

Disruptive financial innovations: the case of Nigerian micro-entrepreneurs

Disruptive
financial
innovations

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Abstract

Purpose – Despite the noticeable consequences of disruptive financial innovations, access to finance remains a major factor inhibiting the sustainable-growth potentials of young micro-entrepreneurs in informal settings. This study examines the determinants of financing options among micro-entrepreneurs in informal settings. Specifically, the study seeks to establish whether credit history, income, asset, gender, awareness and network capability have effects on formal and informal financing options among micro-entrepreneurs in informal settings.

Design/methodology/approach – This article uses the survey research design and administers a structured questionnaire among 300 purposively selected micro-entrepreneurs within the University of Lagos, Nigeria. Only 291 completed questionnaires are retrieved. This article also uses the multiple regression analysis to estimate the empirical model and test the research hypotheses respectively.

Findings – This article establishes that: (1) credit history and assets-based financing are significant determinants of formal financing options among young micro-entrepreneurs in informal settings, (2) gender and network capability are significant determinants of informal financing options among young micro-entrepreneurs in informal settings and (3) awareness is significant of both formal and informal financing options among young micro-entrepreneurs in informal settings.

Originality/value – This article examines the determinants of financing option among young micro-entrepreneurs in informal settings. Specifically, the study seeks to establish whether credit history income asset gender awareness and network capability have effects on formal and informal financing options among micro-entrepreneurs in informal settings.

Keywords Financial innovations, Financing options, Informal settings, Micro-entrepreneurs, Young people

Paper type Research paper

1. Introduction

Economic and financial crises are most often considered to be a major setback for developed and developing nations alike because it erodes significant gains made at economic growth and development. The 2008–2009 global economic and financial and, recently, the 2016 global slow growth heralded the restriction of major sources of internal and external finance needed to augment investment and boost growth, particularly for developing nations (Hinson *et al.*, 2019; Tidjani, 2020). Nevertheless, these unfavourable economic conditions

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present opportunities of disruptive natures to help developed and emerging economies create economic shock absorbers in two key areas. (Demir *et al.*, 2020; Frost, 2020).

First, these crises have generated disruptive forces and reforms of the international financial architecture and the greater awareness of need to increase financing options or alternative for investment projects (Eguren-Martin *et al.*, 2020). The global economic crisis of 2008 exposed the weaknesses of the traditional financial institutions and consequently led to the rise of informal financial institutions and financial start-ups (FinTech) to meet the fast-growing financial needs of the private sectors, particularly small and medium-sized enterprises (SMEs) and or micro-entrepreneurs. According to World Economic Forum (2017), these new entrant into the financial system are challenging the system, promising to swiftly redesign how financial services are structured, provisioned and consumed.

Another consequent disruptive outcome of the global economic crises, especially for developing economies, is the diversification of export markets from natural commodities to commodities that support growth and thus reduce vulnerability to external shock (Al-Mansour and Al-Ajmi, 2020). According to Chen *et al.*, 2017 and Anand and Mantrala, 2019, these commodities are disruptive innovations produced by SMEs or micro-entrepreneurs. This is possible because micro-entrepreneurs tend to benefit over their economic size rivals due to ease of adjusting and withstand these economic conditions as a result of their flexible features (Dalitso and Peter, 2000; Sykes *et al.*, 2016; Ernst and Haar, 2019). However, it is worthy to note that young micro-entrepreneurs are driving force behind this disruption due to the trend of transition of young people from informal entrepreneurship.

There is a consensus that young micro-entrepreneurs represent a chunk of businesses and engagement in the informal private sector of emerging economies of developing nations. They are the base and spine of all economies and are regarded as key components in national growth and development (Abbasi *et al.*, 2017). Micro-entrepreneurs are often referred to as capable and effective job creators, potential large sustainable organisations and the oil of national financial machines. Young micro-entrepreneurs are advantageous over large businesses considering creation of employment, striving in developed economies (Mullineux, 1995; Padaki, 2018). Despite these potentials within the above identified opportunities, restricted access to finance or financing options is regularly mentioned as key factor inhibiting the sustainable-growth potentials of young micro-entrepreneurs in informal settings (Issa and Kiruthu, 2019).

For Nigeria, evidence of limited access to finance cannot be ignored. Of the aggregate loan of ₦135.9 trillion disbursed within the period 2011–2015 in the Nigerian economy, only ₦159.75 billion went to micro, small, medium enterprises (MSMEs) (CBN and IFC, 2015). Specifically, this reveals that the loans to MSMEs between these periods represent 0.1%, which also commensurate with a trend of consistent decline in MSMEs financing since 2003 (Nnabugwu, 2015). This statistic then raises the questions of what are or have been the financing options of MSMEs in Nigeria (Gbandi and Amisshah, 2014), and what are their determining factors?

In response to the questions of financing options, studies have it that for their lack of formal restrictions, MSMEs favour other flexible and shorts-term sources of finance such as trade credits, leasing, loan from family and friends, and informal financial sector loans, which accounts for more than 70% of the funds to the SMEs (Pavlov *et al.*, 2004; Olugbenga *et al.*, 2018). To support these assertions, a survey of 840 MSMEs across Nigeria revealed that a lot of MSMEs depend on alternative ways for their business financing: of the 840 micro-entrepreneurs, 71% finance their business through personal savings, friends and family (14%), while others have taken loans from deposit money bank (11%) and microfinance banks (10%) (CBN and IFC, 2015). While substantial number of researches in Nigeria have opined that finance is a key factor to MSMEs growth, (Admasu, 2012; Evbuomwan *et al.*, 2013;

Small and Medium Enterprise Development Agency of Nigeria, 2013; Gbandi and Amissah, 2014; Mat, 2015), mirage empirical evidence has been provided in term of determinants of access to finance or financing options for MSMEs.

