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ASSESSMENT OF THE IMPACT OF NONFINANCIAL SERVICES OF MICROFINANCE BANKS ON THE GROWTH OF INFORMAL ECONOMY IN JOS METROPOLIS PLATEAU STATE, NIGERIA

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ABSTRACT: *The main objective of this study is to examine the impact of nonfinancial services of microfinance banks on the growth of the informal economy in Jos Metropolis Plateau State, Nigeria. Elsewhere, empirical evidence has shown that nonfinancial services of microfinance bank are a perquisite to enhancing the growth of small-scale business enterprises and by extension the growth of informal economy. In the Nigerian context particularly, Jos Metropolis of Plateau State the extent to which non-financial services of microfinance bank impact on the growth of informal economy is yet to be empirically examine. Thus, this study examine the impact of microfinance banks nonfinancial services in terms of health talk, advisory services and financial literacy on the growth of the informal economy in Jos Metropolis Plateau State, Nigeria. Descriptive survey and exploratory research design was employed. Primary data sourced on the subject matter were analyzed with series of econometric approach ranges from multivariate, discriminant and pair sample t-test technique. Findings of this study reveal that all the explanatory variables namely; health talk (HET), advisory services (ADS) and financial literacy (FNL) has a statistically significant impact on dependent variables (growth of informal economy) which comprises income level (YLA) and business expansion. Also, findings of this study show that the difference between the means before and after participated in nonfinancial services of microfinance bank is extreme enough that it is very unlikely to have occurred merely due to chance. Based on the findings of this study, the following recommendations are suggested. That monetary authority and stakeholders of microfinance bank should formulate a policy that will ensure that management of microfinance bank frequently engaged in nonfinancial services before and after put forward financial services. This can be achieving through monitoring and reporting the activities of microfinance bank in relation to nonfinancial services. Also, management of microfinance banks without prejudice should ensure that customers' participation in nonfinancial services program especially health talk is a requirement or perquisites for financial services of microfinance bank.*

KEYWORD: non-financial services, informal economy, health talk, advisory services and financial literacy

INTRODUCTION

According to United Nation (2006) concept of microfinance goes beyond only provision of micro-credit but also the provision of savings, insurance, remittance, health, education, skill training and social awareness etc. According to United Nations definition, microfinance is loans, savings, insurances, transfer services and other financial products for low-income clients. Therefore, microfinance is the financial and non-financial services to the poor who were traditionally not served by the conventional

financial institutions. Accordingly, financial and non-financial services have enhanced the inherent potentiality of the poor for entrepreneurship, income generation, self reliance, employment creation, increase wealth, reducing poverty and by extension growth the informal economy (Rahman, Luo, Ahmed & Xiaolin, 2012).

Informal economy comprises of all the economic activities which are not directly under government control. Several of these activities are unregulated and they did not pay direct tax to government. However, in this study discussion of informal economy will be limited to small-scale business enterprises which capital base is less than ₦600, 000 according to World Bank definition of small-scale business enterprise. Bangladesh is the pioneer adopter of modern concept of microfinance in the world (United Nation, 2006).

The Evidence from Bangladesh Microfinance Service Providers, has shown that majorly financial services of microfinance banks include; loans to customers (LDC), saving mobilization (SVM) and micro insurance scheme (MIS) while, nonfinancial services includes; health talk (HET), advisory services (ADS) and financial literacy (FL). However, according to Rahman, Luo, Ahmed and Xiaolin (2012), the success story of Microfinance Service Providers (MSPs) in Bangladesh such as; Grameen Bank (GB), Bangladesh Rural Advancement Committee (BRAC) and Association for Social Advancement (ASA) relies on the ability of MSP to provide financial and nonfinancial access to a large numbers of borrowers who had previously been denied this access. More importantly, nonfinancial services of microfinance banks have been seen as a strategy to enhancing financial services of microfinance banks as well as a solid platform for the small-scale business financial inclusion in the informal economy to efficiently utilizes and maximize the financial gain.

