground for new technologies (Oyefuga, 2008).

In spite of the contribution of SMEs to the national development for developing economies like Nigeria, finance became the major stumbling block to SMEs in the country. Because is considered the most important determinants of small business success. Microfinance is an important source for businesses growth. There are number of microfinance windows in Nigeria since the onset of economic reforms in mid-1980 aimed to support SMEs development, extending credit to MSEs, filling the gap left by commercial banks. Microfinance is an important tool to promote business development. Development of small business is subjects to access and received adequate finance and lucrative markets. Furthermore, microfinance improves business working capital. In Nigeria, many of the small business enterprises have limited working capital; one of the functions of microfinance institutions to meltdown problem of working capital that small business face (World Bank, 2001). More than 10,000 firms in 80 countries, SMEs worldwide on average named financing constraints as the second most severe obstacle to their growth, while large firms on average placed finance only fourth (WBES, 2004).

In 2005, the CBN commenced the process of reforms in the community banking sector. The latter resulted in the licensing of microfinance banks (MFBs), to replace community banks, with the goal of making MFBs more effective in granting credit to SMEs in order to develop this sector. Thus, private sector operators were statutorily empowered by the provisions of section 33 subsection (1) (b) of the CBN Act 7 of 2007 to operate MFBs in place of the community banks in Nigeria (CBN, 2008). The CBN objective for the reform process that ushered the MFBs was to make it vehicles for social- economic growth and rural transformation through the provision of credit to SMEs. The intent was to reduce the burden of high interest rates and other financial charges hitherto charged by banks under normal bank lending, as well as to provide financial, advisory, technical and managerial supports to SMEs. The significant role expected of MFBs made the CBN to adopt it as the main source of funding for SMEs in Nigeria, especially those in the manufacturing sector. Manufacturing SMEs have a long gestation period, thus, the need for more accessible and cheap sources of finance especially long-term at affordable interest rates is a necessity (Abereijo and Fayomi, 2007).

#### 1.2 STATEMENT OF THE PROBLEM

In 2005, the Federal Government of Nigeria adopted microfinance as the main financing window for micro, small and medium enterprises. The Microfinance Policy Regulatory and Supervisory Framework (MPRSF) was launched in 2005; the policy among other things, addresses the problem of lack of access to credit by small business operators who do not have access to regular bank credits. It is also meant to strengthen the weak capacity of such entrepreneurs, and raise the capital base of microfinance institutions. The core objective of the microfinance policy is to make financial services accessible to a large segment of the potentially productive Nigerian population, which have had little or no access to financial services and empower them to contribute to rural transformation. The microfinance arrangement makes it possible for SMEs to secure credit from Microfinance Banks (MFBs) and other Microfinance Institutions (MFIs) on more easy terms.

This study, then, raises the question of how well has MFBs played their role of providing finance and social intermediation for SMEs in Maiduguri Metropolitan Council and to what extent have they filled the credit gap in making credit accessible to SMEs? What innovative services have these MFBs introduced to aid the development of SMEs in the study area? In view of these, this study seeks to assess the extent to which MFBs have played its expected role of filling the credit constraint gap of SMEs towards their development in the study area. This paper assessed the accessibility of SMEs to micro-credit in Maiduguri Metropolitan Council (MMC), Borno Sate, Nigeria.

#### 1.3 OBJECTIVES OF THE STUDY

To examine the accessibility of SMEs to micro-credit in MMC Maiduguri, Borno State, Nigeria.

#### 1.4 RESEARCH HYPOTHESES

**H0**<sub>1</sub>: Procedures taking to secure micro-credit have significant effect on SMEs

#### 1.5 SIGNIFICANCE OF THE STUDY

The study would be useful to Government and stakeholders in terms of policy formulation as regards to financing SMEs for employment generation and economic growth. It will also explore SMEs to know the various ways of credit accessibility with ease so boost the business and become large scale business enterprise. The findings of this study would also mitigates and unveil the hidden challenges face by many SMEs as regards to

financing. Finally, the study will be of vital importance to researchers and will serve as reference materials to students.

#### 1.6 SCOPE OF THE STUDY

The study was limited to the role played by microfinance Bank in credit accessibility to SMEs in Maiduguri Metropolitan Council.

