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Microfinance training and the number of loans received by SMEs. An empirical evidence from emerging economy

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Abstract:

The objective of this study is to examine the impact of Microfinance training, Trust and Social ties on the Number of loans received by small and medium-scale enterprises (SMEs) in developing economies. Poisson regression model is used as the method of analysis. 195 SMEs in North-Eastern Nigeria form the sample of the study based on two-stage sampling and simple random sampling technique. The results reveal that Social ties, Location, and Nature of operation have a significant positive relationship with the Number of loans receives by SMEs. Similarly, the Number of training and Trust have significant positive impact on the Number of loans received; however, they demonstrate the least impact as compared with the other variables based on the level of significance.

JEL Classifications: G21

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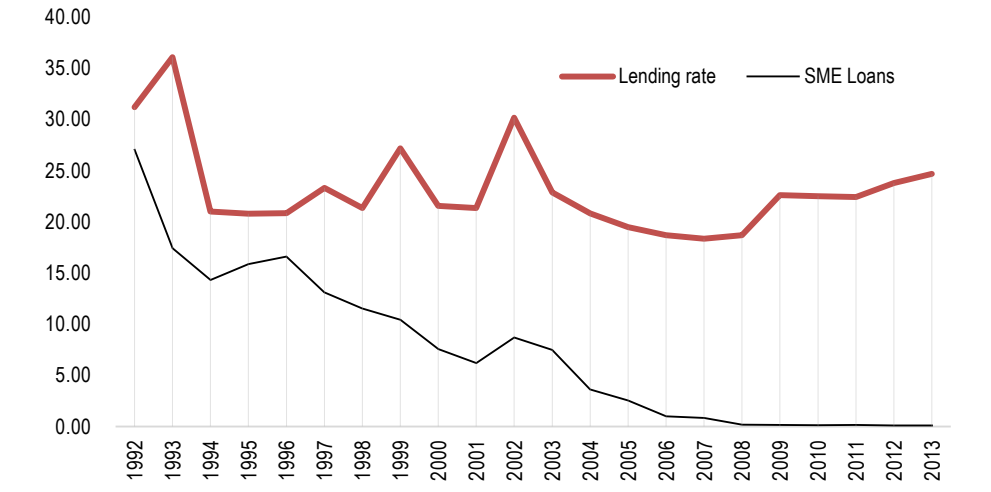
1. Introduction

Organization for Economic Co-operation and Development (OECD), (2017) has described SMEs as the driving force for inclusive and prosperous societies. The SMEs sector contributed immensely towards the economic development of emerging economies. Muriithi (2017) stated that SMEs "account for virtually 90% of businesses in both the emerging and the leading economies" in various sectors of the economy; it has been recorded correspondingly in their respective GDP. For instance, SMEs have created about 85% employment in the manufacturing sector of Ghana and as believed to have contributed around 70% to the GDP of the country (Abor & Quartey, 2010). Similarly, in South Africa, the SMEs sector has contributed about 61% to the general employment and an estimated 57% of the GDP for more than a decade (Abor & Quartey, 2010).

This clearly highlights the immense domination of the SMEs sector in the emerging economies. Research report of United States International Trade Commission (USITC, 2010) reveals that SMEs turn out to be the main source of innovative developments of goods and services in the USA. Furthermore, in 2015 the Malaysian SMEs have recorded the growth steadily sustained at an increased level than the overall growth of the GDP of the country; with about 36.3% contribution the SME sector to the GDP (NSDC, 2013). As such, SMEs sector is undoubtedly making a tremendous impact on the economies of developing, emerging, and developed countries.

However, despite the huge domination and contribution of SMEs to the GDP of various countries, the sector faced with a critical issue of accessing finance. SMEs over the years receive loans from the respective financial institutions which include microfinance institutions (MFIs) and banks. Precisely, MFIs were created with the aim of providing financial and non-financial services to the prospective entrepreneurs for start-up capital, and to the existing SMEs to strengthen their businesses (CBN, 2005; Etuk, Etuk, & Michael, 2014). Primarily, loan is the most important factor in consideration among the various services that MFIs offered to SMEs. This is because financial inclusion encompasses the provision of appropriate and quality financing (loan) which is accessible and affordable to low income and other vulnerable households which enable them to set up small businesses or expand their existing businesses (Triki & Faye, 2013). However, the SMEs sector finds it difficult to get access to finance (loan) mostly from formal conventional banks to efficiently perform their activities. This issue remains the ultimate factor that hinders the activities of SMEs in developing economies like Nigeria. Giving the loans to SMEs does not require tangible collateral as required from large organizations (CBN, 2005). That is why most of the conventional banks are significantly reducing the rate of their lending to SMEs. For instance, it has been reported that the Nigerian conventional banking system within 1992 - 2013 have specifically and continuously reducing the rate of loan offered to SMEs. It can be depicted in the in Figure 1.

FIGURE 1. NIGERIAN CONVENTIONAL BANKS' LENDING TO SMES AND TOTAL LENDING RATE (1992 – 2013) (Value in %)



As can be seen in Figure 1, the SMEs financing is severely decreasing between 1992 and 2013 if compared to the overall lending rate by the formal conventional banks. It shows that the maximum lending rate in the year 1992 is 31.2% and increased to 36.1% in 1993; while the proportion of SME financing between the two periods reduced by 10 percent. This implies that the formal conventional banks are distributing a higher proportion of their resources to larger firms than small-scale firms. As a result, huge SMEs are being remained financially excluded in Nigeria. The issue of accessing finance by SMEs is a

general phenomenon that undoubtedly hinders the financial performance of SMEs; it happens to be the practical problem of SMEs in most developing economies.