Nonfinancial services of microfinance banks such as health talk (HET), advisory services (ADS) and financial literacy (FL) is aimed at helping the customers of microfinance banks to have adequate knowledge about their personal health, business environment, efficient utilization of loan, increase saving deposit, profit, business expansion and safety against any loss and consequently, growth the informal economy. Concisely, health talk involves educating bank customers on issues related to health, risk and safety as it related to their business. Similarly, advisory services involve meeting new and old bank customers offering advice and counseling them on how to improve on their day to today business activities so as to increase productivity, output, business expansion, creating employment as well as profitability. Also, financial literacy involves organizing seminal, conference and training for the bank customers in order to enhance business performance.

It is expected that nonfinancial services of microfinance banks will not only reduced bad debts but lead to the growth of informal economy. In the case of Nigeria in particular, Jos Metropolis in Plateau State, Nigeria unfortunately, little to no research has systematically addressed question regarding the relative magnitude of the effects nonfinancial services of microfinance bank has on informal economy especially, the small scale business enterprises. In year 2007, Plateau State Nigeria in partnership with German International Corporation (GIC) developed a model seeking to create awareness on nonfinancial services of microfinance bank in Jos Metropolis. The ideas is that if Plateau State can take a leaf from the experiences of Microfinance Service Providers (MSPs) in Bangladesh in particular, Grameen Bank (GB) which growth their informal sector through implementing nonfinancial services

model, inevitably it will lead to growth of the informal economy in particular, small scale business enterprises'. The whole essence of the model is that customers of microfinance banks need to be involve in nonfinancial services (NFS) aspect of microfinance bank before and after microfinance bank financial services.

However, empirical evidence of the impact of NFS on informal economy is limited in the developmental economics academic literature (Armendariz and Morduch, 2005). This is mainly due to the lack of data that would allow for a reliable estimation of the added value of these programs, accounting for endogenous participation and program placement biases. Few studies on impact of NFS on informal economy produced mixed outcome. For instance, Babajide and Olanrewaju (2015); Olga, Lenton and Mosley (2011) concluded that Non-financial services have positive impact on business performances. More so, that non-financial service is found to reduce the clients' likelihood of being under the asset poverty line. On the other hand, Anietie, Ahmad, Ishaya, and Bayero (2014) concluded that the non-financial services offered by the MFBs have not impacted on the performance of the women traders, except in the aspect of training and network meetings. Following the inconclusiveness and mixed results in the empirical literature this suggests that there is gap in the contextual literature.

Thus, the main aim and objective of this study is to examine the impact of nonfinancial services of microfinance bank in terms of health talk, advisory services and financial literacy has on the growth of the informal economy in relation to the growth of small-scale business enterprises in Jos Metropolis Plateau State, Nigeria. Also, to investigate whether there is any significant difference before and after participated in nonfinancial services of microfinance bank. Thus, the following hypotheses are proposed.

i. Nonfinancial services of microfinance bank in terms of health talk, advisory services and financial literacy has no significant impact on the growth of the informal economy in relation to the growth of small-scale business enterprises.
ii. That there is no significant difference before and after participated in nonfinancial services of microfinance bank

The rest of this study is organized as follows. Section 2 discusses the conceptual, theoretical, empirical literature review as well as the gap in the literature. Section 3 which is the methodology of study encompasses research design, the population of the study, sample size and sampling technique as well as data collection and analysis techniques, the model specification, the sources of data and their description and the estimation procedures. In section 4 results and discussion are presented and lastly, in section 5, conclusion and recommendation are made.

LITERATURE / THEORETICAL UNDERPINNING

Conceptually, microfinance according to Central Bank of Nigeria (CBN) (2005) is the provision of financial services to the economically active poor and low income households. Microfinance is extensively known as a financial services provider such as credit, deposit, and insurance; saving and services for repayment for poor who are accessing into conventional service of finance (Agyemang, 2015; Haripriya & Thenmozh, 2016). Microfinance is simply the extension of small loans to entrepreneurs too poor to qualify for traditional bank loans (Akinlo & Oni, 2012). According to Brooks,

(2013), microfinance refers to an array of financial services, including loans, savings, and insurance, available to poor entrepreneurs and small business owners who have no collateral and wouldn't otherwise qualify for a standard bank loan. Furthermore, non-financial services of microfinance banks are services rendered by microfinance bank that excluded the financial services (Anietie, Ahmad, Ishaya, & Bayero, 2014; Olga, Lenton & Mosley, 2011).

