Sustainable financial access for female entrepreneurs in the micro, small and medium enterprises sector in Nigeria

Kehinde A. Adetiloye¹*, Folashade B. Adegboye¹ and Victoria A. Akinjare¹

Abstract: Challenges to accessing credit by the women or female entrepreneurs (FEs) have been observed to be demand-induced rather than supply constrained. This paper attempts to determine the issues that constrain financial access of FEs with the basic objective of achieving a sustainable access over the long term among the micro and the small and medium female entrepreneurs. The study undertook collection of data via questionnaire of FEs who operate in the micro, small and medium enterprises (MSMEs) sector through the microfinance banks’ (MfBs) and institutions’ (MfIs) support. The basic variables were savings, loan conditions, business registration and the number of banks accounts operated by FEs among others. Four models estimating the determinants of access for now and the future were estimated with ordinary least squares regression. The results indicate that easier loan conditions are required to assist the FEs in achieving sustainable credit access, as it was significantly negative in two of the models while compulsory savings deposits should be less emphasized. This indicates that there is the need to invest more in their enterprises for growth. Credit access is enhanced also by the regular use of the institutions for financial transactions. Finally, that targeted education is positively significant in savings shows that the there is need for continuous education.

ABOUT THE AUTHOR

Dr Kehinde Adetiloye holds a PhD in Finance. He’s an Associate Professor in the Department of Banking and Finance at Covenant University, Nigeria where he teaches various courses across the levels and conduct researches. He is a member of several clusters conducting research at Covenant University. He and the other authors have recently directed their research interests to issues that directly benefit individuals at the lower strata of the economy. Dr Folashade Adegboye holds a PhD in Finance and has special interests in International Finance and Financial Planning. She’s a member of several research clusters and teaches courses at both undergraduate and postgraduate levels in the Department of Banking and Finance at Covenant University. Dr Victoria Akinjare obtained her PhD in Finance specialising in Agricultural Finance. She is also a member of the faculty in the Department of Banking and Finance. She teaches Business Finance and related courses.

PUBLIC INTEREST STATEMENT

Access to credit by female entrepreneurs for funding their respective businesses is an issue that government at any level has not been taken seriously in Nigeria. As a signatory to the United Nations Charter, Nigeria is compelled to pursue the Sustainable Development Goals. The Government and the private sector (especially the financial institutions) have suddenly developed interest to financially empower the female folk in their enterprises and reduce the gap of inequality as proposed in the Sustainable Development Goals (SDG) 5, especially in business finance. Issues of credit insufficiency for female entrepreneurs is of concern to policy makers and the government, especially of the MSME sector of the economy. While there are many ways to look at the challenge, this paper opted to study access to credit from the demand point: the users of credit themselves.

© 2020 The Author(s). This open access article is distributed under a Creative Commons Attribution (CC-BY) 4.0 license.
education of the business female folk at all levels. The study recommends that FEs should invest their surplus cash more in their businesses rather than save so much but should open accounts and intensively operate such accounts.

Subjects: I3; G2; O1; P4

Keywords: female entrepreneurs. microfinance institutions; savings; micro; small and medium enterprises (MSMEs); loan conditions

1. Introduction
Female entrepreneurship (FE) has been on the front burner for over a decade for a variety of reasons, among which have been the issues of social equality, later economic engagement and empowerment and finally national development. Being viewed of in times past as a weaker vessel, created the need to provide specially for lack of opportunities and support for development of the female entrepreneur. Special fund was created by the World Bank Group to aid in the financing of female entrepreneurs through the Women Entrepreneurs Finance Initiative (World Bank Group, 2020). This came with multilateral and all-regional approach in funding, which has recorded very slow progress and less than optimal outcomes. allocations and mobilisations of funds were for many countries with little focus on developing regional geographies. This fund reached out to several countries including Nigeria but concentration has been on Organisation for Economic Cooperation and Development (OECD) and the Arab countries of the Middle East. Then the Affirmative Finance Action for Women in Africa (AFAWA) by the African Development Bank (AfDB) with a funding of 61.8 USD million for the whole of Africa reached out to Nigeria, also with unverifiable success. Concisely, these organisations provided insufficient funds for meaningful impact for financial access especially to the Micro and Small sector of the Micro Small and Medium Enterprises (MSMEs). The performance of Nigeria in the Female Entrepreneurship (FEs) Index has steadily improved but still seriously inhibited by a number of factors among which are research and development expenditure. Most importantly, the serious challenge to FEs in Nigeria is based on the strata within the social status in the country. A cursory look at the strata would suggest the size of business as a good yardstick to stratify the FEs in the country, though various literature alludes to the fact that education plays a significant role in stratification of women entrepreneurs. The conlusions in Holienkao et al. (2016) stress the importance of education and freedom of choice just as Özsunurg (2019) emphasised freedom (financial and otherwise) in women development for creating sustainable entrepreneurship out them.

