






“Financial literacy and business performance among female micro-entrepreneurs”

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FINANCIAL LITERACY AND BUSINESS PERFORMANCE AMONG FEMALE MICRO-ENTREPRENEURS

Abstract

The poor performance of female entrepreneurs, exemplified in their inability to realize their full potential and compete fairly with their male counterparts owing to financial illiteracy, motivated this study. Therefore, this study examined the effect of financial literacy on business performance among female micro-entrepreneurs. Using the survey research design, data were collected from 247 female entrepreneurs from six states in the North-Eastern region of Nigeria. The hypotheses developed for the study were tested using path modeling-structural equation modeling with the aid of SmartPLS software version 3.2.7. The result revealed that all proxies of financial literacy (financial education, cash forecasting, and bookkeeping) have significant effects on business performance of female entrepreneurs. Additionally, the paper revealed that financial education contributed more to the variance in business performance of the female micro-entrepreneurs, this was followed by bookkeeping practices, while cash-forecasting has the least effect on the variance in business performance. This implies that financial education is essential for the success of female micro-entrepreneurs. Thus, this study advocates the need for continuing trainings and workshops for female micro-entrepreneurs on financial concepts such as bookkeeping, cash forecasting, and market volatilities.

Keywords

financial education, cash forecasting, bookkeeping,
entrepreneurship, small and medium enterprises

JEL Classification

L26, M13

INTRODUCTION

Female micro-entrepreneurs represent a vast and untapped source of economic growth worldwide (Tantasuntisakul, 2015; Rashid, 2017; Pandey & Bharti, 2020). Female entrepreneurship provides women with earning power while assuring their ability to prosper independently, reducing their insecurity about their ability to care for their children, and thus encouraging other women to pursue personal, economic, or even political autonomy, to make autonomous choices and to stand up for themselves and their lifestyle (Kevehazi, 2020).

The need to maintain a certain quality of life often drives the establishment of female micro-enterprises (Pandey & Gupta, 2018). Female entrepreneurs often devote practically all of their financial resources, time, and effort to earn income in order to stay afloat and grow their fortune (Pandey & Gupta, 2018). The enterprises mainly operate in the informal sector and witnessed very little regulation from the government (Eniola & Entebang, 2015).

According to Hassan and Mugambi (2013), the number of female micro-entrepreneurs in Sub-Saharan Africa has increased significantly, yet many of them are still unable to realize their full potential. The inability of women to reach their potentials in the area of business maybe due to the lack of exposure to financial education, poor knowledge of bookkeeping, inability to predict cash-flow, poor social net-

works, gender discrimination, family and home commitments, cultural factors, and inadequate finances (Halkias et al., 2011; Mkasanga, 2015; Seedhouse et al., 2016; Ukanwa et al., 2018; Liu et al., 2019). The gender gap in entrepreneurship may also be ascribed to the disparities in economic and socio-cultural elements that shape the market conditions for female entrepreneurs, particularly in Nigeria's north (Ladanu & Ayedun 2016).

1. LITERATURE REVIEW

1.1. Financial literacy

Financial literacy is critical in assisting individuals in identifying financial behaviors that promote good financial resource management. It allows entrepreneurs to understand essential financial concepts such as interest rate, risks, returns on investments, inflation, and investment diversification. Financial literacy enhances the ability of businesses and individuals to study and appreciate money and financial concerns (Hilgert et al., 2003). It is an essential skill for successful financial decisions. Financial literacy is the ability and skill to use knowledge and comprehension of financial concepts to make good business decisions in diverse financial circumstances (Hogarth, & Hilgert 2002).

Financial literacy, according to Kim (2001), is a fundamental skill that people require in order to thrive in today's business and society. Lusardi and Mitchell (2007) see financial literacy as being informed about all aspects of savings, investments, and decumulation in the context of everyday financial decisions, whereas Stone et al. (2008) defined financial literacy as having a basic understanding of how to effectively manage debt. Therefore, financial literacy is the ability to make sound financial decisions (Novo, 2012).