An informal economy is an economic activity that is neither taxed nor monitored by a government, contrasted with a formal economy (Schneider, 2007, Hart, 1985). According to Gardner (2008) defining the informal economy to include those businesses which conceal their activity from the government and other regulatory agencies, despite the fact that the goods and services they produce are perfectly legal. According to Adeneye, Saheed and Ibrahim, (2018) informal economy is economic activities that is not regulates by government and they are not under direct tax imposition. That is informal economy generally refers to activities people do to make money that are not regulated by any government body (Migiro, 2017). According to Market Business News (2019) informal sector, also known as the underground economy**,** black economy**,** shadow economy**,** gray economy, informal economy, is part of a country's economy that is not recognized as normal income sources. People who work in the informal sector do not declare their income and pay no taxes on them.

Theoretically, this study anchored on Financial Growth Theory developed by Berger and Udell (1998). The theory posited that as a business matures over the years, its financial obligations and financing options metamorphose having more information available to the public. According to them, firms that are smaller, younger and possess more ambiguous information must depend on initial internal funding, trade credit, or a type of financing called angel finance. Angel finance is one that occurs when an individual or organization provides a limited amount of financial backing for a start-up business with a more favorable repayment plan. As the firm grows, it qualifies for acquiring both venture capital and midterm loans as sources of both intermediate equity and intermediate debt respectively. It is expected that making information available to the public on non-financial services of microfinance bank customers of the bank will be able to growth their business and consequently growth informal economy.

However, there are scanty piece of literature that have examined the relationship between non-financial services of microfinance bank and business performance and by extension growth of informal economy in Nigeria and elsewhere, for instance; Babajide and Olanrewaju (2015) investigate how marketing of non-financial services of microfinance institutions impacted the performance of small enterprises in Southwest, Nigeria. The study used survey method, employing in-depth interview to obtain information needed on the business performance of the micro, small and medium entrepreneurs. The findings revealed that marketing of non-financial services had positive impact on organizational performance; while significant impact was revealed among various kinds of business practices.

Anietie, Ahmad, Ishaya, and Bayero (2014) evaluate the impact of non-financial services of MFBs on the performance of women micro entrepreneurs in Kaduna state, Nigeria. The study employed cross sectional survey design, with a sample of 384 women entrepreneurs Primary data sourced were analyzed with logit regression analysis. The study concluded that the non-financial services offered by the MFBs have not impacted on the performance of the women traders, except in the aspect of training

and network meetings. Nevertheless, the study is limited to women micro entrepreneurs in Kaduna state, Nigeria which cannot explain the situation in Jos Metropolis.

Kipesha (2013) examine the performance of MFIs in Tanzania by integrating financial and non-financial metrics using a balanced score card approach with five dimensions made up of financial and non-financial aspects. The findings of the study indicated low performance among the MFIs studied. However they have performed more on the non-financial measures than on the financial measures.Olga, Lenton and Mosley (2011) examine and compare the participation determinants and added impact of the training sessions on monetary poverty outcomes of the borrowers. in Mexico. The study employed a field survey to source for primary data of clients of two credit-plus programs in Chiapas. The two specific programs in focus are Business Development Services and Preventive Health Services. Findings of the studied suggest that the participation decision mainly depends on borrowers' characteristics. Non-financial services are found to reduce the clients' likelihood of being under the asset poverty line. No significant differences were observed between the impacts of the two non-financial programs.

Babajide (2011) examine the effects of non-financial services of microfinance institutions on the performance of MSEs used cross-sectional data obtained through a survey across the South Western geo-political zone to with the use of multiple regression analysis techniques. The study used advisory services, pre-loan training, group membership, cross guarantee-ship, networking meetings, business training, and supervision as proxies for non-financial services in order to see if they affect microenterprise performance. Findings of the study establish positive relationship between the dependent and the independent variables.

Ogunrinola and Alege (2007) examine the nexus between microcredit and microenterprise development: an analysis of some rural based enterprises in Nigeria. Using pre-loan training, group membership and cross guarantee ship as the non-financial services along with microcredit, found MFI to be of benefit to micro businesses in the rural based areas of Lagos State. The study confirmed that pre-loan training, group membership and cross guarantee-ship had positive impact on microenterprise development in Lagos state. However, while literature is relatively scanty when it comes to the impact of nonfinancial services of microfinance bank on the growth of the informal economy in particular in the context of Jos Metropolis of Plateau State, Nigeria there is no previous empirical studies on the impact nonfinancial services of microfinance bank has on the growth of the informal economy in Jos Metropolis of Plateau State, Nigeria thereby created gap in the contextual literature.