Moreover, the issue of access to finance (loan) may also include the shortage of finance for MFIs to meet up with the required shared capital as mandated by the CBN. MFI in Nigeria is duly registered if it has at least N2 Billion (Naira, N) to operate at the National level, N100 Million at the state level, and N20 Million to operate as the unit microfinance bank (CBN, 2005; CBN, 2012). Many MFIs found it difficult to raise such amount of their capital, because most of the institutions were previously operating as former community banks which did not have specified authorized share capital for their operation. They had to close operation for other businesses.

Another problem that SMEs faced is the inability to provide physical collateral by their nature to the formal banking sector to enable them to acquire loans. Moreover, SMEs at the same time are too large to benefit from MFIs loans and forms of financial support provisions (Quartey, Turkson, Abor, & Iddrisu, 2017).

OECD (2017) reported that the growth in outstanding SME loans occurred in 2015 as compared to previous years in Malaysia, Turkey, Colombia, Chile, and Serbia. In the 2013, only six out of 20 countries reported a slight increase in new SMEs lending relatively to 2014 and 2015. "Yet, in Finland, new SMEs lending increased by more than 23 percent in the year 2015 in comparison to seven continuous years of decay" (OECD, 2017). The issue of continues financial exclusion makes things difficult to the overall SMEs sector; such situation affects in turn the general economic development and the standard of living of the societies (Sani, & Mohd-Khan, 2016).

Many studies on both the impact of social capital components and training on SMEs loan are carried out in diverse areas. For example, some studies are conducted in the UK (Brown et al., 2015; Cowling et al., 2017), China (Shen, Shen, Xu, & Bai, 2009), Ghana (Mensah, 2004), Tanzania (Kessy & Temu, 2010), Thailand (Ahlin & Townsend, 2007). Additionally, these previous studies concentrated on the amount of loan and the kind of training given out to SMEs. They ignored the testing of the impact of MFIs and SMEs' factors on the "number of loan received by SMEs".

This study is relatively new; it focuses on the finding of the impact of some microfinance facilities and SMEs' factors (such as the number of training, and social capital) on the number of loans received by SMEs in North-Eastern Nigeria. Following Shen et al. (2009) this study also controls for "nature of operation" (the type of business) and "location" as they influence lending to SMEs. Therefore, the related variables in this study are discussed in the subsequent section.

2. Literature review and hypotheses development

2.1. Number of loans received by SMEs

MFIs were basically established in Nigeria to provide loan and other financial services to SMEs (CBN, 2012; Oni & Daniya, 2012). The loan is provided to the prospective entrepreneurs, low-income earners, or existing enterprises to establish, or expand their businesses (Wilfred et al., 2013). Maengwe & Otuya (2016) asserted that access to microfinance loan assists the clients to elevate their economic performance; access to

loans facilitate clients with the initiation of enterprises, future investment, diversification of businesses, creation of jobs, household settlements,etc.

Different studies assess the influence of MFI's loans on many aspects of SMEs. For instance, Vogelgesang (2001) studies the impact of microfinance loan on productivity and growth of SMEs; SMEs that take higher "number of loans" and higher consistent size of earlier loans will get a higher rate of growth than other SMEs. Kimanzi (2016) studies the impact of microfinance training on the growth of women entrepreneurs in Kenya. Using inferential statistic, he found a significant positive relationship between loan offered by microfinance and the growth of women own SMEs. Ahiawodzi & Adade (2012) examine the influence of accessing loan on the growth of SMEs in Ghana. Using the sample of (78) SMEs in Ghana, the study found a significant positive relationship between access to microfinance loan and SMEs growth.

Some studies explore different factors demonstrating positive or negative influence on various SME performance indicators. For example, Akpan & Nneji (2015) revealed that repayment of loan has a significant negative relationship with sales growth of SMEs. They also found a positive relationship between duration of loan and sales growth of SMEs. Batir, Volkman, & Gungor (2017) used data envelopment and Tobit regression analysis and found that loan quality and expenses have a negative relationship with the efficiency of the formal baking system (conventional banks); though, the loan as a whole has significant positive effect on the efficiency of other participating banks. They refer "participating banks" as special banks for specific purposes. Babajide (2012) examine the effects of microfinance services on the growth of SMEs in Nigeria. The study sampled (502) SMEs which are financed by MFIs and found a negative effect between loan received from MFIs with the growth of SMEs. The author explained that access to microfinance loan, loan duration and loan size do not improve growth of SMEs.

The abovementioned studies mainly concentrate on the "*amount of loan given to SMEs*". However, there is a lack of studies which relatively consider the "number of loan received by SMEs". This study anticipates that if a loan is usually given to SMEs despite its smallness, the MFIs will be encouraged to effectively offer constant training facility and supervision on the utilization of such received loan. Hence, motivation is expected from the side of the SMEs to judiciously improve their performance to avoid default on loan repayment.

2.2. Training

Training serves as an authoritative means to develop workers' efficiency for a better fortune in a firm (Aragon-Sanchez et al., 2003). It has been revealed that services of MFIs such as "advisory services, per loan and pre-loan training" enhance the growth of SMEs (Akpan & Nneji, 2015).