#### 2.1 REVIEW OF RELATED LITERATURE

#### 2.1.1 Empirical review

#### 2.1.2 Concepts of Microfinance

Microfinance is the provision of financial services adapted to the needs of low income people such as micro-entrepreneurs, especially the provision of small loans, acceptance of small savings deposits, and simple payments services needed by micro-entrepreneurs and other poor people (USAID, 2000). It is the provision of financial services to the economically active poor who are hitherto un-served by the mainstream financial service provider. Microcredit is commonly defined in terms of loan amount as a percentage of average per capita income. In the context of Nigeria, with a per capita GDP of N42,000 (about \$300) in 2003, loans up to N50,000 (about/approximately \$350) would be regarded as micro loans, while micro savings are defined as savings accounts with a balance of less than N8,400 (about \$50), that is less than 20% of the average annual income per capita (USAID, 2004).

The Central Bank of Nigeria (CBN, 2005) defines microfinance as the provision of financial services to the economically active poor and low income households. These services include credit, savings, micro-leasing, micro-insurance and payment transfer, to enable them to engage in income generating activities. The Microfinance Policy defines the framework for the delivery of these financial services on sustainable basis to the Micro, Small and Medium Enterprises (MSMEs) through privately-owned Microfinance Banks.

#### 2.1.3 SME Access to Finance

Some scholars have focused their study on the mechanism through which poverty can be reduced through SMEs activities. It is believed that access to finance enables the low income group overcome liquidity constraints and enable them undertake some level of investments to increase productivity (Hiedhues, 1995). According to

Navajas et al. (2003, p. 750), the main objective of microcredit is to improve the welfare of the poor through better access to small loans that are not offered by the formal financial institutions. SMEs access to finance is primarily a demand and supply function with, typically, research (Watson and Wilson, 2002; North et al., 2010; Mateev et al., 2013) on the demand-side focusing on understanding how characteristics of SMEs or their owner managers may be discerned in order to explain patterns of available and accessible finance. In terms of the characteristics and structure of most SMEs, studies (DeYoung et al., 2012; Mac and Bhaird, 2013) appear to indicate that risk diversification of asset composition also impacts upon SMEs access to finance. According to Nissanke (2001), the portfolio structure of most sub-Saharan SMEs is constrained, under-developed and insufficiently diversified; the implication being that losses in one business activity cannot necessarily be offset against gains in another activity. Manufacturing SMEs are also more likely to be in need of more accessible and cheap(er) sources of finance for a longer period than other types of SMEs (Chakrabarty and Bass, 2013).

Another finding from such studies (Mateev et al., 2013) is the existence of a pecking order within SMEs. Pecking order theory proposes that cost associated with the funding of institutions will increase with asymmetric information (De Meza and Webb, 1987; Stiglitz and Weiss, 1981; Myers and Majluf, 1984; Watson and Wilson; 2002). In effect, pecking order theory suggests that SMEs will prioritise their sources of finance in the following hierarchical order:

- i. internal sources of finance will be sought first. If such funding cannot be sourced or is sourced but, is, then, depleted,
- ii. debt will be taken on and when or if it becomes impractical to finance the institution using debt,
- iii. equity will be issued, usually as the last resort. Nikolaos et al., (2013) study on Greek small businesses is in line with the pecking order theory. It was found that firms rely heavily on own funds due to reluctance making use of new external equity (venture capital, business angels, etc.). However, firms indicated preference for long-term debt equity in the absence of own funds if pressed to seek external funding which has a lot of limiting factor in accessing the long-term debt finance. Most of the Greek firms due to their size are unaware of state grants and co-financed programs because of informational gap of the existence of such programs.

On the supply side of SME access to finance, scholars (Soufani, 2001; Vos et al., 2007; Chimucheka and Rungani, 2011), appear to be interested in understanding how resource provision for SMEs may be enhanced through financial market efficiency. Here, the level of accessible finance for SMEs remains a function of how willing a financier is to lend (Vos et al., 2007), although it is also dependent on the actual demand for credit finance (Mach and Wolken, 2012). Chimucheka and Rungani (2011) found that about 28% of SMEs have never

applied for loans from banks. Generally, studies show that SMEs continue to prefer internal equity as a source of funding (Mac Bhaird and Lucey, 2010; McCann, 2011; BIS, 2012; Xiang et al., 2014), however, if unavailable or inadequate, most SMEs would seek external funding for their business activities. This is usually in the form of bank borrowing (Beck et al., 2008). Studies by Demirguc-Kunt et al. (2006) identify equity and debt as the two main sources of external finance for SMEs. However, the often lack of external equity on the supply side has meant that many SMEs depend on loans and overdrafts (from banks) and credit from their suppliers for financing.