In light of this, the fundamental questions to be asked then become; what are alternative financing options available to young micro-entrepreneurs, and what factors are responsible for limited access to finance for young micro-entrepreneurs, especially in developing economy like Nigeria. The literature has expressed this question to be the determining factors that influence the financing options for micro-entrepreneurs given their limited access to formal financial services (Thorsten *et al.*, 2007; Taiwo *et al.*, 2016; Mhando, 2018; Palmié *et al.*, 2020). Hence, access to finance does not necessarily mean the readiness of funds and financial institutions, but the relationship amongst access-supply and access-demand factors (Claessens, 2006; Beck and de la Torre, 2007; Tah, 2019). This study particularly focuses on the demand side.

It is observed that existing studies have identified several determinants such as: awareness, firm age, firm size, credit history, asset control, income level, education (literacy), gender, interest rates and network capability (Claessens, 2006; Beck and de la Torre, 2007, He and Baker, 2007; Korir, 2013). Specifically, these factors have been categorised into three major categories; firm characteristic, owner's characteristics and financing characteristics (Cardone and Carzola, 2001; Robb, 2002; He and Baker, 2007; Tirfe and Abera, 2014; Mhando, 2018). But empirical studies probing the outcome of these determinants on the choice of financing mechanism among micro-entrepreneurs in the informal services sector is very scanty.

This study therefore aims to identify disruptive financing alternatives for young micro-entrepreneurs and examine the determinants of financing options among micro-entrepreneurs in Nigeria's informal settings. Specifically, this study seeks to establish whether credit history, income, assets, gender, awareness and network capability have effects on formal and informal financing options among young micro-entrepreneurs in informal settings.

This study is motivated by several factors which include the lack of quantitative published data for micro-enterprises in Nigeria, and the challenges that informal enterprise face in assessing finance and the need for alternate options. The University of Lagos provides an environment that is peculiar and has access to basic amenities like electricity, and affordable rent. It is situated at the center of Lagos, the commercial hub of the country. The university has a population of about 70,000 people daily. The population of businesses owners in the university are all literate and open to research survey. Emphasis was placed on micro-entrepreneurs within the university because they provide a simple model of the nature of transaction within the broader developing economy of Nigeria.

2. Literature review

2.1 Conceptual review

Providing anecdotal accounts of the financing alternatives available to micro-enterprises is essential in the study of small business financing (Quartey *et al.*, 2017). Information distortion, transaction cost and risk of a financing option determines micro-enterprises' ease of access to finance (Akingunola, 2011; Aabi, 2014). However, disruptive financial innovations are transformations that reduce cost, reduce risk and offer advanced financial products, services and mechanisms that better meets the financing needs of customers (Frame and White, 2004). Also known as financial start-ups, they are replacing the traditional financial intermediaries at an increasing rate because of their flexibility in determining their respective levels of risk and returns. They are also promoting access to capital, as well as satisfying the diverse "risk" appetite of high-risk borrowers through the proliferation of alternative lending platforms.

Disruptive financial innovations are propelled by new technology, new rules and changes in economic development like economic behaviours. According to Frost (2020), the impetus behind financial innovation is motivated by the maximisation of profit within a free market. While bank loans offer moderate returns for traditional financial institutions and is quite adequate for low to moderate micro-entrepreneurs, alternative financial innovations alter this conventional risk sharing mechanism (OECD, 2018). These instruments aside traditional financing options consist of multiple and competing financing options for micro-entrepreneurs, including asset-based financing, rotating savings and credit associations (ROSCAs), peer-to-peer lending and crowdfunding (debt and equity). However, it is important to note that not all are suitable and of interest to all micro-entrepreneurs. It therefore depends on the determinants of their financing options which includes size, stage in the business life cycle, risk-return profile, management structure and financial skills.

2.2 Asset-based financing

Asset-based financing is an innovative financial innovation that comprises asset-based lending, factoring, invoice discounting, warehouse receipts and leasing. This form of financing differs from conventional debt finance as micro-entrepreneurs obtain the required funding based on the value of specific assets rather than its own credit rating. Therefore, term loans and working capital are secured based on asset. Such asset includes inventory, machines and equipment, account receivable and landed properties.

According to OECD (2018), the key benefit of asset-based financing is that the micro-entrepreneur can obtain requisite funds under more flexible arrangements, when compared to traditional bank loans regardless of their financial positions and future cash flow potentials. Also, with asset-based finance, micro-entrepreneurs that are without required credit history or in need of cash flow to take advantage of growth opportunities have the advantage to get working capital within a shorter period even without personal guarantee from the micro-entrepreneur. However, the cost incurred to obtain such fund is usually higher than those associated with traditional bank loans.