Numerous studies found a significant positive relationship between microfinance training and the performance and growth of SMEs. Kyeremateng (2012) examined the impact of SMEs training on loan repayment in Ghana using cross-sectional design and sample of (100) SMEs. He found that there is a positive correlation between training and repayment on loan.

Kessy & Temu (2010) compared the level of performance of SMEs that received training and those that did not receive training from microfinance. Using t-test analysis, they found that SMEs who had received microfinance training achieved higher levels of sales revenue

and access to loan, compared to those that had not gotten the microfinance business training.

Othman (2015) recommended that microfinance and other financial institutions should be encouraged to effectively train SMEs on accessing to borrowing and the utilization of the loan received.

Fauster (2015) examined the effect of MFIs on the business performance of SMEs in Ghana. The study used analysis of variance (ANOVA) and Spearman's correlation coefficient. He revealed a significant association between microfinance training, loan and the performance of SMEs.

Anane, Cobbinah, & Manu (2013) examined the impact of MFIs on SMEs in rural Ghana using regression analysis. They found that SMEs in the rural regions receives effective and efficient training on how to utilize the loan they received, and other financial and technical training such as record keeping and the overall management system.

Despite many studies revealing significant and positive relationship between the SMEs performance and microfinance training on loan, various studies show a negative relationship between the training and the performance or growth of SMEs. Wilfred et al. (2013) examined the influence of MFIs on the growth of SMEs in Uganda. They assert that training skills, counselling, and social responsibility possessed a negative relationship with the employment generation of SMEs in Uganda. Vijaykumar and Naidu (2015) assessed the impact of microfinance training on the income levels and the entrepreneurial skills of SMEs. The study reveals that there is no significant difference between the trained and untrained SMEs based on their level of income and their skills. They argue therefore that microfinance training does not make an impact on the level of income or the skills of the trained SMEs. Kisaka & Mwewa (2014) did not find a positive relationship between MFIs training and the growth of SMEs.

Review of the literature shows the lack of studies that directly examine the impact of microfinance training on the number of loans received by SMEs.

According to the CBN (2012), MFIs should promote, mobilize, and provide financial and technical support and "*training to SMEs and other clients on loan usage*" by providing capacity building and enlighten them in the areas of record keeping, and management of their small businesses. This means that MFIs are frequently providing training services to SMEs as they receive a loan. In the same direction, Akpan & Nneji (2015) asserted that per loan training of MFIs leads to improvement of SMEs business performance. Hence, based on the account of the Central Bank of Nigeria, this study hypothesized that:

H1 *Microfinance training has a positive relationship with number of loans received by SMEs*

2.3. Social capital

The theory of social capital refers the term "social capital" as the features of social organization or group such as networks, and trust which enable coordination and cooperation for their mutual benefit (Putnam, 1995). Grootaert et al. (2004) defined social capital as the institutions, relationships, and standards that outline the quality and quantity of a society's social connections, and social ties which holds the institutions together for the procurement of their respective goals.

Empirical review shows that researchers adhered to the social capital theory by employing various component, proxies or factors of social capital dimensions, based on the nature of a study, level of economic activities in a particular location, and the nature of a particular firm either large, small or medium enterprises (e.g. Cooke & Wills, 1999; Ofori & Sackey, 2010; Zeng, Xie, & Tam 2010).

Trust is often viewed as a measurement of social relations as associated with interdependence among actors, risk, and uncertainty with regards to the actions of the other party to a business and anticipations that the other party will not abuse the trusting actor's vulnerability (Nahapiet & Ghoshal, 1998).

Previous studies have revealed that there is a positive relationship between trust and number of SMEs factors. For instance, Brown et al. (2015) used 2004 and 2011 workplace employment relations survey and modeled four ordered probit specifications for firm performance in the United Kingdom (UK). They discover that there is a relationship between the lower employee trust and work restructuring experienced by an organization. Moreover, Kiprotich (2014) investigates the effect of social capital on the growth of SMEs in Kenya using trust as one of the components of social capital. He found a significant positive impact of trust to the profitability and sales turnover of SMEs. Similarly, Ofori & Sackey (2010) analyzed data from a survey of 100 registered firms in Ghana club, using the method of analysis of variance (ANOVA) and multiple regression analysis; they found that there is a strong positive relationship between trust and firm performance.

Despite the stream of studies revealing positive effects of the factors or components of social capital to financial and economic performance of SMEs, there are studies demonstrating also a negative effect of some social capital proxies on the performance proxies of SMEs. Cassar, Crowley, & Wydick (2007) examined the effect of social capital on group loan repayment. The study employs trust and social ties as the proxies of social capital and shows a negative relationship between trust and loan repayment. Ahlin & Townsend (2007) used data from Thailand borrowing groups (social groups) and found that "social ties and group liability rate" negatively affect loan repayment.

This study investigates the effect of microfinance training, social capital, on the number of loans received by SMEs in a developing economy. The study used Nigeria as one of the developing economies. The proxies of social capital used in this study are trust, and social ties in accordance with the theory of social capital.

Based on the theory of social capital and the literature review the hypothesis developed here is as follows:

H2 *There is a positive relationship between trust and number of loan received by SMEs.*

H3 *There is a positive relationship between social ties and number of loan received by SMEs.*

3. Methodology

This paper is a study of some factors that influence the number of loans received by SMEs from MFIs. This section contains the description of the methods used in the gathering of the data.