The Sustainable Development Goals (SDG5), as mentioned in Amoo (2018) specifically seek to empower women and end all forms of gender-based inequality, especially the right of full capacity to contracts enforcement. Among this focus is the inability of FEs to successfully access finance and prosecute own ideas of investment projects. Female entrepreneurs (FEs) have been active especially at the micro, small and medium enterprises (MSMEs) level where barriers to entry in terms costs and other regulatory requirements are minimal and level of education and intellectual requirements are limited. This sector is predominant among the fast moving consumer goods (FMCGs) where FEs have a strong presence (International Finance Corporation, undated), especially with marketing and distribution. By the definitions of medium enterprises, very few FEs ever broke through to the medium class of enterprises. The challenges of limited access to education, financial and entrepreneurial opportunities have been identified as the issues to address through SDG5 in order to encourage FEs and increase total output. The various reports from MasterCard Index of Women Entrepreneurs (2017) and Mastercard Index of Women Entrepreneurs MIWE (2018) continue to highlight the challenges of FEs in various parts of the world. The report successfully included Nigeria in the 2018 edition.
The burgeoning Nigerian female population showed that the last census of 2006 put the Nigeria female population at 49%. This teeming female population are constrained by legendary latent inequality issues of culture, religion and capital. Those reports continue to highlight the issue of credit access as a major issue for most female entrepreneurs in sub-Saharan Africa that includes Nigeria. For instance, GEDI (2015) reported particularly mentioned the issue of financial exclusion faced by the female micro-entrepreneur in Nigeria. Halkias et al. (2011) had named the two issues hampering FEs as lack of access to finance and insufficient education. While there seem to be improvement in the education of the girl child in some parts of the country, and particularly the improvement in the success rate of female students witnessed across the globe that also include Nigeria, the direct solution to the challenge of access to capital is yet to be dealt with.

Various programmes in the past few years have been mounted and some other policies put in place to deal with the issue of finance for FEs in less developed countries. Among these programmes is the Women Entrepreneurial Finance Initiative that was established in 2017 with commitment coming from G20 countries to improve financial access for women entrepreneurs in developing countries when it realised the importance of women owned enterprise and the survival rate that Kalnins and Williams (2014) pointed out. Morsy (2020) showed that lack of access to finance by FEs in Africa is self-inflicted and solutions to the challenge will have to be dealt with it from the demand side. A commercial bank in Nigeria has also recently chosen to allow women access credit at zero percent rate of interest. The current wave of understating of the challenge and policies to address the twin problems of lack of access to finance and financial exclusion seem to have brought the problem freshly to the fore for action.

Issues such as insufficient assets and the lack of rights to hold one had been advanced as major reasons for lack of access to finance. While many countries have bought into a policy of feminist agenda to assist female entrepreneurs, Nigeria is yet to seriously consider such policies. Thus, many of the women-folk are not empowered to meaningfully contribute to the development of the country in their micro, small and medium enterprises. The International Finance Corporation (undated) reported that only 22% of female entrepreneurs have access to finance against 34% for males. Except for some Non-Governmental Organisations (NGOs) that cater for the socially maladjusted females of the society, the Nigerian governments at any level has not thought out any special programme to assist the female folks in business financing. However, policy to promote female entrepreneurship has been claimed to have granular purposes that remains the best measure or yardstick for success.

While MSMEs are the best hub to promote new enterprises with various incentives to the generality of those interested, women are not specially catered for nor are there policies to give them any advantage (Lincoln, 2012) though a full-fledged Ministry of Women Affairs exists at the Federal level of Government. While this policy is in preparation or the authorities are encouraged to produce one, there is need to investigate and determine the areas of focus for such intended policy to address issues of credit access holistically. Such a policy when fully enunciated would incentivise the spawning of more successful FEs and for the general improvement in output leading to general welfare and growth in the economy.

For the micro, small and medium enterprises, the major funding sources are the microfinance institutions, and with occasional intervention funds that can be lent in small amounts. However, the financial strength of the microfinance institutions and banks (MfIs and MFBs) calls for sustainability for long-term capacity to lend to the FEs. Bayai and Ikhide (2016) explored the concepts of financing and financial sustainability in microfinance institutions and conclude that the sustainability of MfIs and MFBs operations require intervention funds (which is known to cause market distortion) to augment available capital. Therefore, the objective of this study is to investigate the primary determinants of insufficient access to finance by female entrepreneurs on sustainable basis in the Nigerian MSME sector.
2. Review of extant literature

The fact that the Birch (1979) and McCloskey (2010) have intoned the need for new businesses to spawn as efforts are directed towards increase in total output in the economy has forced attention on entrepreneurship generally globally. Within the context of female entrepreneurship, the global world sees it as an asset and not a liability that also need to be explored to maximise what the female gender has to offer entrepreneurship on a global scale. The outcome expected in the process of harnessing potentials of FEs is the increase in the output and consumption, which would enhance development. Petterson et al. (2017) give the example of the Scandinavian countries of Denmark, Norway and Sweden where though, feminist approaches were pursued to address and deal with the matters concerning female entrepreneurs, it has since been overtaken by the general pursuit of economic development in the different countries. The ability to easily multitask, receive attention and make rapprochements are the hallmark of women entrepreneurship in many climes. The theories of entrepreneurship as it concerns the female folk are about five and are discussed below.