1.2. Business performance

Business performance shows the extent to which firms make a relative profit, return on investment, and total sales growth. Business performance is measured from two basic approaches. These are financial and non-financial approaches (Owolabi et al., 2021). Non-financial metrics include customer happiness, employee turnover, and productivity, while financial measures include sales and profit before tax. Also, business performance is personal, team, or unit success in achieving strategic objectives through desired behaviors (Siekei et al., 2013).

Business performance is a metric that assesses a company's efficiency and effectiveness in attaining its goals (Reijonen, 2008). In this study, business performance is measured as a mono-dimensional construct and defined as the attainment of organizational goals via the effective use of strategies and organizational resources.

1.3. Theoretical background

This study derives its theoretical strength from the knowledge spillover theory of entrepreneurship as propounded by Acs et al. (2009). According to the theory, the development of new information broadens the range of technical possibilities. Entrepreneurial activity entails not just the arbitrage of opportunities, but also the exploitation of intra-temporal knowledge spillover that incumbent enterprises have yet to appropriate. Individual agents with endowments of new economic knowledge, rather than exogenously assumed enterprises, are the unit of study in a model of economic growth, according to the theory. Endogenous knowledge exploitation is pursued by agents with new knowledge. This shows that knowledge spillover outnumbers knowledge stock, and that there is a significant link between knowledge spillover and entrepreneurial activity. There would be no intra-temporal knowledge spillover if incumbent businesses captured all R&D rents (Acs et al., 2009).

Low levels of knowledge-based entrepreneurship might be caused by two causes, according to the knowledge spillover model of entrepreneurship: (1) failure of private enterprises and public institutions to develop new information; and (2) failure of people to exploit that new knowledge. First, the lack of a local industry base and/or domestic knowledge-creating organizations, such as public research institutes, may stymie the development of knowledge-based entrepreneurship. Second, individuals may fail to market new

information through entrepreneurship, according to the knowledge spillover hypothesis of entrepreneurship. Individuals with new information may underinvest in commercialization activities because they do not recognize the advantages, or may fail to commercialize because they lack market understanding. Individuals or organizations with market knowledge or other resources may be unaware of new information and, as a result, fail to invest in or under-invest in new enterprises (Acs et al., 2004).

1.4. Hypotheses development

1.4.1. *Financial education and business performance*

Financial education is the mastering of basic financial principles and using the skills to enhance business performance or improve decision-making (Moore, 2003; Lusardi & Michell, 2007; Arumona et al., 2019). Financially educated people are more engaged in the financial markets because they are well conversant with trending financial issues (Neneh, 2016). Financial education is also known as financial knowledge, which means to be knowledgeable about financial matters and is a necessity in enhancing financial competence which translates to competitive edge (Lusardi & Michell, 2007). According to Hung et al. (2009), the financially literate entrepreneurs are more competent and achieve higher performance. In other words, as individuals get more financially literate, they will become more knowledgeable in financial matters. As submitted by Erin et al. (2017), corporate leaders' educational backgrounds have an influence on organizational strategic decisions, which in turn affects business success. Gottesman and Morey (2006) found that business leaders with higher understanding of the use of financial models positively influence a company's outcomes. This is consistent with the submission of Hastings et al. (2013) who noted that financial education helps managers to perform better.

1.4.2. *Cash forecasting and business performance*

Cash forecasting is an evaluation of the movement of cash within a firm over a specified period of time (Eniola & Entebang, 2015). It is

very important for SMEs to forecast their cash needs in order to develop strategic plans and realign corporate strategies and available finances (Darus et al., 2017). A cash flow forecast is a strategic instrument for making choices about finance, capital expenditures, and investments, since it shows expected cash flow based on income and spending (Liman, & Aminatu, 2018). A short-term cash prediction can be used to discover any impending financial needs or excess funds (Kinyanjui et al., 2017).