However, our understanding of the discourse is that an over-reliance on bank borrowing has left SMEs particularly vulnerable to contraction of private credit (Udell, 2009; Ullah et al., 2011). In response, governments have sought to increase SME access to finance by promoting a less conservative and risk averse outlook among lenders (Quartey, 2003). Although, technically, micro lending enables individuals from underprivileged social segments of society to establish enterprises (Ayayi, 2012; Milana and Ashta, 2012), it can also involve the provision of financial and non-financial services to low-income SMEs owner-managers (Constantinou and Ashta, 2011; Woldie et al., 2012), particularlythose involved in either indigenous or locally focused manufacturing. Such services may include social intermediation services such as group formation, development of self-confidence, and training in financial literacy and management capabilities among members of a group (Ngehnevu and Nembo, 2010).

These social services, according to Han et al., (2014), help SMEs to alleviate the severity of their financial problems utilizing bank support and valuable advice which are good substitute for entrepreneurial human capital most SMEs lack.

#### 2.3 THEORETICAL FRAMEWORK

#### 2.3.1 Financial Growth Theory

Berger and Udell (1998) propose a financial growth theory for small businesses where the financial needs and financing options change as the business grows, becomes more experienced and less information ally opaque. They further suggest that firms lie on a size/age/information continuum where the smaller/younger/more opaque firms lie near the left end of the continuum indicating that they must rely on initial insider finance, trade credit and/or angel finance. The growth cycle model predicts that as firm grows, it will gain access to venture capital (VC) as a source of intermediate equity and mid-term loans as a source of intermediate debt. At the final stage of the growth paradigm, as the firm becomes older, more experienced and more informationally transparent, it will likely gain access to public equity (PE) or long-term debt.

#### 3.1 MATERIALS AND METHODS

The multiple-method strategy was adopted for this study so as to reduce the possibility of personal bias by not depending on only one method or response from only one firm or sector. Adopting this approach enhances the authenticity of the study. The study was designed to combine primary survey-based data with secondary information from bank records. Both qualitative and quantitative data were used in a variety of ways, including a detailed overview of survey results in terms of a general profile and Maiduguri micro and small firms. A well-structured questionnaire was administered to operators and semi - structured interviews were conducted with Senior Bank Officials to document the practice and process of micro financing in Maiduguri Metropolitan Council. The interview sessions contained questions directed to senior officials of the bank in mostly face-to-face interview to document the process, practice and mode of operations of micro financing in Maiduguri Metropolitan Council.

**Table 3.1: Sampling Frame** 

Wards	No. of SMEs	Proportional Sample size	
	Operator per ward	per ward	
A <sub>1</sub> -Bolori I	1460	23	
A <sub>2</sub> -Bolori II	2404	38	
B-Bulabulin	2603	41	
C-Fezzan	2541	40	
D-Gamboru	1926	31	
E-Gwange	2557	41	
F-Hausari	1317	21	
GLamisla/Jabarmari	2006	32	
H-Limanti	2301	36	
I-Mafoni	1546	24	
J-Maisandari	2189	35	
K-Shehuri-North/South	2021	32	
Total	24871	394	

**Source:** NBS, (2016)

Purposive sampling technique and Yamane (1967), proportionate sampling formula were used below for drawing a justifiable sample of 394 out of the total population of 24,871, as presented below;

$$n = \frac{N}{1 + N(e)^2}$$

Where;

n = Required Sample Size

N= Population of SMEs

e= Level of significance (5%)

Therefore, the sample size of this study is n=394

**Hypothesis** ( $H_0$ ): Process of accessing micro-credit has no significant effect on SMEs in MMC.

Table 3.2: Effect of Process of Accessing micro-credit on SMEs in MMC

Variables	В	Standard	T	p-value	Result
		Error			
High rate of interest (X <sub>1</sub> )	-0.021	0.004	-5.250*	0.043	S
Tedious procedure $(X_2)$	-0.045	0.014	-3.214**	0.749	S
Delay in disbursement $(X_3)$	0.618	0.303	$2.039^{**}$	0.014	S
Embarrassment by staff $(X_4)$	-0.006	0.001	-7.367*	0.040	S
Lack of due process $(X_5)$	-0.871	0.178	-4.893**	0.001	S
Constant	0.135	1.233	$0.109^{*}$	0.037	

**Source:** Survey data, 2018 \*Significant at 5% level \*\*significant at 1% level.

Table 3.2 showed the result of the multiple regression on the effect of process of accessing micro-credit on SMES in MMC. Table 3.2 also indicates that high rate of interest  $(X_1)$  was found to be significant at 5% level and negatively related to micro-credit. This implies that high interest rate discourage SMEs owners from soliciting for bank loan. Tedious procedure  $(X_2)$  negatively related to micro-credit and statistically significant at 1% level. This implies that procedures taken to secure loan discourage SMEs owners from applying for loan. Delay in disbursement  $(X_3)$  was shown to be statistically significant at 1% level and positively related to micro-credit. This implies that delay in disbursement does not discourage MSMEs owners from seeking for micro-credit. Embarrassment by staff  $(X_4)$  was found to be negatively and statistically significant at 5% level. This direct relationship signifies that increase in loan seeker embarrassment discourages application for micro-credit. Lack of due process  $(X_5)$  indicates a negative relationship between SMEs and micro-credit. This implies that lack of due process deprive MSMEs from having access to micro-credit in MMC.