METHODOLOGY

This study adopts a survey and exploratory research design; cross-sectional data was collected from microfinance banks customers and management staffs of seven microfinance banks operating in Jos Metropolis of Plateau State, Nigeria. Primary data via structured questionnaire, semi-structured interview and focus group discussion were sourced on the impact nonfinancial services of microfinance banks has on the growth of the informal economy of Jos Metropolis Plateau State, Nigeria. These data were measured on various scale ranging from nominal, ordinal and interval scale.

According to Plateau State Microfinance Development Agency (2019) there are seven functional microfinance banks in Jos Metropolis with total number of 42000 customers'. However, going by the record obtained from each of the seven microfinance banks on an average total number of 500 from each banks do participated on the non-financial services programs. Thus, invariably total population for this study is based on the average number of customers' from each bank which is sum to 3500. However, due to the large population of these sets of people in order to do thorough and realistic study, Taro Yamane (1967) formula simple size determination is employed in reducing the large population to small size as present as follows;

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

Whereas: S is the desired sample; '*N*' is the population size; and '*ME*' is the margin of error allowed in determine the sample size: Using a total N of 3500 the result present as follows

$$s = \frac{N}{1 + N(E)^2} = \frac{3500}{1 + 3500\,(0.05)^2} = 359.$$

Following the sample size of 359, considering the population of each bank customers' and staffs proportionally purposively sampling technique was employed in order to allocate the questionnaire to the respondents in the area of study. The distribution is as follows; .Mwaghavul MFB (41), Lift Above Poverty MFB (62), Highland MFB (52), Light MFB (82), Gowans MFB (21), Nirsal MFB (31) and Fadama III MFB (71) questionnaires.

Next, respondents who could provide information on nonfinancial services of microfinance banks in the Jos Metropolis of Plateau State, Nigeria were selected through the help of the management staffs of the microfinance banks. The mass qualitative primary data collected were subjected to a series of treatment; coded, translated, analyzed and tested. The impact of NFS is estimated following a series of econometric approach analysis ranges from a t-test paired samples test, Multivariate Test and Discriminant analysis. The analyses were presented, for simplicity, using appropriate tables, charts, graphs as well as texts with the aid of statistical package for social science (SPSS version 20).

The study model *Y(growth of informal economy via small-scale business enterprises)* as a function of explanatory variables that is; nonfinancial services of microfinance bank which comprises health talk (X1), advisory services (X2) and financial literacy (X3) i.e., $X = (X_1,\ldots, X_p)$.

The econometric approach of multivariate regression analysis was carried out to estimate the linear association between the predictors and responses. As the name implies, multivariate regression is a technique that estimates a single regression model with more than one outcome variable. When there is more than one predictor variable in a multivariate regression model, the model is a multivariate multiple regression. It is extension of the linear regression model to the situation where we measured m responses $Y_1, Y_2,\ldots,Y_p$ and the same set of r predictors $z_1,z_2,\ldots, z_r$ on each sample unit. Each response follows its own regression model: that is,

$$Y_1 = \beta_{01} + \beta_{11}z_1 + \ldots\ldots\ldots + \beta_{r1}z_r + \varepsilon_1$$
$$Y_2 = \beta_{02} + \beta_{12}z_1 + \ldots\ldots\ldots + \beta_{r2}z_r + \varepsilon_2$$
.
$$Y_p = \beta_{0p} + \beta_{1p}z_1 + \ldots\ldots\ldots + \beta_{rp}z_r + \varepsilon_p$$

$\varepsilon = (\varepsilon_1, \varepsilon_2 ... \varepsilon_p)'$ has expectation0and variance matrix $\Sigma p \times p$. The errors associated with different responses on the same sample unit may have different variances and may be correlated. Following matrix derivation the multivariate multiple regression can be presented as follows,

$Y_{nxp} = Z_{n\ x\ (r+1)}\ ^{\beta}_{(r+1)\ x\ p} + \varepsilon_{nxp}$

where, $Y_{(i)}$ is the $E(\varepsilon(i) = 0, Cov(\varepsilon(i), \varepsilon(k)) = \sigma ik^I$ and i,k = 1, 2, …, p

The m measurements on the jth sample unit have covariance matrix Σ but the n sample units are assumed to respond independently. Unknown parameters in the model are $^{\beta}_{(r+1)\ x}$ p and the elements of Σ. The design matrix Z has jth row [zj0 zj1….. zjr], where typically zj0 = 1.