For example, asset-based lending involves a revolving arrangement, wherein the micro-entrepreneur can secure additional funding through the assets of the business, like inventories and receivables. Hence, receivables are generated from new sales or inventories by the micro-entrepreneurs and these assets form part of the borrowing base. Factoring, on the other hand, is a short-term financing instrument, whereby cash is received by the micro-entrepreneur from a specialised third-party (factor) in exchange for its accounts receivable (debtors), which results trade sales. The factor is responsible for collecting the receivables on behalf of the micro-entrepreneur (Vasilescu, 2010). Similarly, invoice discounting helps micro-entrepreneurs raise business finance by keeping their outstanding invoices as collateral. Lastly, leasing is financial innovation that allows the procurement of capital equipment, in which one party (lessor) agrees to provide an asset to another party (lessee) to utilise over a fixed period of time for a specific regular payment (Abbassi *et al.*, 2017).

2.3 Rotating Savings and Credit Association (ROSCA)

For most developing economies like Nigeria, micro-entrepreneurs have found solace in the traditional but evolving ROSCA as an option of utilising the abundant financing options in the informal financial sector (Aruwa, 2004). This financial innovation, established solely due to the financing constraint of formal financing institutions, has thrived in many societies where they are not less known as saving institutions and christened based on the ethnic group in Nigeria: Nsusu (Igbo), Oja (Igala), Esusu (Yoruba), Adache (Hausa), etc. Similar institutions are found in West African countries (Benin Republic and Ghana) as well as other African countries.

2.4 Peer-to-peer lending

Peer-to-peer (P2P) lending and its platforms has now been considered one of the major financial innovation that minimises the credit constraints of traditional banks and financial institutions and thus meets the expanding financial needs of small businesses across the world (Rosavina and Rahadi, 2018). P2P lending is a short- and medium-term financing mechanism that link borrowers and lenders through the Internet. Here, micro-entrepreneurs supply information regarding their personal and financial conditions, while the fund provider assess the inherent risk and decides to fund these businesses based on the information provided (Galloway, 2009).

2.5 Crowdfunding

A more recent and in vogue financing source for micro-entrepreneurs is crowdfunding. Crowdfunding is an external financing source, whereby large number of individuals contributes small amounts of money to meet the financing needs of an individual or a business. The concept of crowdfunding can be traced to “crowd-sourcing”, which is concerned with the outsourcing to the “crowd” of a peculiar task, say, the valuation or merchandise sales, by process of open call over the web (Howe, 2008). Lambert and Schweinbacher (2010) (Belleflamme *et al.*, 2010) assert that “Crowdfunding” entails an open call via the Internet, to provide requisite funds either by contributions (without rewards) or *in lieu* of other form of rewards.

2.5.1 Empirical review. Evidences abound that the credit history of owner-managers influences firms’ financing options (Le and Nguyen, 2009; Nguyen and Ramachandran, 2006; Borgia and Newman, 2012; Newman, 2010). In their study, Nguyen and Ramachandran (2006) uses the multinomial logistic analysis, and their findings show that access to external financing among small enterprises increases in relation to the number of successful loan repayment made to their financiers. This is inclusive of short-term debt. This demonstrates that a good credit history increases the willingness of small enterprise owners to approach banks and/or alternative financial sources for loans. Thus, the study proposes that: credit history has both positive effects on the choice of formal financing and informal financing option among micro-entrepreneurs operating in informal settings (I).

Evidences abound that the profitability (i.e. the ratio of profit before tax and interest over sales turnover) of a firm plays a significant role on their choice of financing options (Levine, 2005). High profitability firms prefer internal financing to debt financing. Chakraborty (2010) shows that such firm demands for debt or excess finance only when additional funds are necessary. Studies (i.e. Cassar and Holmes, 2003; Sogorb-Mira, 2005) have also shown a negative relationship between profitability and firm leverage. Thus, conforming to the pecking order theory. From the perspective of developing countries, the findings from Abor and Biepkke (2009) and Aliero and Yusuf (2017) also show profitability level negatively affects access to credit among SMEs. Based on this premise, this study proposes that income level has a negative outcome on the choice of formal financing option and positive outcome on the choice of informal financing option among micro-entrepreneurs operating in informal settings (II).

Asset is an important determinant of access to finance, whether formal or informal (Di Patti and Dell’Ariccia, 2003). Lending depends on the value of underlying assets (Berger and Udell, 2006). Empirical findings show that a positive relationship amongst fixed asset and accessing formal finance. (Newman *et al.*, 2013; Ayed and Zouari, 2014). Asset structure is associated with long-term formal credit positively and negatively associated with short-term informal credit (Frank and Goyal, 2009). A firm asset composition impacts on the use of debt finance. Small enterprises use informal and in-house sources of finance which does not require a fixed asset surety in the short term. (Evans and Jovanovic, 1989; Abor and Biepkke, 2009;

Newman *et al.*, 2013; Mutezo, 2015). There this proposes that: asset control has a positive effect on the choice of formal financing options and negative effect on the choice of informal financing option among micro-entrepreneurs operating in informal setting (III).