Cash flow forecasting plays an important role in the competitiveness and performance of firms. As submitted by Fight (2006), cash flow forecasting ensures competitive edge. Similarly, Contrera and Julian (2018) opine that cash flow is essential, especially for start-ups, therefore, cash flow optimization is a critical source of competitive advantage for entrepreneurs. In the same vein, Eton et al. (2019) averred that cash management is a necessary business skill for entrepreneurs and that cash management is positively correlated with performance of local entrepreneurs in Uganda.

1.4.3. *Bookkeeping and business performance*

The core activity of the accounting system is bookkeeping. Every organization's accounting process includes bookkeeping, which is the recording of financial transactions (Uddin et al., 2017). A bookkeeper is an employee who keeps track of an organization's day-to-day financial transactions (Ernest, 2018). He or she is normally in charge of keeping track of purchases, sales, receipts, and payments in the day-books. A book-keeper is in charge of making sure that all transactions, whether cash or credit, are properly documented in the day-book, supplier's ledger, customer ledger, and general ledger (Ernest, 2018).

According to Maseko and Manyani (2011), micro and small business record-keeping is the backbone of their business performance. Keeping proper accounting records is what makes a firm lucrative. Holmes and Gupta (2015) opine that most business operators, particularly those in SME's, see record keeping as a way to recoup early investment in the form of cash at the con-

clusion of the accounting period. The long-term viability of a firm is jeopardized if small businesses do not keep good accounting records.

This study aims to assess the relationship between financial education and business performance, examine the correlation between cash forecasting and business performance, and investigate the correlation between bookkeeping practice and business performance.

In line with the above goals, the following hypotheses are proposed:

H_1 : *There is a significant relationship between financial education and business performance.*

H_2 : *Cash forecasting significantly correlates with business performance.*

H_3 : *Bookkeeping significantly correlates with business performance.*

2. METHODOLOGY

Research design is a blueprint that guides a researcher through many stages of the study and allows them to come up with answers to challenges. Research design, according to Turner and Houle (2019), is a framework for gathering accurate and trustworthy data to test hypotheses or address the research questions. In this study, the survey design will be followed. The survey is deemed appropriate with the following three reasons. First, survey is designed to get relevant and precise data regarding the current state of a phenomenon at a point in time (Turner & Houle, 2019).

The target population for this study encompasses all female micro-entrepreneurs in the North-East region of Nigeria. However, the accessible population is made up of 1,204 female micro-entrepreneurs who are registered with Small and Medium Enterprise Development Agency (SMEDAN) and have operated for at least five years. Data will be collected from the owners of the firms only.

The distribution of the study population based on their states is shown in Table 1.

Table 1. The study population

Source: Small and Medium Enterprise Development Agency, 2021.

State	Population	Cumulative
Adamawa	221	221
Bauchi	198	419
Borno	190	609
Gombe	201	810
Taraba	225	1035
Yobe	169	1204
Total	1204	1204

The size of the sample was determined using the Krejcie and Morgan (1970) table for sample size estimation from the available population. As a result, the sample size from the available population is 303. As a result, the study's minimal sample size is 303.

2.1. Operational measures of variables

Data for the study were generated through primary sources. A structured questionnaire was used to obtain the data. The questionnaire was structured into three sections. Section one was structured to provide demographic information of the respondents such as age, gender and educational qualification. Section two focused on the independent variable (financial literacy). Section three had items on the dependent variable (organizational performance).

In this study, financial literacy was observed using three proxies (financial education, cash forecasting, and bookkeeping). Financial education was described with four items, which includes "I have adequate knowledge of the time-value of money". Cash forecasting has four items such as "I am good at estimating the flow of cash coming in and out of my business". Bookkeeping has five items among which are "I do keep track of my spending; I am competent at evaluating investment alternatives". The statement items were adopted from Chepngetich (2016), Pavković et al. (2018), and Fessler et al. (2019).

Organizational performance was observed as a uni-dimensional construct and measured with five items such as "Our company has maintained a steady assets growth; The financial value of my business has increased within the last five years".