According to Calas and Smirch (1996) and Calas et al. (2007), the liberal feminist theory sees women as requiring equal rights with men and attention has focused on redressing the differences in demographic cognitive thought and behavioural differences in both genders instead of problematizing the institutions that brought these about for solutions to be found. Second, the radical feminist theory discusses the male dominant nature; how the woman can use feminist approaches to deal with the situation and extricate herself from this sort of domination. These should occur in social, economic and political arrangements that challenge male domination to enable the women to equal up. Third, psychoanalytic approaches involve the use of soft gender nature of women in business where the woman can use her natural talents to enhance her entrepreneurial skill. This type of feminism sees women being successful in certain professions such teaching and nursing. As such, a number of firms in the healthcare and educational institutions belong to FEs. Fourth, socialist feminism deals with how relations of power and equality are addressed within the free-market system. Research areas in this section deal with how gender might affect the successes of the entrepreneur and how it can be dealt with. Lastly, post-structuralism approaches studies how language brings differences and knowledge in the process of women entrepreneurs. Post-colonial feminist theories involve the contextualising the middle-class representation of gender with female entrepreneurship being called into called to question as it becomes a useful tool in the process of economic development. However, Yadav and Unni (2016) believe that there is still so much do to advance theoretical issues on FEs on transnational basis. This study follows the post-colonial feminist theories that seek empowerment and equality for women in the light of the Sustainable Development Goals (SDGs) objective 5.

A plethora of issues raised on women entrepreneurship as documented in the Organisation for Economic Cooperation and Development (2004) tepidly mentioned finance. Equal access to finance is constrained by the cultural belief of the inability of womenfolk to hold property and capital is accepted as a social issue in some countries. The Organisation for Economic Cooperation and Development (2004) proceedings highlighted the major challenges to FEs abilities’ lack of role models, the types of education and competing demand for time resources as the woman is the major pillar of the family. De Groot (2001) discussed the cultural practices and major inhibitors of female entrepreneurs in some African and Asian countries. Some of the issues mentioned in the study include inability to hold property (or real capital) and insufficient time are gradually giving way while the challenges of access to capital or finance remain. The study also alludes to the fact that pecking order theory also holds in financial management practices by FEs.

Innovative methods and processes have evolved over the years to finance and invest in entrepreneurs, among which is the venture capital and private equity (VCPE), apart from the traditional informal and formal routes to financing. Women entrepreneurs in Nigeria have engaged in survivalist and coping strategies in the environment to access the measure of success that has been achieved so far (Taiwo et al., 2016). The study had recommended the enactment of interventionist policies to assist the budding FEs in the economy. The Organisation for Economic
Cooperation and Development (2004) established three key stages of the significance for FEs progress when comparing the population of women to men on general basis, those in the labour market, those willing to venture into business and taking root by businesses established by the FEs. These critical paths to survival as generally witnessed by firms is common and of general attention to budding entrepreneurs.

The entry of women into entrepreneurship generally was met with some resistance in traditional societies including Nigeria. According the Nigerian Bureau of Statistics and Small and Medium Entrepreneurs Development Agency of Nigerian (2010), the challenges facing women entrepreneurs among others include poor access to financial markets and technology (all capital induced), role conflicts, inadequate domestic infrastructure, and unease of doing business, poor linkage with support services, poor regulatory environments, globalisation issues and people’s traditional perception. Each of these perceptions becomes a challenge on their own to impede progressive FEs.

FEs financial problems are mainly rooted in the inability to raise required funds to start-up and expand when required, which often restricts ambition. The early study by Duffy and Zelbst (2000) highlighted the issue of inaccessibility of finance from the traditional sources (banks and venture capital firms) stating that the age of female entrepreneurs owned firms was a major determinant in the access to funds for business in the United States. The inference from the study is that assistance is available for the firm at the budding stage through the Small Business Administration (SBA) scheme. Lending and advancing credit to FEs seem to have been covered generally in the 1990s especially in the studies of Force and McFerrin (1996) that dealt with the greater (more than male) need to access capital by FEs. Nelton (1997) and Godsey (1997) mentioned that use of credit by FEs as being different from their male counterparts. Gurnani (2014) study of FEs financial challenges in India did inform generally and did not delve deep to enable the understanding of the issues or recommend solutions but mentioned starting-up problems and enabling factors and other unidentified constraints as challenges.

The successes that have been recorded in the FEs development is seriously skewed towards the developed markets as reported by MasterCard Index of Women Entrepreneurs (2017). There are five indicators listed for the success of FEs. These are, bias in favour of access to financial support for business; availability of dedicated programmes for the success of FEs; training and development for women in SMEs; ease of access to loans and affordability of finance for business by FEs. These factors are critical for the success of any country interested in development for women entrepreneurs. MIWE, 2018 included Knowledge Assets and Financial Access ranking parameters in which Nigeria dropped the highest percentage points amongst many though it was the first time the country was included for measurement. From the literature accessed during this study, issues of FEs in developed markets seem settled. An FE in any of the developed markets is supported at the budding stage and surviving until maturity, but will grow like any other firm depending on the financial markets and the system to access finance for its needs and operations. However, the Kenyan study of Waita (2012) indicated that lack of collateral, lack of support by the spouse, poor credit product design and high interest rates as bedeviling access of FEs to credit.