Despite the inadequate empirical studies on the relationship or association between gender and financing options, particularly for micro-entrepreneurs existing researches reveal that the firm owner gender impact the capital composition mix of the firm (Chinonso and Zhen, 2016). Mijid (2009) using deceptive statistics opined that in the United State of America, firms owned by women experience a lower loan application and acceptance rate than their male counterpart. Riding and Swift (1990) discovered that for women to secure loan, more collateral was demanded when compared to the men. Marlow and Patton (2005) propose that lender's choice is influenced by gender while selecting who to borrow loans. Orser *et al.* (2006) find that bank is stricter in granting loans to female managed business, thereby limiting their access to formal finance. The study further shows that bank believe female-owned businesses possess higher risk than male-owned businesses. Coleman (2000) using FEMALE as a variable to capture gender differences in the use of credit products in a logistic regression analysis revealed that there were differences between men and women in when it comes to debt finance. However, Fatoki and Asah (2011) also state that gender have no impact on the accessibility of finance by SMEs. Hence, this study adopting Coleman's use of FEMALE to capture gender difference proposes that gender has a negative relationship with formal financing options and positive relationship with informal financing options (IV).

For level of awareness defined by level of education qualification, Aliero and Yusuf (2017) and Fatoki and Asah (2011), both employing regression analysis to examine the constraints to credit access (formal and informal) in Nigeria and South Africa, respectively, assert that an entrepreneur's level of education positively and meaningfully influence lending from formal sources. Similarly, Zarook *et al.* (2013) confirmed this in Libya, in which the higher the level of education, the better the chance of access to formal and informal finance. Creditworthiness of a firm have been found to have a positive relationship with educational attainment and managerial experiences; they also help drive down adverse selection cost as potential financiers feel more comfortable with them. (Storey, 1994; Bates, 1997; Cassar, 2004; Zhang, 2008). Thereby persuading the bank with their practical propositions (Othman *et al.*, 2006; Scott and Irwin, 2009; Wu *et al.*, 2008). This study therefore proposes that education/level of awareness has a positive relationship with both formal and informal financing options (V).

In terms of the impact of networking capability on financing options, Kapkiyai and Kimitei (2016), using both descriptive statistics and statistical analysis, examined the effect of SMEs owner's social network on capital structure. The study found out that social network had both positive and significant effect on capital structure of small firms. Likewise, Chinonso and Zhen (2016) employing logistic regression analysis found out that entrepreneur's networking significantly influenced financing options of SMEs in Nigeria. Even more, Nguyen and Luu (2013) investigating the determinants of financing patterns and access to finance found that social network and official network proved to significantly improve SMEs ability to access bank and other sources of capital in Vietnam. Hence, the study proposes that networking has a positive relationship with both formal and informal financing options (VI).

3. Methods

For us to determine the impact of these determinants on the financing options of micro-entrepreneurs, this study adopts the survey research design. Quantitative data were collected through a structured questionnaire distributed to 300 conveniently sampled micro-entrepreneurs in the University of Lagos. The survey yielded 291 valid questionnaires deemed as useable respondents. The questionnaire made use of Likert scale measure, a fifteen

Likert-like scale having five response categories weighted as very great extent (5) great extent (4) some extent (3) little extent (2) very little extent (1). A reliability test is carried out to determine the internal consistency of each item of the measuring instrument- the questionnaire.

3.1 Econometric model

Empirically, we aim to study the influence of credit history, income level, asset control, gender, awareness and networking on financing options (formal and informal) as dependent variables. To test these relationships, we considered the following model.

$$\begin{aligned}
 Y_i &= \left[\frac{\text{FFO}_i}{\text{IFO}_i} \right] \\
 &= \alpha_0 + \beta_1 \text{CREDIT} \cdot \text{H} + \beta_2 \text{INCOME} + \beta_3 \text{ASSETCTRL} + \beta_4 \text{FEMALE} \\
 &\quad + \beta_5 \text{EDUCATION} + \beta_6 \text{NETWORK} + \varepsilon_i
 \end{aligned} \tag{1}$$

Similarly,

$$\begin{aligned}
 \text{FFO}_i &= \alpha_0 + \beta_1 \text{CREDIT} \cdot \text{H} + \beta_2 \text{INCOME} + \beta_3 \text{ASSETCTRL} + \beta_4 \text{FEMALE} \\
 &\quad + \beta_5 \text{EDUCATION} + \beta_6 \text{NETWORK} + \varepsilon_i
 \end{aligned} \tag{2}$$

$$\begin{aligned}
 \text{IFO}_i &= \alpha_0 + \beta_1 \text{CREDIT} \cdot \text{H} + \beta_2 \text{INCOME} + \beta_3 \text{ASSETCTRL} + \beta_4 \text{FEMALE} \\
 &\quad + \beta_5 \text{EDUCATION} + \beta_6 \text{NETWORK} + \varepsilon_i
 \end{aligned} \tag{3}$$

where Y_i is a column vector of financing options proxy as formal financing options (FFOs) and informal financing options (IFOs), α_0 = intercept, β_{1-6} = slope, i = number of financing options and ε = error term.

Credit history refers to the relationship between the micro-entrepreneur and the lender bank and non-bank lenders (Nawi, 2015). It is usually measured as the number of loans and services taken by the borrower and successfully repaid. Income level refers to the enterprise profitability measured by the ratio of profit before tax and interest over sales turnover. Gender refers to a socially constructed set of roles and responsibilities associated with being male or female. Level of awareness refers to the amount of knowledge or information an individual possesses about a thing or subject (Nguyen and Ramachandran, 2006). *Asset Control* refers to the size, nature and ownership of asset in possession of micro-entrepreneur.