Table 2. Analysis of demographic profiles of respondents

Source: Field Data, 2021.

Variable	Item	Frequency	Percentage %
Marital Status	Married	133	53.8
	Single	114	46.2
	Total	247	100
Age	18-35	95	38.5
	36-52	103	41.7
	53 – Above	49	19.8
	Total	247	100
Years of work experience	0-5	84	34
	6-10	118	47.8
	11 Years and Above	45	18.2
	Total	247	247
level of educational attainment	0'level/OND/NCE	106	42.9
	HND/B.Sc	108	43.7
	Masters and Above	33	13.4
	Total	247	100

The items were adopted from Fonseca et al. (2016). All the items are rated on a five-point Likert scale, ranging from 1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree, and 5: Strongly agree.

3. RESULTS

Out of the sample size of 303, a total of 247 female entrepreneurs correctly filled and returned the questionnaire that was given to them. This represents a return rate of 81.5 percent. All analyses were carried using data from the 247 participants.

The demographic details of the respondents are shown in Table 2.

The Marital status column (Table 2) shows that 53.8 percent are married, while 46.2 percent are singles. In terms of age, 95 of the participants are within the age brackets of 18-35 years, 103 within 36-52 years and 49 participants are within 53 years and above. Responses to work experiences showed that 84 (34%) participants have 0-5 years of experience. 118 (47.8%) have 6-10 years of experience. Lastly, 45 (18.2%) have 11 years of experience and above. The highest level of educational attainment shows 106 (42.9%) have obtained 0 level, Ordinary National Diploma (OND) or Nigerian Certificate in Education (NCE), 108 (43.7%) have Higher National Diploma (HND) or Bachelor's Degree (B.Sc), 33 (13.4%) have obtained Master Degree (M.Sc.) or above.

3.1. Inferential statistics data analysis

The path modeling (PLS-SEM) with the aid of SmartPLS 3.2.7 software was used to test the formulated hypotheses. As noted by Ringle et al. (2015), this technique involves two steps: first the measurement needs to be assessed and then the structural model is assessed.

Figure 1 shows the measurement model. The model indicated that all items for financial education returned acceptable levels of factor loadings of 0.6 and above. Likewise, factor loadings for cash forecasting were above the threshold of 0.6. Similarly, the indicators for bookkeeping practice returned factor loadings of 0.6 and above. For the dependent variable, business performance, the factor loadings were above the threshold of 0.6. Hence, all the statement items met the 0.6 criteria given by Hulland (1999) and were retained for the final analyses.

Furthermore, the model was tested for validity and reliability of the items. Cronbach alpha and composite reliability were used to assess the reliability of the instrument. While the average variance extracted (AVE) and Heterotrait-Monotrait (HTMT) criterion were used to confirm the validity of the instrument.

Cronbach alpha and composite reliability ratings of 0.7 and higher showed an adequate degree of reliability (Nunnally, 1978). The average variance