In spite of the seeming liquidity of Nigerian mainstream banks, there is general apathy from the banks to lend to this group of customers (Nwidobie, 2016). Since most of the FEs in the micro, small and medium enterprises environments are clients of the MFBs and MfIs, the financial sustainability of credit access is called to question given the incessant failure often witnessed in the sector. Babajide et al. (2017) over that current practices and methods of credit delivery have an inverse relationship with outreach programmes promoted by the institutions, thus recommending an immediate overhaul of the credit appraisal process to align with international best practices. It is clear that the many of clients of the institutions require financial education on the financial management of their respective enterprises which only targeted education and exposure can solve as mentioned in case of the capital market (Eke et al., 2018). The general conclusion among studies on financial sustainability in MFBs and MfIs is echoed in Bayai and Ikhide (2016) which
centered on the use of intervention funds from other sources to support their activities and a set date for its termination once the enterprise has settled and on the path of growth.

3. Analytical framework

Studies have generally alluded to the fact that datasets for FEIs to measure performance are notoriously difficult to obtain which impels the studies to constantly resort to primary survey among some entrepreneurs with microfinance banks (MFIs) and microfinance institution (MFIs). These two groups of institutions mostly lend to the FEIs who have accounts with them within the micro, small and medium enterprises sector. Whereas minimum lending from the Deposit Money Banks (DMBs) may not be less than ₦5 million ($11,110) in most cases, which is high for an average FE in the sector. Credit facilities from MFIs and MFIs can be as low as ₦100,000 ($222.20). The two different sets of institutions have different criteria for lending minimum amounts. For instance, MFIs frequently undertake group lending while this is not incumbent for MFIs. Additionally, many of the processes used by the MFIs that are replicated from the operations of Deposit Money Banks (DMBs), are obviated in MFIs. These traits, among others, are not differentiated in this survey. Clearly, the objectives of the study is adequately catered for by this set of institutions. While MFIs are highly regulated, the MFIs are not. The modus operandi of the two financial institutions are different, though they tend to offer the same services to the same class of clients.

The class of respondents are the FEIs in the micro, small and medium enterprises group. The group consists mainly of traders of different types and sizes, services providers, minor contractors and suppliers and light producers. For some traders or vendors amongst them, lending is through the group or individually depending on the size of the business. For the clients of the MFIs group-lending is commonplace while it is less emphasised in the MFIs. MFIs major clients are classified as small enterprises because among these customers are transporters, light producers (manufacturers of bottled and sachet water, bakers etc.), contractors and those who deal in the regions of ₦2 million ($4,444.40) to ₦5 million ($11,110) per transaction. Most of the loans of the MFIs mature within a maximum of two years according to monetary policymakers (many of the credits actually mature in about a year or less) while the MFIs', though not under strict regulation mature within a period much less depending on how it was accessed. Group loans are set to mature within three months while individual loans mature within six months.

3.1. Research design

The process undertaken involved a design of a questionnaire to elicit responses from respondents among the female customers in the MSMEs running different types of businesses. The respondents are the customers and clients of the sampled MFIs and MFIs who are either currently servicing a loan or under loan obligations. The MFIs serve a larger number of active borrowers than the MFIs because they deal more on group loans while the MFIs are able to grant higher amounts of loans. The distributions of questionnaire is as indicated below. For each enumerated institution, permission of officers of the branch was sought and obtained.

An analysis of questionnaire distribution indicates that 33.33% of the questionnaire were served to the customers of the MFIs while 66.66% were distributed to the MFIs customers. The total number of questionnaires retrieved from the customers of the institutions improved to 35% from the MFIs while MFIs was 65%. In all, 210 questionnaires were distributed. The total retrieved questionnaires was 171 representing 81.435 of the number distributed. The number of questionnaires that were fully completed in every detail was 143, representing 68.05% of the total. The sample MFIs are among the first tier group classification of the Central Bank of Nigeria while those of the MFIs are among the popular microfinance institutions in Nigeria. Retrieved questionnaires from the respondents of the various institutions and their respective percentages of the total are as follows: AB Microfinance (15.2%), Accion (19.3%), Covenant (22.81), LAPO (27.48%), Microcredit (8.18%) and Micro Investments (7.01%)
3.2. Measurements and modelling
The modelling of the problem was undertaken to elicit the determinants of access to finance now and in the future as basic objectives of the study. The questionnaire constructed variables that probed into the features of the FEs and their perceptions of credit access. The 5-point Likert scale was used to code the responses. The variables adopted are both from the coded response of the respondents. This study adopts the variables listed in Table 1 with their operational definitions and expected a priori as listed below.