Furthermore, econometric approach of a Paired Sample T Test technique also refers to Dependent t-test or repeated measure t-test was employed. It is experimental design in the context of a pretest-posttest. The paired sample *t*-test, sometimes called the dependent sample *t*-test, is a statistical procedure used to determine whether the mean difference between two sets of observations is zero. In a paired sample *t*-test, each subject or entity is measured twice, resulting in *pairs* of observations. The hypotheses can be expressed mathematically as follow:

H_0: $\mu_1 - \mu_2 = 0$ ("the difference between the paired population means is equal to 0")

H_1: $\mu_1 - \mu_2 \neq 0$ ("the difference between the paired population means is not 0")

Where

μ_1 is the population mean of variable 1, and

μ_2 is the population mean of variable 2.

The test statistic for the Paired Samples *t* Test, denoted *t*, follows the same formula as the one sample *t* test.

$$t = \frac{\bar{Y}diff - 0}{\partial_{\bar{Y}}}$$

Where,

$$\partial_{\bar{Y}} = \frac{\partial_{diff}}{\sqrt{n}}$$

$\bar{Y}diff$ = Sample mean of the differences

n = Sample size (i.e., number of observations)

∂_{diff} = Sample standard deviation of the differences

$\partial_{\bar{Y}}$ = Estimated standard error of the mean (*s*/sqrt(*n*))

The calculated *t* value is then compared to the critical *t* value with df = *n* - 1 from the *t* distribution table for a chosen confidence level. If the calculated *t* value is greater than the critical *t* value, then we reject the null hypothesis (and conclude that the means are significantly different).

RESULTS AND FINDINGS

In line with the main objective of this study to examine the impact of nonfinancial services of microfinance bank in terms of health talk, advisory services and financial literacy has on the growth of the informal economy in relation to the growth of small-scale business enterprises in Jos Metropolis Plateau State, Nigeria. Also, to investigate whether there is any significant difference before and after

participated in nonfinancial services of microfinance bank, multivariate multiple regression and pair sample T-test analyses were employed. Table 1 – 3 presented the multivariate test analysis for each of the explanatory variables refers to appendix for complete test conducted.

Table 1a

Multivariate Tests: Impact of Health talk on Growth of Informal Economy

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[c]
Pillai's trace	.908	93.883	6.000	678.000	.000	.454	563.297	1.000
Wilks' lambda	.205	136.080[a]	6.000	676.000	.000	.547	816.481	1.000
Hotelling's trace	3.325	186.746	6.000	674.000	.000	.624	1120.478	1.000
Roy's largest root	3.150	355.997[b]	3.000	339.000	.000	.759	1067.991	1.000

Each F tests the multivariate effect of HET. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Exact statistic

b. The statistic is an upper bound on F that yields a lower bound on the significance level.

c. Computed using alpha = .05

Source: *Researcher Computation (2019) SPSS Statistics 22 Output from study data (Appendix A1)*

Multivariate Tests table 1a presents the impact of health talk (HET) on the growth of informal economy which has been proxy by two dependent variables i.e, (income and business expansion after participating in non-financial services program of microfinance bank) is explained by Wilks' Lambda row. Following the Significant value of .000, which means $p < .0005$ it can be concluded that income and business expansion significantly dependent on health talk (HET) ($p < .0005$). That is, there is a statistically significant difference in income level and business expansion based on health talk (HET) F (6, 676) = 136.08, $p < .0005$; Wilk's $\Lambda = 0.205$, partial $\eta^2 = .55$. Since the result is statistically significant further follow-up tests is required in order to determine how the dependent variables differ for the independent variable as reported in univariate test in table 1b.