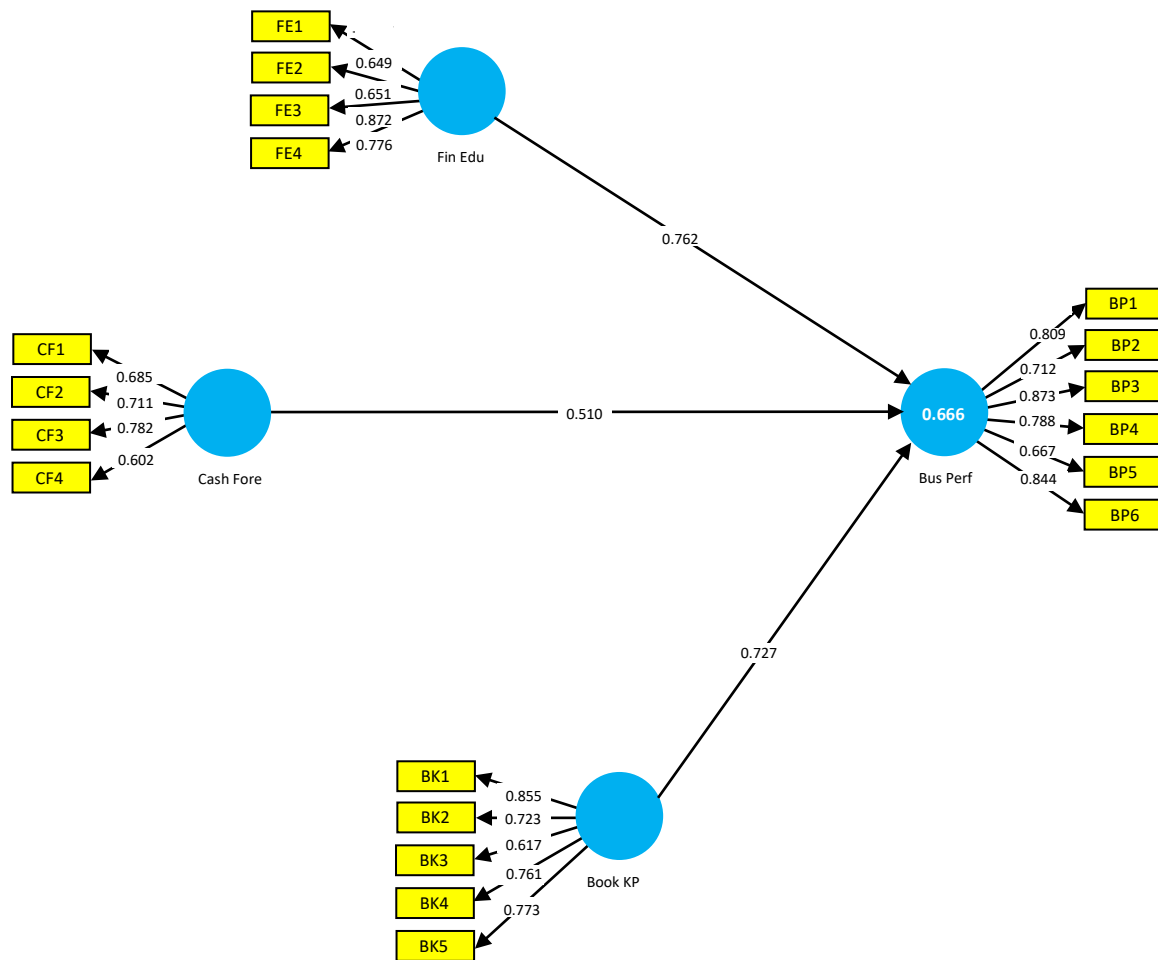


Figure 1. Measurement model assessment

Table 3. Construct validity and reliability

Source: SmartPLS 3.2.7 output on research data, 2021.

Constructs	Cronbach Alpha	Composite Reliability	AVE	R ²	R ² Adjusted	Q ²
Financial Education	0.862	0.899	0.598	0.614	0.611	0.331
Cash Forecasting	0.703	0.927	0.680			
Bookkeeping	0.811	0.855	0.546			
Business Performance	0.873	0.978	0.899			

Note: AVE = Average Variance Extracted. FE = Financial Education, CE = Cash Forecasting, BK = Bookkeeping Practice, and BP = Business Performance. Also, R², 0.19 = Weak, R², 0.33 = Moderate, R², 0.67 = substantial (Cohen, 1988).

extracted (AVE) criteria were used to examine the constructs' convergent validity. The constructs' convergent validity was validated by an AVE value of 0.5 for each of them (Fornell & Larcker, 1981).

To identify the impact of the latent variables on the endogenous construct, the structural model

was evaluated. The coefficients of determination (r²) were checked (Hair et al., 2014). The exogenous factors have a total influence of 0.614 on the endogenous variable. This implies that financial education, cash forecasting, and bookkeeping explained 61.4 percent of the variance in business performance. As a result, the model's predictive

Table 4. Discriminant validity – Heterotrait – Monotrait (HTMT) criterion

Source: SmartPLS 3.2.7 output on research data, 2021.