Equation (1) shows the functional relationship between financing options and the determinants of financing options. Specifically, Eqs. (2) and (3) show the functional relationship between formal financing options and determinants of financing options, and the functional relationship between informal financing options and determinants of financing options, respectively. To investigate this model, the multiple regression analysis was employed to ascertain the relationship between the identified independent variables and the dependent variables of formal and informal financing options.

3.1.1 Reliability test. The questionnaire was subjected to reliability test for us to determine how reliable our questionnaire is, with the Cronbach alpha result determining how reliable the questions are. Six factors were put to test, and the Cronbach alpha coefficient ranged between 0.643 and 0.736, which suggests high reliability (see Table 1).

3.2 Multiple regression analysis

3.2.1 Model summary (formal financing). The result from multiple regression analysis for formal financing is presented in Table 2. Overall, the model was found to be significant at

| Item | Mean | SD | Corrected item – total correlation | Cronbach's alpha if item deleted | Total Cronbach's alpha |
|---------------------------|------|-------|------------------------------------|----------------------------------|------------------------|
| <i>Credit history</i> | | | | | 0.720 |
| Q16a | 3.90 | 1.153 | 0.379 | 0.699 | |
| Q16b | 3.90 | 0.952 | 0.530 | 0.675 | |
| Q16c | 3.58 | 0.941 | 0.359 | 0.701 | |
| Q16d | 3.74 | 0.859 | 0.417 | 0.694 | |
| Q16e | 3.36 | 0.956 | 0.297 | 0.711 | |
| Q16f | 3.57 | 1.194 | 0.429 | 0.690 | |
| Q16g | 2.95 | 1.062 | 0.302 | 0.711 | |
| Q16h | 3.38 | 1.087 | 0.457 | 0.685 | |
| Q16i | 2.28 | 0.995 | 0.248 | 0.718 | |
| Q16j | 2.75 | 1.032 | 0.393 | 0.696 | |
| <i>Income level</i> | | | | | 0.643 |
| Q19a | 2.31 | 1.127 | 0.493 | 0.601 | |
| Q19c | 3.90 | 0.952 | 0.265 | 0.615 | |
| Q19e | 2.20 | 1.216 | 0.479 | 0.503 | |
| Q19f | 3.74 | 0.859 | 0.380 | 0.619 | |
| Q19g | 2.26 | 1.379 | 0.551 | 0.631 | |
| Q19h | 3.38 | 1.303 | 0.529 | 0.543 | |
| <i>Assets</i> | | | | | 0.736 |
| Q21f | 2.33 | 1.377 | 0.534 | 0.691 | |
| Q21g | 2.61 | 1.475 | 0.540 | 0.689 | |
| Q21h | 3.33 | 1.321 | 0.402 | 0.714 | |
| Q21i | 3.57 | 0.949 | 0.206 | 0.738 | |
| Q21j | 3.04 | 1.252 | 0.141 | 0.753 | |
| Q21k | 3.23 | 1.113 | 0.228 | 0.738 | |
| Q21m | 1.61 | 1.101 | 0.465 | 0.706 | |
| Q21n | 1.78 | 1.098 | 0.479 | 0.704 | |
| Q21o | 1.65 | 1.108 | 0.485 | 0.703 | |
| Q21p | 1.82 | 1.345 | 0.479 | 0.701 | |
| <i>Awareness</i> | | | | | 0.653 |
| Q22a | 3.40 | 1.020 | 0.353 | 0.620 | |
| Q22b | 3.59 | 0.954 | -0.219 | 0.730 | |
| Q22c | 3.57 | 1.026 | 0.274 | 0.638 | |
| Q22d | 3.12 | 0.957 | 0.430 | 0.604 | |
| Q22e | 3.21 | 1.100 | 0.397 | 0.609 | |
| Q22f | 2.86 | 1.160 | 0.433 | 0.599 | |
| Q22g | 3.30 | 0.926 | 0.295 | 0.633 | |
| Q22h | 3.17 | 1.016 | 0.489 | 0.589 | |
| Q22i | 3.38 | 1.084 | 0.557 | 0.568 | |
| <i>Network capability</i> | | | | | 0.712 |
| Q22a | 3.47 | 1.121 | 0.269 | 0.702 | |
| Q22b | 3.56 | 0.989 | 0.332 | 0.696 | |
| Q22c | 3.49 | 1.005 | 0.282 | 0.701 | |
| Q22d | 3.47 | 1.061 | 0.177 | 0.711 | |
| Q22e | 3.42 | 1.088 | 0.277 | 0.701 | |
| Q22f | 3.41 | 0.921 | 0.233 | 0.705 | |
| Q22g | 3.36 | 1.042 | 0.165 | 0.712 | |
| Q22h | 3.90 | 1.153 | 0.407 | 687 | |

Table 1.
Reliability test

Source(s): Compiled by the authors

95% level of significance ($p < 5$) with R^2 value = 0.527 and adjusted R^2 value = 0.481, which are acceptable threshold for the model. Similar result was found in Fatoki (2011).

We check for auto correlation in the data used by conducting the Durbin Watson test. The result of 1.954 shows that there is no correlation among the variables in the data as the value

is close to the ideal value of 2. The result further shows high level of independence among the variables used in the model.