Table 1b

Univariate Tests: Effect of Health talk on Income and Business Level after Non-Financial Services

Dependent Variable		Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
YLA	Contrast	20.482	3	6.827	136.257	.000	.547	408.770	1.000
	Error	16.986	339	.050					
BLA	Contrast	100.171	3	33.390	239.452	.000	.679	718.357	1.000
	Error	47.272	339	.139					

The F tests the effect of HET. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Computed using alpha = .05

Source: *Researcher Computation (2019) SPSS Statistics 22 Output from study data (Appendix A1)*

Table 1b shown that health talk of microfinance bank has a statistically significant impact on both income level (YLA) (F (3, 339) = 136.257; $p < .0005$; partial $\eta^2 = .547$) and business expansion (BLA) (F (3, 339) = 239.452; $p < .0005$; partial $\eta^2 = .679$). this result suggest that 55% changes in income level and 68% changes business expansion respectively can be attributed to bank customers participation in health talk.

Table 2a

Multivariate Tests: Effect of Advisory Services on Growth of Informal Economy

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[c]
Pillai's trace	.605	49.052	6.000	678.000	.000	.303	294.310	1.000
Wilks' lambda	.401	65.287[a]	6.000	676.000	.000	.367	391.725	1.000
Hotelling's trace	1.479	83.082	6.000	674.000	.000	.425	498.492	1.000
Roy's largest root	1.469	165.955[b]	3.000	339.000	.000	.595	497.864	1.000

Each F tests the multivariate effect of ADS. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Exact statistic

b. The statistic is an upper bound on F that yields a lower bound on the significance level.

c. Computed using alpha = .05

Source: *Researcher Computation (2019) SPSS Statistics 22 Output from study data (Appendix A1)*

The Multivariate Tests table 2a presents the impact of advisory services (ADS) on the growth of informal economy which has been proxy by two dependent variables i.e, (income and business expansion after participating in non-financial services program of microfinance bank) is explained by Wilks' Lambda row. Following the Significant value of .000, which means $p < .0005$ it can be concluded that income and business expansion significantly dependent on advisory services (ADS) ($p < .0005$). Based on advisory services (ADS) F (6, 676) = 65.287, $p < .0005$; Wilk's $\Lambda = 0.401$, partial $\eta^2 = .37$. Since the result is statistically significant further follow-up tests is required in order to determine how the dependent variables differ for the independent variable as reported in univariate test in table 2b.

Table 2b

Univariate Tests: Effect of Advisory services on Income and Business Level after Non-Financial Services

Dependent Variable		Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
YLA	Contrast	12.929	3	4.310	86.011	.000	.432	258.032	1.000
	Error	16.986	339	.050					
BLA	Contrast	33.943	3	11.314	81.139	.000	.418	243.418	1.000
	Error	47.272	339	.139					

The F tests the effect of ADS. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Computed using alpha = .05

Source: *Researcher Computation (2019) SPSS Statistics 22 Output from study data (Appendix A1)*

Table 2b reveal that advisory services of microfinance bank has a statistically significant impact on both income level (YLA) (F (3, 339) = 86.011; $p < .0005$; partial $\eta^2 = .432$) and business expansion (BLA) (F (3, 339) = 81.139; $p < .0005$; partial $\eta^2 = .418$). This result implies that 43% changes in income level and 42% changes business expansion respectively can be attributed to bank customers' participation in advisory services of microfinance bank.

Table 3a

Multivariate Tests: Effect of Financial Literacy on Growth of Informal Economy

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[c]
Pillai's trace	.577	45.870	6.000	678.000	.000	.289	275.219	1.000
Wilks' lambda	.441	56.961[a]	6.000	676.000	.000	.336	341.766	1.000
Hotelling's trace	1.225	68.779	6.000	674.000	.000	.380	412.673	1.000
Roy's largest root	1.189	134.364[b]	3.000	339.000	.000	.543	403.093	1.000

Each F tests the multivariate effect of FNL. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Exact statistic

b. The statistic is an upper bound on F that yields a lower bound on the significance level.

c. Computed using alpha = .05

Source: *Researcher Computation (2019) SPSS Statistics 22 Output from study data (Appendix A1)*

The Multivariate Tests table 3a presents the impact of Financial Literacy (FNL) on the growth of informal economy which has been proxy by two dependent variables i.e, (income and business expansion after participating in non-financial services program of microfinance bank) is explained by Wilks' Lambda row. Following the Significant value of .000, which means $p < .0005$ it can be concluded that income and business expansion significantly dependent on Financial Literacy (FNL) ($p < .0005$). Based on Financial Literacy (FNL) F (6, 676) = 56.961, $p < .0005$; Wilk's $\Lambda = 0.441$, partial $\eta^2 = .34$. Since the result is statistically significant further follow-up tests is required in order to determine how the dependent variables differ for the independent variable as reported in univariate test in table 3b.