	Financial Education	Cash Forecasting	Bookkeeping	Business Performance
Financial Education				
Cash Forecasting	0.877			
Bookkeeping	0.805	0.713		
Business Performance	0.612	0.572	0.536	

Table 5. Hypothesis testing results

Source: SmartPLS 3.2.7 output on research data, 2021.

Hypotheses	Path coefficient	Standard error	T-value	P-value	Decision
FE → BP	0.762	0.087	7.321	0.001	Supported
CF → BP	0.510	0.058	7.662	0.000	Supported
BK → BP	0.729	0.066	6.241	0.000	Supported

Note: FE = Financial Education, CE = Cash Forecasting, BK = Bookkeeping, and BP = Business Performance, T-Statistics greater than 1.92 at 0.05 level of significance.

ability is moderate. The model's predictive significance was further examined using Stone-Geisser's (Q^2) value and a Blindfolding process, yielding a score of 0.331. The Q^2 value (0.331) indicates that the model has a predictive relevance (Stone, 1974; Akter et al., & Ray, 2011; Hair et al., 2014).

The HTMT criteria were employed to evaluate the constructs' discriminant validity. Table 5 shows the results of the HTMT evaluation. Constructs with HTMT values less than 0.9 are deemed acceptable, according to Hair et al. (2017). As a result, all of the constructs had appropriate discriminant validity because their values were below the 0.9 threshold.

All the hypotheses were confirmed; financial education and business performance ($\beta = 0.762$; $t = 7.321$; $p = 0.001$), cash forecasting and business performance ($\beta = 0.510$; $t = 7.662$; $p = 0.000$), and bookkeeping and business performance ($\beta = 0.729$; $t = 6.241$; $p = 0.000$). From the above, all have positive and significant pathways.

A second test was performed to see which of the exogenous latent factors had the greatest impact on the endogenous variable. Table 6 displays the outcome. According to Hair et al. (2014) and Cohen (1988), the effect sizes of each dimension of financial literacy (financial education, cash forecasting, and bookkeeping) on business performance, f^2 values of 0.02, 0.15, and 0.35, respectively, represent "small, medium, and large effects" of the endogenous construct.

Table 6. Effect sizes (f^2)

Paths	f^2	Effect Size
FE → BP	0.33	Large
CF → BP	0.14	Small
BK → BP	0.17	Medium

Note: FE = Financial Education, CE = Cash Forecasting, BK = Bookkeeping Practice, and BP = Business Performance. Effect size (f^2) of 0.02 = small; 0.15 = medium, while 0.35 = large effect.

Table 6 shows that financial education contributed the largest to variance in business performance with an f^2 value of 0.35. This was followed by bookkeeping with a moderate effect size of an f^2 value of 0.17. Cash forecasting has the least effect size of an f^2 value of 0.14.

4. DISCUSSION

The findings revealed that all dimensions of financial literacy (financial education, cash-forecasting, and bookkeeping) significantly correlated with business performance of female entrepreneurs. Furthermore, the study showed that financial education has the largest effect on business performance. This was seconded by bookkeeping, while cash-forecasting has the least effect on business performance. The results implied that financial education plays a major role in the success of female entrepreneurs. This finding corroborates that of Atkinson and Messy (2011), who found that financial education is key to entrepreneurs' understanding of business ideas and helps them

seize business opportunities, minimize risks and make informed business decisions. Furthermore, Lusardi and Oliver (2006) assert that higher financial awareness helps in solving complex business problems, thereby improving performance. The findings of this study are also in consonant with the findings of Cherugong (2015), who found that financial literacy has a positive influence on the com-

petence of an entrepreneur, thus helping the entrepreneur to successfully forecast the financial needs of the business, hence leading to higher profitability. Similarly, Fatoki (2014) opines that cash forecasting is a major determinant of financial behavior, while Lusardi and Mitchell (2014) confirmed that proper cash forecasting is important for financial behavior, including taking debts and savings.