3.1. Sampling and data used

This study is based mainly on primary data. A structured questionnaire was utilized as an instrument for the gathering the primary data. The total sample size used in the study was determined based on Dillman (2011). According to Dillman (2011), the formula for determining a good representative sample is as follows:

$$S = \frac{NP(1-P)}{\left(\frac{B}{C}\right)^2 (N-1) + P(1-P)} \tag{1}$$

where S is the sample size, N is the size of the population 400 (i.e. the selected total number of SMEs for the purpose of this study in the North-Eastern Nigeria), P is the population proportion expected to answer in a particular way (the most conventional proportion is 0.50), B is the degree of accuracy, expressed as a proportion (0.05), and C is the Z-statistic value based on the confidence level, in this case (1.96) is selected for the 95 percent confidence level. The sample size can be determined as follows:

$$S = \frac{(400 \times 0.5)(1-0.5)}{\left(\frac{0.05}{1.96}\right)^2 (400-1) + 0.5(1-0.5)} = \frac{100}{0.2596 + 0.25} \tag{2}$$

$$S\frac{100}{0.5096} = 196.23 \tag{3}$$

Thus, approximately 195 SMEs in the North-Eastern Nigeria were selected as the sample size which corresponds to researchers of Roscoe (1975) and Sekaran (2003).

The sampling technique is two-stage sampling. Using a simple random sampling technique, the first stage was the selection of the list of SMEs in three states namely, Adamawa, Gombe, and Taraba. 40 SMEs were selected in each state - Bauchi and Gombe - considering the population and the level of economic activities in the states. 35 listed SMEs were selected in each state - Adamawa and Taraba. 24 SMEs were selected in Borno State, and 21 listed SMEs in Yobe State. The two states in the second stage happen to be very close to each other. The idea of the division of the sampling, is that both the States (Borno and Yobe) have experienced huge "*economic turmoil*" for almost a decade as a result of the invasion of a terrorist group called Boko Haram; this led to a declaration of state of emergency in year 2013 (Sergie & Johnson, 2014).

3.2. Model specification

Since the number of loans received by SMEs is a count data measuring the number of incidences of an event, the Poisson regression model (PRM) is used as the method of

analysis. Poisson regression is used to measure the number of loan access in a year by each SME from their various financial institutions, normally MFIs.

For the purpose of performing the Poisson regression analysis in this study, robust diagnostics tests such as multicollinearity, goodness-of-fit (deviance and Pearson Chi-square), and Linktest for model specification were conducted.

The conditional mean for the Poisson regression model $E(Y|X)$ of the dependent variable Y is assumed to be a function of a vector of covariate X. The Poisson regression model takes the nonnegative integer-valued aspect of the dependent variable, which is the count variable. For instance, the probability of an event like Y_i dependent variable (count variable) given the vector of covariates, X_i (independent variable) is given by:

$$P\ (Y_i = Y_i|X_i) = \frac{e^{-\mu i}{\mu_i}^{Yi}}{Y_i!},\ Y_i = 0,1,2,\ldots \quad (4)$$

Therefore, the mean parameter μ_i that is the conditional mean number of events in a period (i) is a function of the vector of covariates in a period (i) it is depicted as:

$$E\ (Y_i|X_i) = \mu_i = exp\left(X_i\hat{\beta}_i\right) \quad (5)$$

Taking the exponential of $X_i\hat{\beta}_i$ ensures that the mean parameter μ_i is non-negative. The function of the log-likelihood is simple to maximise (Hausman, Hall, & Griliches, 1984). The standard errors of the Poisson estimate $\hat{\beta}_i$ could be obtained easily after the log-likelihood function has been maximised. The Poisson regression model assumes that the conditional variance equals the conditional mean; it means that the data are equally dispersed.

To make the model applied in order to achieve the objective of this study we use the Poisson distribution which will be estimated based on Poisson regression model:

$$ln\ [(EY_i|X_i)] = (\beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 \ldots + \beta_rX_r) \quad (6)$$

Therefore, the empirical model to be estimated for this study is expressed in the following model.

$$NLR = \beta_0 + \beta_1TRT + \beta_2SCT + \beta_3TRN + \beta_4LCN + \beta_5NOP \quad (7)$$

In essence, the definition of the study variables as given in the model, and the measurements with the relevant sources are provided in Table 1. Expected sign of the study variables is shown in Table 1 as well.

TABLE 1. SUMMARY OF THE STUDY VARIABLES AND THEIR MEASUREMENTS

S/N	VARIABLES			SOURCE	EXPECTED SIGN
	ACRONYM	NAME	MEASUREMENTS		
1	NLR	Number of loan received	Number of loans received by SMEs in a year	Vogelgesang (2001), World bank (2008)	DV
2	TRT	Trust	Level of trust on honesty, and promises.	Brown et al. (2015)	+
3	SCT	Social ties	Relationship in terms of interaction among employees	Tsai & Ghoshal (1998), Ofori & Sackey (2010)	+
4	TRN	Training	Number of training obtained from MFIs by SMEs	Alexander (2012)	+
5	LCN	Location	Diversity of SMEs (urban or rural) in the North-Eastern State	Abor & Quartey (2010), Shen, Shen, Xu, & Bai (2009)	+
6	NOP	Nature of operation	Institutional types (Sector)	Shen, Shen, Xu, & Bai (2009)	+

Source: Authors' compilation (2017).
Note: Location - control variable; Nature of Operation - control variable.