3.2.2 Standardised coefficient. The variance inflation factor (VIF) analysis was conducted to determine the level of multi-collinearity among the variables in Table 3; the result shows that the VIF are within the accepted threshold 3.3 (e.g. Petter *et al.*, 2007), hence lack of multi-collinearity.

The importance of the dependent variables to the independent variables is explained by Betas (Tabachnik and Fidell, 2007). The values further represent the degree of responsiveness of the dependent variables to the independent variables. With 95% level of confidence with a *p*-value smaller than 0.05, the multiple regression was found to be significant. Three variables were found to have statistical and significant contributions (less than 0.05) (Table 3). They are asset ($\beta = 0.237$), awareness ($\beta = 0.119$) and credit history ($\beta = 0.210$) in order of importance.

The derived relationship between the determinants of financing options are formal financing options are shown in Table 4.

3.3 Model summary (informal financing)

Multiple regression analysis for informal financing is shown in Tables 5 and 6. The model was significant at 95% level of significance ($p < 0.05$). $R^2 = 0.696$ and adjusted R^2 value = 0.512, with Durbin Watson score of 1.908 which is close to 2 hence no auto correlation. The *p*-value is less than 0.05 hence is significant as shown in Table 5.

3.3.1 Standardised coefficient. The outcome of the VIF analysis (Table 6) shows that the VIF values all the variables examined do not surpass the threshold generally accepted (3.3), which imply that no multi-collinearity problems exist with the variables. There are four variables that make a statistically significant contribution (less than 0.05) (see Table 6). In order of importance, they are awareness ($\beta = 178$), gender ($\beta = 0.246$), network ($\beta = -0.141$) and income ($\beta = 0.218$).

4. Discussion of results

We classify our discursion into six main groups in line with the hypotheses of the study.

4.1 H1: enterprise credit history has no significant impact on financing options among micro-entrepreneurs in the University of Lagos

Based on the existing literature and the proposition deduced in the study that *credit history has a positive relationship with both formal and informal financing options*, the result of the formal financing options model (model 1) tested using the estimation techniques adopted confirms that credit history has a positive and significant impact on formal financing options such as bank loan, microfinance loans and government schemes. Multiple regression result

Model summary

| Model | <i>R</i> | R^2 | Adjusted R^2 | SE of estimate | R^2 change | Change statistics | | | Sig. <i>F</i> change | Durbin Watson |
|-------|----------|-------|----------------|----------------|--------------|-------------------|-----|-----|----------------------|---------------|
| | | | | | | <i>F</i> | df1 | df2 | | |
| 1 | 0.766 | 0.527 | 0.481 | 0.86126 | 0.478 | 46.954 | 6 | 284 | 0.000 | 1.954 |

Note(s): ^aPredictors: (Constant), female, credit history, income, asset, network, awareness

^bDependent variable: formal financing options

Source(s): Compiled by the authors

Table 2.
Model summary
(formal financing)

Table 3.
Standardised
coefficient (formal
financing)

| Model | Unstandardised coefficients | | Standardised coefficients | | t | Sig. | 95.0% CI for B | | Collinearity statistics | |
|----------------|-----------------------------|-------|---------------------------|--|--------|-------|----------------|-------------|-------------------------|-------|
| | B | SE | Beta | | | | Lower bound | Upper bound | Tolerance | VIF |
| 1 | | | | | | | | | | |
| (Constant) | -1.062 | 0.334 | | | -3.183 | 0.002 | -1.718 | -0.405 | | |
| Asset | 0.201 | 0.052 | 0.237 | | 4.051 | 0.000 | 0.010 | 0.030 | 0.928 | 1.078 |
| Awareness | 0.143 | 0.076 | 0.119 | | 1.780 | 0.000 | -0.001 | 0.026 | 0.712 | 1.405 |
| Credit history | 0.221 | 0.061 | 0.210 | | 0.318 | 0.000 | -0.010 | 0.014 | 0.753 | 1.328 |
| Income | 0.113 | 0.074 | 0.186 | | 1.748 | 0.081 | -0.002 | 0.027 | 0.982 | 1.019 |
| Network | -0.132 | 0.083 | -0.134 | | -1.202 | 0.074 | -0.017 | 0.014 | 0.826 | 1.211 |
| Female | 0.154 | 0.058 | 0.254 | | 1.930 | 0.096 | -0.060 | 0.169 | 0.940 | 1.064 |

Note(s): ^aDependent variable: formal financing

Source(s): Compiled by the authors

Table 4.
Factors that influence
formal financing
options among micro-
entrepreneurs

| Proposition | Predictor | |
|-------------|---|---------------|
| I | CREDIT HISTORY has a positive and significant impact on formal financing options ($p = 0.000, \beta = 0.221$) | Supported |
| II | INCOME has a positive and insignificant impact on formal financing options ($p = 0.081, \beta = 0.186$) | Not supported |
| III | ASSET has a positive and significant impact on formal financing options ($p = 0.000, \beta = 0.201$) | Supported |
| IV | FEMALE has a positive and insignificant impact on formal financing options ($p = 0.096, \beta = 0.254$) | Not supported |
| V | AWARENESS has a positive and significant impact on formal financing options ($p = 0.00, \beta = 0.143$) | Supported |
| VI | NETWORK has a negative and insignificant impact on formal financing options ($p = 0.740, \beta = -0.132$) | Not supported |