The study adopts the ordinary least squares regression to estimate the various equations to ascertain the significant variables among the ones listed above, determining their impacts on access to credit amongst the FEs. Financial institutions of all types require that customers and clients should have and operate their respective accounts before a loan or overdraft can be made available. Generally, the modelling of the ordinary least square regression begins as follows:

\[ Y_t = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \ldots + \beta_n X_n + \epsilon_t \]  

(1)

Table 1. Definitions and Meanings of Variables

| S/No. | Notation  | Full meaning and implication                      | a priori |
|-------|-----------|--------------------------------------------------|----------|
| 1     | RegType   | Type of Business registration by respondent      | +        |
| 2     | BankNo    | No of active bank accounts operated by the respondent | -/+      |
| 3     | Education | The highest level of education attained           | +        |
| 4     | Savings   | The average monthly savings of the respondent    | +        |
| 5     | ColloCond | The level of collateral required to secure credit | -        |
| 6     | DiffCond  | The level of difficulty to meet conditions       | -        |
| 7     | ExtOfficial | The involvement of External Help in securing loans | +        |
| 8     | FutureLoan| The prospect of requesting for advance in future | +        |
| 9     | LoanFreq  | The Frequency of obtaining or accessing credit   | +        |
| 10    | LoanMax   | The maximum amount of credit that can be obtained | +        |
| 11    | Loan4Biz  | Interest by the FEs to borrow                    | -/+      |
| 12    | MaxLoan   | Conditions for the FEs to maximise the loan      | -        |
| 13    | BizStart  | Sources of the finance to begin enterprise by the FE | +        |
| 14    | RegAct    | Regular savings and transactions with the bank   | -/+      |

Source: Key variables used in the study
Where $y$ is dependent variable and $\alpha$ is constant and $\beta$ and $x$es are parameters to be estimated, $\epsilon_t$ is the error term for the model.

The equation is explicitly modelled as follows:

$$\text{Loan4Biz} = \text{RegType} + \text{BizReg} + \text{RegAct} + \text{Savings} + \text{CondLoan} + \text{LoanFreq} + \epsilon_t$$  \hspace{1cm} (2)

$$\text{FurtLoan} = \text{Savings} + \text{CondLoan} + \text{ExtOfficial} + \text{BizStart} + \epsilon_t$$  \hspace{1cm} (3)

$$\text{MaxLoan} = \text{FreqLoan} + \text{CondLoan} + \text{DiffCond} + \text{BizReg} + \text{BanksNo} + \epsilon_t$$  \hspace{1cm} (4)

$$\text{Savings} = \text{RegType} + \text{BankNo} + \text{Education} + \text{CondLoan} + \text{DiffCond} + \epsilon_t$$  \hspace{1cm} (5)

The results and outputs of the equations in the study are presented in Table 2.

### 3.3. Reliability test

The Cronbach Alpha based reliability technique was adopted to test the validity of the instrument used to collect responses from the questionnaire. This helped to test the internal consistency of the instrument. The scores returned showed a plausible result of Alpha 0.185 Standardised Items of 0.610 for 16 items. The acceptable region for most instrument is usually a base of 0.600. This is acceptable for the study.

| Table 2. Regression Estimates and Outputs |
|------------------------------------------|
| Dependent | Loan4Biz | FurtLoan | MaxLoan | Savings |
| (Constant) | 9.402 | 11.673 | 8.864 | −0.237 |
| RegType | −1.077 (0.283) | 2.398** (0.018) |
| BizReg | −1.141 (0.256) | 1.74* (0.084) |
| RegActivity | −2.177** (0.031) |
| Savings | −1.659* (0.099) | −2.286** (0.024) |
| CondLoan | 1.892* (0.060) | −0.641 (0.522) | −2.332** (0.021) | −0.836 (0.405) |
| LoanFreq | −0.963 (0.337) | −2.963*** (0.004) |
| BanksNo | −1.863* (0.064) | 0.594 (0.553) |
| Education | 2.505** (0.013) |
| DiffCond | 1.031 (0.304) | 0.359 (0.720) |
| ExtOfficial | 1.142 (0.255) |
| BizStart | 1.233 (0.219) |
| R Squared | 0.94 | 0.61 | 0.95 | 0.82 |
| Adj. R Sqd. | 0.56 | 0.43 | 0.61 | 0.52 |
| DW | 1.502 | 1.738 | 1.506 | 1.838 |
| Obs. | 165 | 160 | 167 | 160 |

Source: Regression outputs from the questionnaire. $t$ statistics, $p$ values *, **, *** represents 0.1, 0.05, 0.01 levels of significance.
4. Results and outputs

4.1. Descriptives and some demographics of respondents

The demographics of the respondents to the questionnaire show that the FEs in this study are fairly educated having some amount of higher education with more than half obtaining a post-secondary school education or higher diploma or degree. The percentage of married respondents is 48 and the remaining 52% are unmarried, either single, separated or widowed. The respondents are engaged in trading or marketing occupations accounting for 54%, while services occupy 35%. Light manufacturing, such as block making, bakery, water packaging and saw-milling account for 10.5% while the rest is made up of suppliers and contractors. Almost half of respondents have no children while about half have two children or less.