#### 3.2 DISCUSSION OF FINDINGS

High rate of interest, tedious procedure, delay in disbursement, embarrassment by bank staff and lack of due process have significant effect on credit accessibility in MMC. This finding supports a study conducted by Shaw (2000), research results on the challenges faced by SMEs in accessing finance from MFBs in Sri Lanka. The design of the study was survey in which they sampled 234 out of the total population of 1,240 SMEs. The

study showed that high rate of interest, tedious procedure, delay in disbursement, embarrassment by bank staff and lack of due process were the challenges faced by SMEs in accessing finance from MFBs in Sri Lanka.

#### 3.3 CONCLUSION

The findings of this research revealed that micro-financing as practiced in Nigeria microfinance banks do not enhance growth and expansion capacity of micro and small enterprise in Nigeria. The growth of SMEs is not just dependent on accessing bank loan but accessing the right size of loan at the right time.

Entrepreneurs in the small and medium sector of the economy in Nigeria require access to finance for their business to grow. Although, the MSE sector contributes significantly to the national economy, the sector has so far not been given due recognition commensurate with level of the contribution. Although financial issues are important to all firms, results from this study show that both financial and non-financial services obtained from MFBs have highly benefited SMEs. Therefore MFBs contributes significantly to enhanced entrepreneurial environment by making the business environment more conducive and narrows the resource gap for small businesses.

The study concluded that the use of MFBs has potentials for enhancing the performance of small businesses in two ways- regular participation in micro financing and offering of non-financial services. This suggests that government policies aimed at promoting the performance of SMEs should also address the financial and non-financial activities of the MFBS.

#### 3.4 **RECOMMENDATIONS**

To ensure that MFBs contribute meaningfully to the growth and development of SMEs in Nigeria, the following recommendations are hereby proffered.

- i. Government and MFBs themselves should enhance the outreach of microfinance through creating awareness of the activities and operations to SMEs especially those that are yet to appreciate the benefits of the scheme.
- ii. Government should also ensure active operation of the SME Credit Guarantee Scheme to improve credit providers' exposure to longer term debt issued by small firm managers, in such areas as business plan development, feasibility studies, project monitoring and analysis, book keeping and accounting, performance evaluation etc. This could be organized before entry into business or early in the business

when it is having access to finance. This is essential in order to facilitate the qualification of the business for credits to leverage its equity capital as going-on concern.

#### **REFERENCES**

- 1. Abereijo, I.O. and Fayomi, A.O. (2007). The Attitude of Small and Medium Industrialists to Venture Capital Financing in Nigeria, *Global Journal Of Business Research*, 1 (1), pp. 127-138.
- 2. Alvarez, S. and Barney, J. (2014). Entrepreneurial Opportunities and Poverty Alleviation, EntrepreneurshipTheory and Practice, 38 (1), pp. 159-184.
- 3. Ayayi, A. (2012). Micro-Credit and Micro-Equity: The David and the Goliath of Micro-Enterprise Financing, *Economic Papers*, 31 (2), pp. 244-254.
- 4. Central Bank of Nigeria CBN (2007) annual report. <a href="http://www.cenbank.org/documents/annualreports.">http://www.cenbank.org/documents/annualreports.</a> asp. Assessed on Dec. 12, 2008
- 5. Chakrabarty, S. and Bass, A. (2013). Encouraging Entrepreneurship: Microfinance, Knowledge Support, and the Costs of Operating in Institutional Voids, *Thunderbird International Business Review*, 55 (5), pp. 545-562.
- 6. Chimucheka, T. and Rungani, E.C. (2011). The Impact of Inaccessibility to Bank Finance and Lack of Financial Management Knowledge to Small, Medium and Micro Enterprises in Buffalo City Municipality, South Africa, *African Journal of Business Management*, 5 (14), pp. 5509-5517.
- 7. Demirguc-Kunt, A., Maksimovic, V., Beck T. and Laeven, L. (2006). The Determinant of Financing Obstacles, *Journal of International Money and Finance*, 25 (6), pp. 932-952.
- 8. DeYoung, R., Gron, A., Torna, G. and Winton, A. (2012). *Risk Overhang and Loan Portfolio Decisions: Small Business Loan Supply Before and During the Financial Crisis.* Available at: http://ssrn.com/abstract, 2140952.documents/research/efr/2001/efr0101c.pdf
- 9. Han, L., Benson, A., Chen, J.J. and Zhang, S. (2014). The Use and Impacts of Bank Support on UK Small and Medium-Sized Enterprises, *International Small Business Journal*, 32 (1), pp. 61-80.
- 10. Heidhues, F. (1995). Rural Finance Markets-An Important Tool to Fight Poverty, *Quarterly Journal of International Agriculture*, 34 (2), pp. 105-108.
- 11. Mac an Bhaird, C. and Lucey, B. (2010). Determinants of Capital Structure in Irish SMEs, *Small Business Economics*, 35 (3), pp. 357-375.
- 12. **Matouv, D., (2006).**Microfinance and adverty alleviation Uganda --A Case Study Of Uganda Finance Trust, School of Global Studies, Master Thesis Africa and International Development Cooperation.