Table 3b

Univariate Tests: Effect of financial literacy (FNL) on income and business kevel after non-financial Services

Dependent Variable		Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
YLA	Contrast	9.603	3	3.201	63.889	.000	.361	191.666	1.000
	Error	16.986	339	.050					
BLA	Contrast	31.160	3	10.387	74.485	.000	.397	223.456	1.000
	Error	47.272	339	.139					

The F tests the effect of ADS. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.
a. Computed using alpha = .05

Source: *Researcher Computation (2019) SPSS Statistics 22 Output from study data (Appendix A1)*

Table 3b reveal that financial literacy of microfinance bank has a statistically significant impact on both income level (YLA) (F (3, 339) = 63.889; $p < .0005$; partial $\eta^2 = .361$) and business expansion (BLA) (F (3, 339) = 74.485; $p < .0005$; partial $\eta^2 = .397$). This result implies that 36% changes in income level and 40% changes business expansion respectively can be attributed to bank customers' participation in financial literacy of microfinance bank. Thereafter, discriminant analysis Tests of Equality of Group Means was employed to determine which of the explanatory variable that strongly impacts on the dependent variables. This analysis is reported in table 4 as follow;

Table 4

Tests of Equality of Group Means Among the Explanatory Variables

	Wilks' Lambda	F	df1	df2	Sig.
HET	.637	197.887	1	348	.000
ADS	.633	201.762	1	348	.000
FNL	.508	337.623	1	348	.000

Source: *Researcher Computation (2019) SPSS Statistics 22 Output from study data (Appendix A1)*

Table 4 presents Tests of Equality of Group Means using Wilks' Lambda values. The result shows that with significant values of 0.000 which is less than 0.05 all the explanatory variables namely; health talk (HET), advisory services (ADS) and financial literacy (FNL) have statistically significant impact on dependent variables which comprises income level (YLA) and business expansion. However, the magnitude impact of health talk (HET) with (F (1, 348) = 197.887; $p < .0005$; Wilks' Lambda = .637, higher than advisory services (ADS) with (F (1, 348) = 201.762; $p < .0005$; Wilks' Lambda = .633 and financial literacy (FNL) with (F (1, 348) = 337.623; $p < .0005$; Wilks' Lambda = .508. This result suggests that health talk of aspect of non-financial services of microfinance bank is very significant.

This study therefore rejects the null hypothesis one which stated that nonfinancial services of microfinance bank in terms of health talk, advisory services and financial literacy has no significant impact on the growth of the informal economy and concluded that nonfinancial services of microfinance bank in terms of health talk, advisory services and financial literacy has significant impact on the growth of the informal economy. This finding is agreement with Olga, Lenton and Mosley (2011); Babajide (2011) which concluded that non-financial services have positive impact on business performance. To investigate whether there is any significant difference before and after participated in nonfinancial services of microfinance bank, pair sample T-test analyses was employed as reported in table 5

Table 5
Paired Samples Statistics Among the Dependent Variables

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	YLA	3.7143	350	.45240	.02418
	YLB	2.5000	350	.62768	.03355
Pair 2	BLA	3.3571	350	.71888	.03843
	BLB	1.5714	350	.49558	.02649

Source: *Researcher Computation (2019) SPSS Statistics 22 Output from study data (Appendix A1)*

The samples statistics results in table 5 showed that the total observation number is 350. The mean scores of income level and business expansion after participated in nonfinancial services of microfinance bank is higher than the mean scores of before participated in nonfinancial services of microfinance bank. The difference between the means in the income level and business expansion before and after participation in non-financial services of microfinance bank are 1.2143 and 1.7857 respectively. More so, the samples statistics result showed that income level after (YLA) participation in non-financial services of microfinance bank recorded highest mean value of 3.7143 with equal standard deviation of 0.45240. Follow by business expansion after (BLA) participation in non-financial services of microfinance bank which has mean value of 3.3571 with equal standard deviation of 0.71888. To test whether this difference is large enough to reach statistical significance, this is where the paired samples t test comes into play as reported in table 6.