Source(s): Compiled by the authors

| Model summary | | | | | | | | | | |
|---------------|-------|-------|----------------|----------------|--------------|-------------------|-----|-----|-----------------|---------------|
| Model | R | R^2 | Adjusted R^2 | SE of estimate | R^2 change | Change statistics | | | Sig. F change | Durbin Watson |
| | | | | | | F change | df1 | df2 | | |
| 1 | 0.824 | 0.696 | 0.512 | 0.64825 | 0.398 | 35.624 | 6 | 284 | 0.000 | 1.908 |

Note(s): ^aPredictors: (constant), female, credit history, income, asset, network, awareness
^bDependent variable: formal financing options
Source(s): Compiled by the authors

Table 5.
Model summary
(informal financing)

indicates that with a positive and significant ($p < 0.05$) coefficient of 0.221, credit history increased the use of formal financing by about 22%. Hence, reject the null hypothesis for formal financing options.

However, in terms of informal financing option, test results do not support the proposition of a positive and significant influence. This is evident in Table 6, where credit history has a negative and insignificant association ($p = 0.234, \beta = -0.142$) with informal financing. Thus, we accept the null hypothesis for informal financing options.

4.2 H2: enterprise income level has no significant impact on financing options among micro-entrepreneurs in the University of Lagos

Based on the proposition that: *income level is negatively related to both formal and informal financing options*. Test result indicate otherwise for both formal and informal financing options, our estimation technique show a positive but insignificant coefficient ($B = 0.186$ and $p = 0.081$) for formal financing options. In the case of the informal financing model, regression results (Table 6) yields ($\beta = 0.160$ and $p = 0.280$) and thus imply a positive but insignificant relationship between income level and both financing options. Hence, we accept the null hypothesis for both financing options.

4.3 H3: enterprise asset control has no significant impact on financing options among micro-entrepreneurs in the University of Lagos

The proposition that *asset has a positive relationship with formal financing options and negative relationship with informal financing options* is only supported by the formal

Table 6.
Standardised
coefficient (informal
financing)

| Model | Unstandardised coefficients | | | Standardised coefficients | | | 95.0% CI for <i>B</i> | | | Collinearity statistics | |
|----------------|-----------------------------|-------|----------|---------------------------|-------|-------------|-----------------------|-----------|-------|-------------------------|--|
| | <i>B</i> | SE | <i>t</i> | Beta | Sig. | Lower bound | Upper bound | Tolerance | VIF | | |
| 1 | | | | | | | | | | | |
| (Constant) | 1.473 | 0.270 | 14.932 | | 0.000 | 1.099 | 1.185 | | | | |
| Asset | 0.101 | 0.341 | 2.463 | 0.128 | 0.169 | -0.234 | 0.352 | 0.928 | 1.078 | | |
| Awareness | 0.253 | 0.247 | 1.023 | 0.178 | 0.007 | -0.117 | 0.214 | 0.712 | 1.405 | | |
| Credit history | -0.152 | 0.082 | -2.627 | -0.142 | 0.234 | -0.143 | 0.182 | 0.753 | 1.328 | | |
| Income | 0.160 | 0.051 | -1.299 | 0.218 | 0.280 | -0.164 | 0.093 | 0.982 | 1.019 | | |
| Network | 0.124 | 0.209 | -2.186 | -0.141 | 0.030 | -0.137 | 0.087 | 0.826 | 1.211 | | |
| Female | 0.139 | 0.126 | 1.765 | 0.246 | 0.040 | -0.215 | 0.033 | 0.940 | 1.064 | | |

Source(s): Compiled by the authors

financing model that yields a positive and significant coefficient as expected ($B = 0.201$ and $p = 0.000$), indicating a positive relationship between assets and formal financing options. Hence, reject the null hypothesis for formal financing options. However, in the case of the informal financing model, where asset has a positive but insignificant influence on informal financing options, $B = 0.101$, p -value is 0.169. Thus, we accept the null hypothesis for informal financing options.

4.4 H4: gender has no significant impact on financing options among micro-entrepreneurs in the University of Lagos

Given the proposition that *FEMALE has a negative relationship with formal financing option and positive relationship with informal financing option*, test results do not affirm the proposition made for formal financing. However, the model yields a positive and insignificant influence of gender on formal financing with $B = 0.254$, $p = 0.096$. This indicates that as female entrepreneurs increase, the less likely they are to choose formal financing options. We accept the null hypothesis for formal financing options.

In the case of informal financing model, the proposition is supported, where *FEMALE* has a positive and significant influence on informal financing options. $B = 0.139$, p -value is 0.000, which also suggest that female entrepreneurs increase the more likely they would choose informal financing options. Thus, we reject the null hypothesis for informal financing options.

4.5 H5: awareness level has no significant impact on financing options among micro-entrepreneurs in the University of Lagos

The proposition that *level of awareness has a positive relationship with both formal and informal financing options* is confirmed by both formal and informal financing models tested by the study. For formal financing, its model yields a positive and significant influence as expected ($B = 0.143$ and $p = 0.000$). This indicates that as entrepreneur's awareness increase the more likely he/she will choose formal financing options.