3.3. Results

This section provides the relative results, findings, and interpretation of the results. It starts with the frequency of demographic profile of the respondents of the sample of the study. Table 2 comprises of the age of the respondents, level of education, marital status, and gender. It shows the percentage and the size of the sample (195) of each item. On the other hand, the frequencies of demographic profile of sampled SMEs in the North-Eastern zone of Nigeria are presented in Table 3.

TABLE 2. FREQUENCY OF DEMOGRAPHIC PROFILE OF RESPONDENTS OF THE STUDY SAMPLE (N=195)

ITEMS	%	N	ITEMS	%	N
AGE			*EDUCATION LEVEL*		
20 – 29	16.4	32	Secondary	23.6	46
30 – 39	39.5	77	NCE/Diploma	19.5	38
40 – 49	35.9	70	Degree/HND	31.8	62
50 and above	8.2	16	Post Graduate	25.1	49
Total	100.0	195	Total	100.0	195
MARITAL STATUS			*GENDER*		
Single	21.0	41	Male	69.7	136
Married	75.9	148	Female	30.3	59
Divorced	3.1	6			
Total	100.0	195	Total	100.0	195

Source: Own analysis.
Note: HND - Higher national diploma, NCE - National certificate in education.

TABLE 3. FREQUENCIES OF DEMOGRAPHIC PROFILE OF SAMPLED SMES IN NORTH-EASTERN NIGERIA

ITEMS	%	N	ITEMS	%	N
AGE OF THE FIRM			*LOCATION (NEN)*		
Less than 1 Year	3.1	6	Adamawa	25.6	50
1 – 5	53.8	105	Bauchi	26.2	51
6 – 10	31.8	62	Borno	8.7	17
11 – 15	5.1	10	Gombe	8.2	16
Above 15 Years	6.2	12	Taraba	14.4	28
Total	100.0	195	Yobe	16.9	33
			Total	100.0	195
NATURE OF OPERATION			*NUMBER OF EMPLOYEES*		
Manufacturing	40.5	79	Less than 10	62.1	121
Agriculture	16.4	32	10 – 49	35.4	69
Furniture	8.2	16	50 – 199	2.6	5
Service sector	15.9	31	Total	100	195
Medical	5.6	11	*TECHNOLOGICAL INNOVATION*		
Building	10.3	20	Modern technology	80	156
Trading	6	6	Traditional technology	20	39
Total	100.0	195	Total	100.0	195
FREQUENCY OF THE RESPONDENTS ON TRUST BASED ON LIKERT SCALE					
TRUST 1. (KEEPING THEIR PROMISES)			*TRUST 2. (DEAL WITH EMPLOYEES' HONESTLY)*		
Undecided	6.2	12	Undecided	15.4	30
Agree	62.6	122	Agree	64.6	126
Strongly agree	31.3	61	Strongly agree	20.0	39
Total	100.0	195	Total	100.0	195
TRUST 3. (TREATS EMPLOYEES' FAIRLY)			*TRUST 4. (UNDERSTANDING EMPLOYEES' OPINION)*		
Undecided	13.8	27	Undecided	11.4	22
Agree	50.8	99	Agree	53.2	104
Strongly agree	35.4	69	Strongly agree	35.4	69
Total	100.0	195	Total	100.0	195

Source: Own analysis.
Note: NEN - North-Eastern Nigeria.

Table 3 shows the frequencies of the demographic profile of sampled SMEs in North-Eastern Nigeria. It contains the percentages and number of the answered questionnaires, whit 195 as the sample size. The items include the age of the firm, location, nature of the operation, number of employees', and technological innovation. The frequency of 'trust' is based on four items which are answered on five Likert scale format.

3.4. Descriptive statistics

From the Table 4, NLR being the dependent variable is 2.33 and ranges from 0 to 5; while the average of TRT is 1.77 and it ranges from 0 to 4.

TABLE 4. DESCRIPTIVE STATISTICS

VARIABLES	N	MIN	MAX	MEAN	STD. DEV.	SKEWNESS	KURTOSIS
NLR	195	0	5	2.33	1.45	0.52	-0.97
TRN	195	0	4	1.77	1.06	-0.14	-0.83

FREQUENCY OF DICHOTOMOUS VARIABLE

VARIABLE	YES	FREQ. (%)	NO	FREQ. (%)	CUM. FREQ.	CUM. PERC. (%)
SCT	158	81.0	37	19.0	195	100

Source: Own analysis.
Note: NLR -Number of loan received; TRN - Training; SCT - Social capital.

However, under the dichotomous variable (SCT) the result shows that there is an acceptable SCT by the sampled SMEs having "YES" frequency of 158 (81.0%) and "N0" response of 37 (19.0%). Nonetheless, the skewness and kurtosis statistics range from -0.14 to 0.52 and from -0.97 to -0.83 respectively. Based on the range of both the skewness and kurtosis the data of this study is normal (Kline 2011).

3.5. Results of the correlation analysis of the variables of the study

The results of the correlation between the variables are presented in Table 5. It indicated that the number of loans received by SMEs have a significant positive association with training, social ties, and location.

TABLE 5. CORRELATION ANALYSIS OF THE STUDY VARIABLES (N=195)

	VARIABLES	1	2	3	4	5	6
1	Number of loans received	1	0.370***	-0.085	0.445***	0.153**	-0.80
2	Number of training		1	-0.284***	0.404***	-0.045	0.032
3	Trust			1	0.167**	-0.185**	0.130*
4	Social ties				1	0.093	0.136*
5	Location					1	-0.018
6	Nature of operation						1

Source: Own Analysis.
Note: ***, **, and * - significant at 1%, 5%, and 10% levels (two-tailed).