Much of the information obtained with the use of the questionnaire was to answer any other questions that impinge directly on access of FEs to credit and the improvement in the sustainability of such access. The questionnaire revealed many of respondents have a type of business registration that is incorporated: the business names registration account for 64% while none is of partnership form, limited liability and joint venture accounts for 18%. Respondents also actively operate one bank account (60%) rather than a number of bank accounts (40%). Interesting is the fact that some have more than two bank accounts but use and direct deposits and banking operations of their business to only one account at a time. Deposits by the respondents on the average amount to ₦25,000 ($55.50) to ₦50,000 ($111.10) at 38.6%. About 32.4% deposit between ₦15,000 ($33.30) to ₦25,000 ($55.50). About 56% enjoyed credit of between ₦50,000 ($111.10) and ₦100,000 ($222.20). There is tendency for increase in the loans of higher amounts as the next high figure of ₦100,000 ($222.20) and above consists of 31.7% of the respondents.

Friends and family of 46.2% of the female entrepreneurs helped them to raise capital to begin, and bank assisted respondents are made up of 29.4%. Those who saved to start their own enterprises amounted to 19% while externally funded business was the least at almost 5%. Respondents in this group receive funding from either contracts mobilisation or assistance from specialised funding from the bank. Lastly, 48% of the respondents mostly deposited their cash on weekly basis while the other respondents of 22% deposit at random: (whenever there was a need to deposit at the bank).

4.2. Regression outputs

The data were analysed further by the estimation of the responses. Four regressions are estimated to follow the objectives that were set initially and to answer question of the access to credit on a sustainable basis by the female entrepreneurs and as modelled in the previous section. The results in Table 2 show the estimates of the dependent and independent variables adopted for the objectives of the study.

The first objective and equation was to investigate the determinants of the request for credit for business. The system outputs show that three helpful determinants of sustainable credit access by the FEs. These are RegActivity, Savings and the Condloan. RegActivity explains the frequency of their deposits and general transactions with the banks. This actually shows that the FEs are transacting (deposits and withdrawals) with the banks on regular basis. The frequency shown by the variable is about 50% of FEs deposit and that transact with the bank on weekly basis while another 37% do this at random within the month. With this variable level of significance at 0.05, it is clear that the banks would prefer a weekly transaction with female entrepreneurs and at least on random basis. Other significant variables are Savings that is negative beyond 0.05 level. These indicate that FEs should be compelled less to save but banks need to have a record of their business operations. The third variable of significance is Condloan attached to the loans, which should be less stringent and more accommodating, rather than stifling, as one respondent described it.
The second equation tested the determinants and the need for credit in the future. These were tested with a set of variables: CondLoan, BizStart, ExtOfficial and Savings. The purpose of adopting savings here to enable the banks see an equity contribution for the FEs and rather than pure bank balances. It turns out that the savings were negatively impactful for future loans. This indicates that less loan might be required if savings is reduced with the banks. The significance level is beyond 0.05 and other variables are positive but insignificant. For instance, BizStart indicate the funding sources for new enterprises. The modal funding source is friends and family, which indicates that these must be available to an intending FE. There is need to guide FEs in obtaining credit as indicated by the ExtOfficial, which is positive but not significant just as CondLoan need to be relaxed to ensure sustainable access as in previous the equation. These variables generated insignificant Adj $R^2$. The result, in this case, is tepid and other external variables may affect the ability of the female entrepreneurs to seek and obtain credit in the future.

The third equation determines the variables for maximum loan that can be obtained. The set of variables for the equation are BizReg, CondLoan LoanFreq, BanksNo and DiffCond. All the variables except DiffCond are significant at various levels, though it is positive. LoanFreq is highly significant at 0.01 level. It is expected that once the female entrepreneurs knows the requirements for loan they get acculturised to the MFB’s or MI’s loan conditions. Frequent loan request enables the customer to be easily assessed because of the banking experience already acquired. CondLoan showed a strong negative significance because the conditions attached to loans are deemed tough and overwhelming. This is significant beyond 0.05 confidence level. BizReg and BanksNo are significant at 0.10 and they both indicate that at least a form of business registration must be undertaken and FEs must reduce the number of banks accounts being operated for them to be successful at obtaining credit from the bank.

Finally, savings as a dependent variable was tested as it attracted some significance from the equations estimated and seems to be a key issue in the test of currency and sufficiency of quality of FEs by lending institutions. Of the five variables adopted for the test, only CondLoan was negative. The other variable opposite of CondLoan was DiffCond, was to test the consistency of the respondents response. The result indicates both are insignificant but with different signs as expected. Loan conditions for the borrowers bear no relationships with savings or deposits. It showed the level of consistency of responses of the FEs surveyed. RegType and Education have same level of significance and are both positive beyond 0.05. The impact of business registration status and Education as variables is clear in this case.

The various $R^2$ for each of the equations show the level of goodness-of-fit of the variables used. Outputs are all high except for FutLoan where Adj $R^2$ $\text{Sqdl}$ was less than 50%. The wide variation between the $R^2$ and Adj $R^2$ could be due to a large omitted variable or variables for this particular equation and for loss of degree of freedom. Durbin Watson (DW) show acceptable figures between 1.5 and 1.8 in spite of the data being sourced via questionnaire. Overall, the most outstanding of the result is the MaxLoan. The results are deemed reliable and can be used to generalise. Therefore, for maximum access to credit, a typical female entrepreneur must possess business registration, have reduced number of accounts in different banks and seek loans less frequently with the banks relaxing loan considerations.