In the informal financing model, test results suggest that awareness also has a positive effect on the use of informal financing options in that $B = 0.253$, $p = 0.000$. This implies that as entrepreneur's awareness increase the more likely he/she will choose formal financing options. We therefore reject the null hypothesis and accept the alternative hypothesis.

4.5.1 H6: network capability has no significant impact on financing options among micro-entrepreneurs in the University of Lagos. Given the proposition that *NETWORKING has a positive relationship with both formal and informal financing options*, tests results does not affirm the proposition made for formal financing. The formal financing model yields a negative and insignificant influence of entrepreneurs networking on formal financing, with $B = -0.132$, $p = 0.740$. This indicates that as entrepreneurs networking increase, the less likely they are to choose formal financing options. We thus accept the null hypothesis for formal financing options.

However, in the case of informal financing model, the proposition is confirmed, where *NETWORKING* has a positive and significant influence on informal financing options. $B = 0.124$, p -value is 0.030 ($p < 0.05$), which suggest that as entrepreneurs networking increase the more likely they also choose informal financing options. Thus, we reject the null hypothesis for informal financing options.

5. Conclusion

The overall objective of this study is to examine the determinants of financing options among micro-entrepreneurs in the informal services sector within the University of Lagos with particular interest in establishing whether these determinants are significance in their choice

of access to finance. Specifically, the study pursued the goals of examining the effects determinants such as credit history, income level, asset, gender, awareness and network capability of micro-entrepreneurs have on access to finance.

5.1 Summary of findings

The findings are therefore summarised as follows:

- (1) Credit history has a significant and positive impact of formal financing options and insignificant effect on informal financing options
- (2) The income level of micro-entrepreneurs has insignificant effects on both formal and informal financing options
- (3) The assets of micro-entrepreneurs have positive and significant effect on formal financing options but insignificant effect on informal financing options
- (4) Gender (Female) has significant effect only on informal financing options of micro-entrepreneurs.
- (5) Awareness has a positive and significant effect on both formal and informal financing options of micro-entrepreneurs
- (6) Network capability of micro-entrepreneurs has significant effect only on informal financing options and none of formal financing options.

5.2 Contribution of the study

Given the fact that the quality of financing decision taken by micro-entrepreneurs are enormously crucial for the survival of their enterprises as well as the role that quality information plays in their decision-making, the results suggest that for micro-entrepreneurs and small business alike can take proactive initiatives to develop strong network ties like becoming members of strategic associations that would guarantee low-cost access to finance. In addition, small businesses can share their data and repayment history, this help to provide better assessments of lending risks.

Even though not entirely in their control, micro-entrepreneurs should recognise income and/or profitability as a sustainable means of access to finance and management of loans. This entails developing a habit of conscious business management skills that ensures the profitability of their enterprises. For instance, micro-entrepreneurs can assess the consequences that their control and risk aversion might have on their ability to grow, competitive and profitable.

The findings that about 92.1% of the respondents indicated to have never used government scheme in their enterprise, brings into question the accessibility of government funds like the Small and Medium equity investment scheme (SMEEIS), the Small and Medium Enterprises Credit Guarantee Scheme (SMECGS), the Agricultural Credit Guarantee Scheme Fund (ACGSF) and the Bank of Industry (BOI) in the Nigerian case. However, efforts should be made to adequately enlighten micro-entrepreneurs of the availability of low-cost scheme aimed at boosting their economic activities, particularly in Nigeria. Access to finance relies on macroeconomic factors like interest rate and inflation that affects the economic performance of micro-entrepreneurs. Hence, fiscal and monetary policies that ultimately reduce interest rates, stabilise inflation and boost investment should be implemented.

Although this work is a demand side study, recommendation can be made to traditional lending institutions. As financial disrupters have successfully reshaped the financial system through their data driven lending, traditional can choose to remain dogged at their regular practices or take a leap towards the FinTech revolution. Own digital effort or partnering with giant FinTech companies who can help in designing channels for data collection from

customers can be put in place; this will further help in making better financial decisions. Placing greater weight on other factors such as the viability of its future business plans or growth potential of the firm can be considered by financial institutions. They might also consider accepting more items as collateral (i.e. other than fixed assets such as receivables, inventory and equipment) as suggested by Fagan and Zhao (2009).

5.3 Limitations of the study and recommendations for further studies

The non-availability of borrower specific data on the amount of credit accessed from the banks by micro-entrepreneurs is the main limitation of the study due to confidentiality reasons. To overcome this challenge, the study used survey data based on the opinions micro-entrepreneurs and managers. In addition, the survey was limited due to its accessibility and proximity to the researcher as well as it being a typical hub of the informal sector economy. However, this sampled area was considered enough to generalise the results for smaller economies with similar circumstances. Also, all data were gathered at a specific time, thus the variables, responses and findings may be limited to that point in time.

Although this study promotes the understanding of the impact of these on credit history, income and asset, level of awareness and network capability on the choice of financing options much work remains for future research. Notably, the study could be extended to a larger sample area or reduced to a particular industry or group of businesses. With the importance of SME sector to development of an economy, government influence in the sector could also be investigated. Further research can be undertaken to understand the effect of risk taking, entrepreneurial orientation, location of enterprise and ethnicity. Another research angle would be to focus on the effects of micro-entrepreneurs bank relationship on micro-entrepreneur financing. Another research perspective could be to make the study a supply-side analysis that would attempt to examine the determinants of SMEs financing.

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