On the other hand, the result shows that the number of loans received by SMEs has an insignificant negative relationship with trust and nature of the operation. Additionally, multicollinearity does not exist among the independent variables because the correlation coefficient is below 0.90 (Gujarati, 2004; Tabachnick & Fidell, 2007).

3.6. Poisson regression results

Poisson regression results are shown in Table 6. The value of R^2 for the model is 18.9% ($R^2 = 0.189$) which explains the variation in the number of loans received by SMEs. The model as a whole is significant (Wald $\chi^2 = 334.30$, $p < 0.05$).

TABLE 6. RESULT OF POISSON REGRESSION

Variable	Expected signs	Coefficients (β)	t-stats.	p>t	Collinearity diagnostic (VIF)
Intercept	?	0.242	0.63	0.531	-
Social ties	+	0.875	7.68	0.000***	6.97
Trust	+	0.116	1.34	0.090*#	8.56
No. of training	+	0.135	2.38	0.018**	4.23
Location	+	0.061	2.79	0.005***	3.46
Nature of operation	+	-0.044	-2.66	0.008***	2.84
Mean VIF					5.21
N		195			
Wald chi2(5)		334.30			
R^2		0.189			
Deviance goodness-of-fit χ^2(χ^2/df)		121(1.00)			
		113(1.00)			
Pearson goodness-of-fit χ^2(χ^2/df)		1.47(0.140)			
Linktest (_hatsq t-stat/(p-value)					

Source: Own analysis, using Stata v.13.
Note: ***, **, and * - significant at 1%, 5% (two-tailed), and 10% (# - one-tailed). VIF - Variance inflation factor

The regression results show that social ties (β = 0.875, p<0.01), location (β = 0.061, p<0.01), and nature of operation (β = -0.044, p<0.01) have strong positive contribution in explaining the number of loan received by SMEs, followed by number of training (β = 0.135, p<0.05) at 5% level of significant. Trust contribution in explaining the number of loans received is at 10% significant level (β = 0.116, p<0.1).

The robust diagnostics tests such as multicollinearity, goodness-of-fit (deviance and Pearson Chi-square), and Linktest for model specification were conducted in this study. The result of the collinearity diagnostic shows that multicollinearity is not an issue since none of the explanatory variable has a Variance Inflation Factor (VIF) value of 10 (threshold) (Hair, Black, Babin, & Anderson, 2014; Pallant, 2005). The Linktest for model specification shows that the Poisson regression model is correctly specified since the _hatsq has a p-value greater than 0.05 (Pregibon, 1980); hence, no additional explanatory variables are required. However, for outliers' detection and as well, the goodness-of-fit of the Poisson regression model, the deviance and Pearson χ^2 are utilized (Algamal, 2012). Therefore, based on the significant values of deviance and Pearson χ^2 of 1.00 each, the Poisson regression model is said to be well fitted, since a value <1 is underdispersion, >1 is overdispersion, and 1 is equidispersion (required goodness-of-fit).

3.7. Discussion of findings

Based on the results presented in the Poisson regression model, social ties have a significant and strong positive effect on the number of loans received by SMEs (1% significance level). The outcome of the result for the social ties clearly supports the idea of the theory of social capital. As generally described by the theory, social ties happen to be

one of the outlined activities of a group of individuals or firm within the premise of their organization in actualizing a particular goal (Grootaert et al., 2004). Similarly, location also shows significant and positive effect on the number of loans received by SMEs at (1% significance level). As one of the determinants of SMEs loan (Shen et al., 2009) the result supports the hypothesis developed in this study. The nature of operation has a significant positive impact on the number of loans received by SMEs at 1% significance level. As such, there is a strong indication that the kind of business plays a pivotal role in influencing the number of loans received by SMEs.

The number of training has significant positive impact on the number of loans received by SMEs at 5% significance level. This supports the view of the CBN (2005) that MFIs were set up to provide a loan to SMEs and training on how to manage and utilize the loan received. Hence, the result supports the hypothesis developed in this study. However, the trust positively affects the number of loans received by SMEs at 10% significant level. In general, the Poisson regression results elucidates that the independent variables make a strong contribution in explaining the number of loans received by SMEs (dependent variable) in the North-Eastern Nigeria.

4. Conclusion

This study examines the impact of microfinance training, social capital (trust and social capital) on the number of loans received by SMEs. The regression results show that social ties, location, and nature of operation have (strongly) have significant and positive impact on the number of loans receives by SMEs at 1% level of significance. The number of training also has significant and positive impact on the number of loans received by SMEs at 5% level of significance, while trust has a positive impact on the number of loans receives at 10% level of significance. The regression results of all the independent's variables support the hypothesis of this study. Furthermore, the model as a whole is fit and significant as indicated by the "Wald Chi^2 " (Wald χ^2= 334.30, $p < 0.05$).

As the literature shows, "*the number of loans receives*" is relatively new since previous studies concentrated on the amount of loan given to SMEs. Most of these studies were conducted in different places having diverse economic conditions. As such, this study empirically contributes to the existing knowledge.

The study used the North-Eastern Nigeria as a case study of emerging economy. Hence the results of the findings in the area of the study may not be the same in other places, because of the differences in the social, cultural and economic background, as well as the methods applied in the study. Therefore, there is a need for future studies to explore the impact of the SMEs factors as well as microfinance factors in another area, zone, region or country. Such factors may include microfinance saving, technology, number of employees, or networking on number of loan received by micro, small or medium enterprises.