Table 6
Paired Samples Test Among the Dependent Variables

	Paired Differences					t	Df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 YLA - YLB	1.21429	.94084	.05029	1.11538	1.31320	24.146	349	.000
Pair 2 BLA - BLB	1.78571	.41091	.02196	1.74252	1.82891	81.301	349	.000

Source: *Researcher Computation (2019) SPSS Statistics 22 Output from study data (Appendix A1)*

The result show that the t value of income level and business expansion before and after participates in non-financial services of microfinance bank are 24.146 and 81.301 respectively with *p*-value – or 2-tailed significance value – of .000. This suggests a significant result for any plausible alpha level. A standard alpha level is .05, and .000 is smaller than .05, Thus, this study reject null hypothesis two which stated that there is no significant difference before and after participated in nonfinancial services of microfinance bank and concluded that there is positive and significant difference on income level and business expansion before and after participated in nonfinancial services of microfinance bank. To put this way, the difference between the means in the two conditions is extreme enough that it is very unlikely to have occurred merely due to chance; therefore, we can conclude that it is a real difference.

DISCUSSION

The main objective of this study is to examine the impact of nonfinancial services of microfinance banks on the growth of the informal economy in Jos Metropolis Plateau State, Nigeria. Elsewhere, empirical evidence has shown that nonfinancial services of microfinance bank are a perquisite to enhancing the growth of small-scale business enterprises and by extension the growth of informal economy. In the Nigerian context particularly, Jos Metropolis of Plateau State the extent to which non-financial services of microfinance bank impact on the growth of informal economy is yet to be empirically examine. Thus, this study examine the impact of microfinance banks nonfinancial services in terms of health talk, advisory services and financial literacy on the growth of the informal economy in Jos Metropolis Plateau State, Nigeria. Descriptive survey and exploratory research design was employed. Primary data sourced on the subject matter were analyzed with series of econometric approach ranges from multivariate, discriminant and pair sample t-test technique. The analysis produced the following results.

Result reveals that all the explanatory variables namely; health talk (HET), advisory services (ADS) and financial literacy (FNL) has a statistically significant impact on dependent variables (growth of informal economy) which comprises income level (YLA) and business expansion. However, the magnitude impact of health talk (HET) higher than advisory services (ADS) and financial literacy (FNL). Also, this study result show that the difference between the means before and after participated in nonfinancial services of microfinance bank is extreme enough that it is very unlikely to have occurred merely due to chance; therefore, can be conclude that there is a real difference.

Implication to Research and Practice

By implication this study have shown that empirical research on the subject matter is timely and significant in the sense that the findings of this study overtly provide the information and in-depth understanding on the important of non-financial services of microfinance banks in relation to informal economy in the Nigerian context. Moreover, in practice there is little or no awareness on the important of non-financial services of microfinance bank in the study areas. Thus, this study is a source of material to the general public.

CONCLUSION AND RECOMMENDATIONS

This study therefore rejects the null hypothesis one which stated that nonfinancial services of microfinance bank in terms of health talk, advisory services and financial literacy has no significant impact on the growth of the informal economy and concluded that nonfinancial services of microfinance has significant impact on the growth of the informal economy. More so, this study reject null hypothesis two which stated that there is no significant difference before and after participated in nonfinancial services of microfinance bank and concluded that there is positive and significant difference on income level and business expansion before and after participated in nonfinancial services of microfinance bank. Based on the findings of this study, the following recommendations are suggested. That monetary authority and stakeholders of microfinance bank should formulate a policy that will ensure that management of microfinance bank frequently engaged in nonfinancial services

before and after put forward financial services. This can be achieving through monitoring and reporting the activities of microfinance bank in relation to nonfinancial services. Also, management of microfinance banks without prejudice should ensure that customers' participation in nonfinancial services program especially health talk is a requirement or perquisites for financial services of microfinance bank.

Future Research

It is imperative in future to investigate whether socio-economic characteristic of customers of microfinance bank affect their participation in non-financial services program of microfinance bank.

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