- 13. Milana, C. and Ashta, A. (2012). Developing Microfinance: A Survey of the Literature, *Strategic Change*, 21 (7-8), pp. 299-330.
- 14. Navajas, S., Conning, J. and Gonzalez-Vega, C. (2003). Lending Technologies, Competition and Consolidation in the Markets for Microfinance in Bolivia, *Journal of Institutional Development*, 15, pp. 747-770.
- 15. Ngehnevu, C.B. and Nembo, F.Z. (2010). The Impact of Microfinance Institutions (MFIs) in the Development of Small and Medium Size Businesses (SMEs) in Cameroon: A case study of CamCCUL, Published Master's Thesis in Business Administration, Swedish University of Agricultural Sciences. 
  Nigeria. http://www.cenbank.org/OUT/PUBLICATIONS/GUIDELINES/DFD/2006/MICROFINANCE% 20POLICY.PDF'. Accessed on Jan. 13, 2008.
- 16. Nikolaos, D., Robin, J. and Emmanouil, S. (2013). Financing Practices and Preferences for Micro and Small Firms, *Journal of Small Business and Enterprise Development*, 20 (1), pp. 80-101.
- 17. Nissanke, M. (2001). Financing Enterprise Development in Sub-Saharan Africa, *Cambridge Journal of Economics*, 25 (3), pp. 343-367.
- 18. Obokoh, L.O. (2011). Capital Account Liberalisation: Has It Improved SMEs Situation in Nigeria? *International Journal of Business and Emerging Markets*, 3 (4), pp. 337-395. of Small Business Failure. *Journal of Small Business Management*, 31(4), 18-32.
- 19. Oyefuga, I.O., Siyanbola, W.O., Afolabi, O.O., Dada, A.D. and Egbetokun, A.A. (2008). SMEs Funding: An Assessment of an Intervention Scheme in Nigeria, *World Review of Entrepreneurship, Management and SustainableDevelopment*, 4 (2/3), pp. 233-245.
- 20. Quartey, P. (2003). Financing Small and Medium Enterprises (SMEs) in Ghana, *Journal of African Business* 4 (1), pp. 37-55.
- 21. Soufani, K. (2001). The Role of Factoring in Financing UK SMEs: a Supply Side Analysis, *Journal of Small Business and Enterprise Development*, 8 (1), pp. 37-46.
- 22. Udechukwu, F.N. (2003). Survey of Small and Medium Scale Industries and their Potentials in Nigeria, in: Central Bank of Nigeria (CBN) Seminar No. 4, *Small and Medium Industries Equity Investments Scheme (SMIEIS)*, Training Centre, Lagos, No. 4, pp. 1-14.
- 23. Udell, G. (2009). *How will a Credit Crunch Affect Small Business Finance?* Federal Reserve Bank of San Francisco Economic Letter, 2009-09.
- 24. Ullah, F., North, D. and Baldock, R. (2011). *The Impact of the Financial Crisis on the Financing and Growth of* Vos, E., Jia-Yuh Yeh, A., Carter, S. and Tagg, S. (2007). The Happy Story of Small Business Financing, Journal of Banking and Finance, 31 (9), pp. 2648-2672.

- 25. WBES (2004). Internationalization and the Smaller Firm: A Review of Contemporary Empirical Research. *Management International Review*, 39 (3): 321-335.
- 26. Woldie, A., Mwita, J. and Saidimu, J. (2012). Challenges of Microfinance Accessibility by SMEs in Tanzania, *Thunderbird International Business Review*, 5 (44), pp. 567-579.