This study recommends the government to establish an effective regulatory framework including special project to enhance the access of finance, specifically the provision of loans from MFIs to SMEs. MFIs should conduct training on how to invest or manage the loan received and encourage firms to develop a habit of saving (deposits) for further investment. The development a strategic plan by the government would boost the performance of various sectors of the economy, as the results of this study show a sound and significant advantage of the nature of the operation.

References

Abor, J., & Quartey, P. (2010). Issues in SME development in Ghana and South Africa. *International Research Journal of Finance and Economics, 39*(6), 215-228.

Ahiawodzi, A. K., & Adade, T. C. (2012). Access to credit and growth of small and medium scale enterprises in the Ho municipality of Ghana. *British Journal of Economics, Finance and Management Sciences, 6*(2), 34-51.

Ahlin, C., & Townsend, R. M. (2007). Using repayment data to test across models of joint liability lending. *The Economic Journal, 117*(517). https://doi.org/10.1111/j.1468-0297.2007.02014.x

Akpan, E. S., & Nneji, I. D. (2015). Contribution of microfinance banks to the development of small and medium scale enterprises in Nigeria. *Research Journal of Finance and Accounting, 6*(8), 19-28.

Algamal, Z. Y. (2012). Diagnostic in Poisson regression models. *Electronic Journal of Applied Statistical Analysis*, *5*(2), 178-186.

Anane, G. K., Cobbinah, P. B., & Manu, J. K. (2013). Sustainability of small and medium scale enterprises in rural Ghana: The Role of Microfinance Institutions. *Asian Economic and Financial Review, 3*(8), 1003-1017.

Babajide, A. (2012). Effects of microfinance on micro and small enterprises (MSEs) growth in Nigeria. *Asian Economic and Financial Review, 2*(3), 463.

Batir, T. E., Volkman, D. A., & Gungor, B. (2017). *Determinants of bank efficiency in Turkey: Participation banks versus conventional banks*. Borsa Istanbul Review. http://dx.doi.org/10.1016/j.bir.2017.02.003

Brown, S., Gray, D., McHardy, J., & Taylor, K. (2015). Employee trust and workplace performance. *Journal of Economic Behavior & Organization, 116*, 361-378. https://dx.doi.org/10.1016/j.jebo.2015.05.001

Cassar, A., Crowley, L., & Wydick, B. (2007). The effect of social capital on group loan repayment: evidence from field experiments. *The Economic Journal, 117*(517). https://doi:10.1111/j.1468-0297.2007.02016.x

CBN (2005). *First, regulatory and supervisory guidelines for microfinance banks in Nigeria*. Central Bank of Nigeria.

CBN (2011). *Revised regulatory and supervisory guidelines for microfinance banks (MFBs) in Nigeria.* Central Bank of Nigeria.

CBN (2012). *Revised (Amended) Regulatory and Supervisory Guidelines for Microfinance Banks (MFBs) in Nigeria.* Central Bank of Nigeria.

Cooke, P., & Wills, D. (1999). Small firms, social capital and the enhancement of business performance through innovation programmes. *Small Business Economics, 13*(3), 219-234. https://doi.org/10.1023/A:1008178808631

Cowling, Marc, Matthews, Catherine and Liu, Weixi (2017) The role of loan commitment terms in credit allocation on the UK small firms loan guarantee scheme. *International Review of Entrepreneurship, 15*(1). 15-28.

Dillman, D. A. (2011). *Mail and internet surveys: the tailored design method 2007 update with new internet, visual, and mixed-mode guide*. New Jersey, United States: John Wiley & Sons.

Etuk, R. U., Etuk, G. R., & Michael, B. (2014). Small and medium scale enterprises (SMEs) and Nigeria's economic development. *Mediterranean Journal of Social Sciences, 5*(7), 656-662. https://dx.doi.org/10.5901/mjss.2014.v5n7p656

Fauster, A. (2015). The impact of microfinance on the performance of small-scale enterprises: a comparison of Sinapi Aba Trust and Maata-N-Tudu Associations in Wa Municipality, Ghana. *Ghana Journal of Development Studies, 11*(2), 1-13.

Grootaert, C., Narayan, D., Jones, V. N., & Woolcock (Ed.). (2004). *Measuring social capital: An integrated questionnair*e (No. 18). World Bank Publications.

Gujarati Damodar, N. (2004). *Basic econometrics*. United States Military Academy, West Point: Mc-Graw Hill

Hair Jr. J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate data analysis* (7th. Ed.). UK: Pearson International edition.

Hausman, J. A., Hall, B. H., & Griliches, Z. (1984). Econometric models for count data with an application to the patents-R&D relationship. *Econometrica, 52*(4), 909-938. https://dx.doi.org/10.3386/t0017

Kessy, S., & Temu, S. S. (2010). The impact of training on performance of micro and small enterprises served by microfinance institutions in Tanzania. *Research Journal of Business Management, 4*(2), 103-111.

Kimanzi, Y. K. (2016). *Influence of micro finance services on growth of women-owned enterprises in Kitui Central Sub-County*. Doctoral dissertation, South Eastern Kenya University.

Kiprotich, E. (2014). *The influence of social capital on the growth of SMEs in Nairobi Kenya*. Doctoral dissertation, University of Nairobi.