Female entrepreneurs generally have engaged more in the enterprises of traditional trading, marketing and services provision. They are however becoming strong in contracting and light manufacturing. An example is a particular case of a female entrepreneur among the respondents who inherited a bakery and has expanded the menu of products to include pastries, cakes other flour confectionaries.

4.3. Discussion
This study has undertaken an investigation into the sustainable access to credit by the female entrepreneurs using the microfinance institutions and banks’ female customers who have borrowed or under loan obligations as cases study. The FEs showed that they can hold their own in the business
world, though an evidence of the requirement for them to allow their enterprise thrive and succeed returned a positive but insignificant result in the tests in the FurLoan equation. Though a bank is already offering interest-free loans to the female entrepreneurs, there is no evidence that there is an increase for credits accessed by women in business, as it seems the challenge is not about price but other qualitative issues such as the conditions. Thus, the conditions are deemed tough. Largely, the study agrees with the study of Waitha (2012), Chowdhury et al. (2018), and Morsy (2020) that access to finance by FEs is demand side induced and would need tackling from that point. This, however, has proven that some assistance would be useful for the FEs at the budding stages as is done in the Small Business Administration in the United States. After the budding stage, the enterprise can be expected to go through survival with the elements of the business environment and financial market. The Nigerian experience showed that no assistance is provided from external sources, even at the budding stage. However, some of the MFBs have dedicated officers who understand the challenges of the FEs at this level and provide business advice to scale those stages. Nonetheless, it is useful to put more efforts at this venture in order to meet the SDG 5 and assist the female entrepreneurs to scale up access to credit on a sustainable basis.

5. Conclusion and recommendations
The paper concludes that the conditions attached to accessing credits from the financial institutions constituted a constraint to the female entrepreneurs’ who would like to borrow for their enterprises from the MFBs and MFI’s in the MSME sector. Since the challenge of access remain an issue. The paper recommends the following to support the female entrepreneurs in Nigeria to access credit on a sustainable basis. Firstly, there is need to encourage female entrepreneurs to register their businesses, for which reduced registration charges can be applied at both the business name and incorporated levels by the government. Secondly, since the conditions to accessing credit is tough, lowering the conditions would require the support of a credit guarantee scheme for a specific amount of credit accessed (say, ₦500,000 or less: about 1,110 USD). This would mitigate losses that the financial institutions may face for making credits available on less demanding terms. Thirdly, the issue of compulsory savings being exacted from the female entrepreneurs by the financial institutions should be eliminated. The fourth issue of interest is the need for FEs to be encouraged to open and maintain an account with at least a bank and operate this actively, rather than have multiple bank accounts. A final issue that has been recommended over and again is enlightenment in form of targeted education such as specialized seminars, workshops and conferences being made available to the FEs. This will improve the FEs ability to package their credit requests better, have an enhanced understanding of other financial issues and be able to handle them before they become overwhelming.

NB: United States Dollar ($) exchanged for Nigerian Naira NGN (₦) at ₦454.50 at the time of the study

Acknowledgements
The authors wish to express our appreciation to Covenant University Centre for Research, Innovation and Discovery (CUCRID) for the financial support and assistance to publish this study.

Funding
The authors received no direct funding for this for study.

Author details
Kehinde A. Adetiloye1
E-mail: kehinde.adetiloye@covenantuniversity.edu.ng
ORCID ID: http://orcid.org/0000-0002-7171-0793
Folashade B. Adegbaye1
E-mail: folasade.adegbaye@covenantuniversity.edu.ng
Victoria A. Akinjare1
E-mail: victoria.akinjare@covenantuniversity.edu.ng

1 Department of Banking and Finance, Covenant University, Ota, Nigeria.

Citation information
Cite this article as: Sustainable financial access for female entrepreneurs in the micro, small and medium enterprises sector in Nigeria, Kehinde A. Adetiloye, Folashade B. Adegbaye & Victoria A. Akinjare, Cogent Social Sciences (2020), 6: 1823600.

References
Amoo, E. O. (2018). Introduction to special edition on covenant university’s perspectives on Nigeria demography and achievement of SDGs-2030. Etude De La Population Africaine (Africal Population Studies), 32(1), 3993–3996. http://aps.journals.ac.za/pub
Bobajide, A., Taiwo, J., & Adetiloye, K. A. (2017). A comparative analysis of the practice and performance of microfinance institutions in Nigeria. International Journal of Social Economics, 44(11), 1522–1538. https://doi.org/10.1108/IJSE-01-2016-0007
[References]

Adetiloye, J. A., Holienka, A., Halkias, G., Godsey, A., Force, M., Eke, V. I., Duffy, S., De Chowdhury, D., Calas, R., Birch, T., 2011. The job generation process. MIT Press.

Colas, M. B., & Smirch, L. (1996). From the woman point of view: Feminist approaches to organisation studies. In S. Clege, C. Hardy, & W. Nord (Eds.), Handbook of organisation studies (pp. 218–257). Sage.

Colas, M. B., Smirch, L., & Bourne, K. A. (2007). Knowing lisa? Feminist analyses of gender and entrepreneurship. In D. Billmonia & S. K. Prideritt (Eds.), Handbook on women in business and management (pp. 75–105). Edward Elgar Publishing.