CONCLUSION

The study examined the association between financial literacy and business performance of female entrepreneurs. It was revealed that all proxies of financial literacy (financial education, cash-forecasting, and bookkeeping) significantly correlated with business performance. Furthermore, it was found that financial education contributed most to the variance in business performance, followed by bookkeeping and cash forecasting.

Based on the findings, the study concluded that financial illiteracy is the cause of poor business performance among female entrepreneurs. This implies that there is a greater chance for financially literate female entrepreneurs to be more successful than those with low level of financial knowledge. In line with the conclusion above, it was advocated that female entrepreneurs should make conscious efforts to update their knowledge on financial issues.

Also, female entrepreneurs should frequently attend trainings, workshops and seminars on bookkeeping, cash-forecasting and other financial concepts. These steps will ensure that female entrepreneurs are adequately prepared to compete and possibly outperform their male counterparts.

LIMITATIONS AND SUGGESTIONS FOR FURTHER STUDIES

This study has a few limitations. First, the study focused only on female entrepreneurs practicing in the North-Eastern region of Nigeria. In this regard, it is proposed to conduct similar studies in other regions of the country. Secondly, the study focused only on the entrepreneurial sector. Therefore, future studies should expand to other sectors of the economy. Thirdly, the study considered business performance as a mono-dimensional construct. Therefore, other scholars should decompose business performance into different facets such as financial and non-financial performance. Finally, the study ignored the moderating effects of factors such as the business climate, risk-taking proclivity, and service innovation. Future research should consider the moderating effect of these factors.

AUTHOR CONTRIBUTIONS

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Data curation: Ndaghu Julius Tumba, Ekom Etim Akpan.

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Funding acquisition: Gbenga Festus Babarinde.

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Writing – review & editing: Gbenga Festus Babarinde.

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APPENDIX A (QUESTIONNAIRE)

SECTION A

Personal Data

1. Name of the organization: _____
2. Age: 18-35 Years 36-52 Years 53 Years and above
3. Marital status: Single Married
4. Educational Qualification: WAEC-OND HND/B.Sc. M.Sc. and above
5. Position in the organization _____
6. Work Experience 0-5 Years 6-10 Years 11 Years and above

SECTION B

Financial literacy

This section is designed to gather information on the level of your financial literacy. Kindly, indicate the extent to which you agree or disagree that the statement reflects the situation in your organization.

(5 = Strongly agree, 4 = Agree, 3 = Undecided, 2 = Disagree, 1 = Strongly disagree)

Table A1. Financial literacy

FE	Financial Education	1	2	3	4	5
1	I have adequate knowledge of the time-value of money					
2	I know the current interest rate on loans					
3	I am aware of the inflation rate in the country					
4	I am acquainted with the happenings in the financial market					
CF	Cash Forecasting	1	2	3	4	5
1	I am good at estimating the flow of cash coming in and out of my business					
2	I have adequate knowledge of my cash needs					
3	I always search for information on savings and investments					
4	I often consult experts to know the trend in the money/financial market					
BK	Bookkeeping Practice	1	2	3	4	5
1	I do keep track of my spending					
2	I am competent at evaluating investment alternatives					
3	I keep a written record of my income as it comes in					
4	I am able to make financial records					
5	I understand the balance sheet, profit and loss statement and cash flow					

SECTION C

Organizational performance

Please tick one choice for each of the following statement that is applicable to your organization.

(5 = Strongly agree, 4 = Agree, 3 = Undecided, 2 = Disagree, 1 = Strongly disagree)

Table A2. Organizational performance

PP	Business Performance	5	4	3	2	1
1	Our total product cost has reduced over the past three years					
2	The financial value of my business has increased within the last five years					
3	My business revenue has increased in the past five years					
4	My business is making more profit when compared to my competitors					
5	Return per employee is well above industry average					
6	Our company has maintained a steady assets growth					