Kisaka, S. E., & Mwewa, N. M. (2014). Effects of micro-credit, micro-savings, and training on the growth of small and medium enterprises in Machakos county in Kenya. *Research Journal of Finance and Accounting, 5*(7) P 43-49.

Kline, R. B. (2011). *Principle and practice of structural equation modelling* (5th ed.). New York: The Guilford Press.

Kyeremateng, A. (2012). *Effects of training on loan repayment among small-scale farmers: A case study of the IVRDP in the Ahafo-Ano South District, Ashanti Region*. Thesis submitted to the Institute of Distance Learning, Kwame Nkrumah University of Science and Technology. P 1-77.

Maengwe, J. O., & Otuya, W. I. (2016). A critical review on micro-financing of small businesses in Kenya. *Pyrex Journal of Business and Finance Management Research*, *2*(2), 6-11. http://www.pyrexjournals.org/pjbfmr

Mensah, S. (2004, March). A review of SME financing schemes in Ghana. In *Presentation at the UNIDO Regional Workshop of Financing SMEs* (pp. 15-16). Ghana: Accra.

Muriithi, S. M. (2017). African small and medium enterprises (SMEs): contributions, challenges and solutions. *European Journal of Research and Reflection in Management Sciences, 5*(1), 36-48.

Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of management review, 23*(2), 242-266.

NSDC (2013). *Guideline for new SMEs definition: Issued by SME Corp. Malaysia*. Secretariat to the NSDC. Economics and Policy Planning Division SME Corp. Malaysia.

OECD (2017). *Financing to SMEs and Entrepreneurs. Highlights. An OECD Scoreboard.*

Ofori, D., & Sackey, J. (2010). Assessing social capital for organizational performance: Initial exploratory insights from Ghana. *Organizations and Markets in Emerging Economies, 1*(2), 71-91.

Oni, E. O., & Daniya, A. A. (2012). Development of small and medium scale enterprises: The role of government and other financial institutions. *Arabian Journal of Business and Management Review (OMAN Chapter), 1*, 16-29. https://doi.org/10.12816/0002132

Othman, M. B. (2015). Role of women in achieving shared prosperity: An impact study of Islamic microfinance in Malaysia. *Procedia-Social and Behavioral Sciences, 211*, 1043-1048. https://doi:10.1016/j.sbspro.2015.11.139

Pallant, J. (2005). *SPSS survival manual: a step by step guide to data analysis using SPSS* (3rd. Ed.), Australia: Allen & Unwin.

Pregibon, D. (1980). Goodness of link tests for generalized linear models. *Applied statistics*, 15-14.

Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy, 6*(1), 65-78.

Quartey, P., Turkson, E., Abor, J. Y., & Iddrisu, A. M. (2017). Financing the growth of SMEs in Africa: What are the constraints to SME financing within ECOWAS? *Review of Development Finance, 7*(1), 18-28.. https://doi.org/10.1016/j.rdf.2017.03.001

Roscoe, J. T. (1975). *Fundamental research statistics for the behavioural sciences* (2nd ed.). Holt, Rinehart and Winston: New York.

Sani, H., & Mohd-Khan, S. J. (2016). *Effect of social capital, loan and saving on the growth of SMEs in Nigeria: A proposed research framework*. (Paper presented in 3rd Annual ECoFI Symposium, December 18-19, 2016). Kedah, Malaysia

Sekaran, U. (2003). *Research methods for business: A skill-building approach* (4th ed.). John Wiley & Sons, Inc.

Sergie, M. A., & Johnson, T. (2014). Boko Haram. *Council on Foreign Relations*, *7*(10), 2014.

Shen, Y., Shen, M., Xu, Z., & Bai, Y. (2009). Bank size and small-and medium-sized enterprise (SME) lending: Evidence from China. *World development, 37*(4), 800-811. https://doi.org/10.1016/j.worlddev.2008.07.014

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th. Ed.), USA: Pearson Education Inc.

Triki, T., & Faye, I. (2013). *Financial inclusion in Africa.* African Development Bank.

Tsai, W., & Ghoshal, S. (1998). Social capital and value creation: The role of intrafirm networks. *Academy of Management Journal, 41*(4), 464-476. https://dx.doi.org/10.2307/257085

USITC (2010). *Small and medium-sized enterprises: overview of participation in US exports.* United States International Trade Commission Investigation No. 332-508 USITC Publication 4125.

Vijaykumar, N. V., & Naidu, G. J. (2015). Economic reforms brought about by micro finance training–a case study of Padarahalli village in Ramanagar Taluk. *International Journal of Research in Management, Social Sciences & Technology, 10*(10), 1-11.

Vogelgesang, U. (2001). *The impact of microfinance loans on the client's enterprises: Caja Los Andes, Bolivia*. No. 2001-03. Post Graduate Program Allocation on Financial Markets, University of Mannheim.

Wilfred, N. K., Max, A., Omeke, M., Norman, T., & Moses, N. (2013). *The impact of microfine service delivery on the growth of SMEs in Uganda.* Investment Climate and Business Environment Research Fund.

World Bank (2008). World Bank SME Access to Finance Survey. Retrieved April 15, 2018, from http://pubdocs.worldbank.org/en/230761430846153012/MSME-Finance-Survey-GEORGIA-Banks-SME-Financing.pdf.

Zeng, S. X., Xie, X. M., & Tam, C. M. (2010). The relationship between cooperation networks and innovation performance of SMEs. *Technovation, 30*(3), 181-194. https://dx.doi.org/10.1016/j.technovation