Chowdhury, T. Y., Yeasmin, A. A., & Ahmed, Z. (2018). Perception of women entrepreneurs to accessing bank credit. Journal of Global Entrepreneurship Research, 8(1), 32. https://doi.org/10.1504/AAJGER.2018.091064

De Groot, T. U. (2001). Women entrepreneurship development in selected African countries. UNIDO.

Duffy, J. A. M., & Zeltsa, P. (2000). Financial challenges facing women entrepreneurs: An exploratory cross-national study. Retrieved August 1, 2019, from researchgate.net

Eke, P. O., Adetiloye, K. A., & Taiwo, J. N. (2018). Regulatory institutional quality and long run primary capital market development: The Nigerian case. Afro-Asian Journal of Finance and Accounting, 8(2), 167–189. https://doi.org/10.1504/AAJFA.2018.091064

Force, M. E. & McFerrin, C. (1996). Women business leaders in a world of men, The Secured Lender, 52(6), 132.

Godsey, K. D. (1997). Gender issues in banking. Success, 44(4), 12.

Gurnani, P. S. (2016). Study of financial problems of women entrepreneurs global. Journal of Finance and Management, 6(3), 223–226.

Halikias, D., Nwajuba, C., Horkiolakis, N., & Caracotsianos, S. (2011). Challenges facing women entrepreneurs in Nigeria. Management Research Review, 34(2), 221–235. https://doi.org/10.1108/014091711111102821

Hollikerka, M., Jančovičová, Z., & Kovačičová, Z. (2016, March 10–11) Drivers of women entrepreneurship in Visegrad countries: GEM evidence 19th International Conference Enterprise and Competitive Environment 2016, ECE 2016, Brno, Czech Republic.

International Finance Corporation. (Undated). Gender smart business solution case study: Women entrepreneurs find business opportunities in Nigeria’s fast-moving consumer goods sector.

Kalins, A., & Williams, M. (2014). When do female-owned businesses out-survive male-owned businesses? A disaggregated approach by industry and geography. Journal of Business Venturing, 29(6), 822–835. https://doi.org/10.1016/j.jbusvent.2013.12.001

Lincoln, A. (2012). Nature of leadership practices of Nigerian female entrepreneurs. International Journal of Business and Social Science, 3(10), 50–59. Special Issue

Master Card (2017). Mastercard Index of Women Entrepreneurs. https://newsroom.mastercard.com/wp-content/uploads/2017/03/Report-Mastercard-Index-of-Women-Entrepreneurs-2017-Mar-3.pdf

Mastercard Index of Women Entrepreneurs MIWE (2018). MasterCard. Retrieved July 28, 2019, from www.newsroom.mastercard.com accessed

McCluskey, D. N. (2010). Bourgeois dignity: Why economics cannot explain the modern world. University of Chicago Press.

(MFIs): A conceptual view. Banks and Bank Systems, 11(2), 21–32. http://dx.doi.org/10.21511/bbs.11(2).2016.03

Morsy, H. (2020, March). Access to finance: Why aren’t women leaning in? Finance & Development.

Nelton, S. (1997). Women entrepreneurs make credit gains. Nations Business, 85(1), 8.

Nwidobie, B. M. (2016). Post-consolidation cash reserve volatility, bank credits and economic growth in Nigeria. International Journal of Critical Accounting, 2(8), 2. http://dx.doi.org/10.1504/IJCA.2016.077555

Organisation for Economic Cooperation and Development (2004, June 3–5). Promoting Entrepreneurship and Innovative SMEs in A Global Economy: Towards a More Responsible and Inclusive Globalisation 2nd OECD Conference of Ministers Responsible For Small and Medium Sized Enterprises (SMEs), Istanbul, Turkey.

Özsungur, F. (2019). A research on women’s entrepreneurship motivation: Sample of Adana Province. Women’s Studies International Forum, 74, 114–126. https://doi.org/10.1016/j.wsif.2019.03.006

Petterson, K., Ahl, H., Berglund, K., & Tillmar, M. (2017). In the name of women: Feminist readings on policies of women entrepreneurship in Scandinavian countries. Scandinavian Journal of Management, 33(50), 63. https://doi.org/10.1016/j.scam.2017.01.002

Taiwo, J. N., Agwu, M. E., Adetiloye, K. A., & Afolabi, G. T. (2016). Financing women entrepreneurs and employment generation – a case study of microfinance banks. European Journal of Social Sciences, 52(1), 112–141.

Waita, J. M. (2012). Challenges facing women in accessing credit from microfinance institutions in Nakuru, Kenya. Being a project paper submitted to the Institute of Anthropology, Gender and African Studies, Gender and Development Studies of the University of Nairobi.

World Bank Group (2020). Women Entrepreneurs Finance Initiative 2019 Annual Reports. World Bank.

Yadav, V., & Unni, J. (2016). Women entrepreneurship: Research review and future directions. Journal of Global Entrepreneurship Research, 6(12), 2–18. https://doi.org/10.1186/s40497-016-0055-x
