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Mediating effect of Access to Finance in the relationship between Entrepreneurial Orientation and Performance of Women-Owned MSME in Nigeria

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Abstract

This study investigates the mediating effect of access to finance in the relationship between entrepreneurial orientation and MSME performance of women businesses in Kaduna State, Nigeria. To achieve this purpose, a sample size of 356 owners and/or managers who operate businesses in the Kaduna State and are registered in the Government Enterprise and Empowerment Program (GEEP) 2.0 were selected. The study employs a multi-stage sampling technique, incorporating Likert scale-based questions for data collection. Data analysis involves Partial Least Squares Structural Equation Modelling (PLSEM) using Smart PLS 4 and the results indicate a positive significant effect of entrepreneurial orientation on MSME performance of women businesses, suggesting that higher levels of entrepreneurial orientation are linked with enhanced performance. The Mediation analysis reveals that access to finance mediates the effect between entrepreneurial orientation and MSME performance of women businesses. The study recommends targeted financial support programs and enhanced financial inclusion to improve access to finance for women entrepreneurs. While acknowledging limitations, the research underscores the importance of entrepreneurial orientation and financial access in fostering the MSME performance of women businesses, providing valuable insights for policymakers, practitioners, and academics.

Keywords: Access to Finance, Entrepreneurial Orientation, Womem-owned Business, WMSME PGEEP 2.0

JEL Classification: M11, P35

1. Introduction

The Micro, Small, and Medium Enterprises (MSMEs) are key players in fostering economic growth and development of nations as they contribute 40% to Gross

Domestic Product (GDP), 50% to employment and make up 90% of all businesses around the world (World Bank, 2020) as they foster innovation, create jobs, and generate income (Liu, Zhou, Wang & Yu, 2022; Melwani, 2018; Ching & Kitahara 2017; Naala 2016; Afolabi, 2015; Kritikos, 2014). The acknowledgment of women-owned MSMEs (WMSMEs) in the country was highlighted in the SMEDAN report of 2021, projecting that MSMEs' contribution to GDP by 2025 would reach 70%. Therefore, WMSMEs are equally contributing to economic development by fostering growth, generating employment opportunities, promoting economic expansion, and harnessing women's productive capabilities (Mundy & Menashy, 2014; We-Fi Annual Report, 2018). Despite their role in the economy, their performance is often hindered by internal and external forces which cause them to underperform (SMEDAN, 2021). This underperformance is seen in the number of shutdowns/failure rate among MSEMs in the country (SMEADAN, 2021, Oluwabunmi, 2020, Naala 2018). MSMEs experience distressingly high mortality rates, with many folding shortly after establishment and a majority ceasing operations between their sixth and tenth years, leaving only a meagre 10% to survive beyond a decade (Aremu & Adeyemi, 2011). Even more concerning, SMEDAN's 2017 report highlighted a sharp decline in the number of Medium Enterprises in the country, revealing that 61.6% of them failed within five years (SMEDAN, 2017). Adding to the concern, Nigeria ranked seventh among African nations for startup failures, with an average of a 75% failure rate (Oluwabunmi, 2020).

However, SMEDAN, (2021) identified MSMEs' limited entrepreneurial orientation and their inability to access funds for startup, growth and/or expansion, among others as some of the challenges plaguing the MSME sector. The entrepreneur is the major stakeholder in the MSMEs sector who navigates the dynamic and challenging business environment in order to seize opportunities and drive innovation, and his/her orientation affects performance (Baker, Mahmood & Ismail, 2015). This assertion is further confirmed by Gumel and Bardai, (2023) in their study when they ranked managerial competencies/entrepreneurial orientation to be highest critical success factors for MSMEs in Nigeria. However, the growing Nigerian entrepreneurial ecosystem is not matched with the needed entrepreneurial orientation as MSMEs are still struggling to adopt and implement entrepreneurial orientation practices. Entrepreneurial orientation was first conceptualised by Miller (1983), who delineated three core dimensions: innovativeness, proactiveness, and risk-taking. Later, Lumpkin and Dess (1996) augmented these dimensions to five by introducing autonomy and competitive aggressiveness. According to Covin and Wales, (2012), the emphasis on entrepreneurial orientation is laid on the shared variance that exists between all the variables which should work together to achieve performance.

Furthermore, inadequate access to funds is another major limitation to MSME performance in the country (SMEDAN, 2021), posing a significant obstacle to the performance and growth of MSMEs in the nation. Notwithstanding the importance of MSMEs to the economy, there exists a substantial funding gap, with only a small percentage of MSMEs capable of securing the necessary financial resources for growth and expansion. According to PwC MSMEs Survey (2020), MSMEs in Nigeria face an annual funding gap of N617billion with only 5% of MSMEs being able to access adequate funds for growth and expansion. This assertion is further confirmed by SMADAN, (2021), where 72% of SMEs were reported to have temporally shut down with 42.1% of the SMEs indicating lack of funds as the reason for the shutdown. Every business irrespective of size goes through the business life cycle. Each stage in the business life cycle comes with varying financial needs. The inadequate access to funding makes entrepreneurs remain at the initial phase of entrepreneurship – intention to create. However, those who overcome this initial lack of access to finance are often faced with same in the course of the business when they intend to grow and/or expand their business. Statistics from SMEDAN, (2017) survey shows that only 5.3% of Micro Enterprises and 21.6% of SMEs had accessed adequate finance for startup capital, growth and expansion. That is, 95.7% micro businesses and 78.4% SMEs financed themselves through the business life cycle. This is because MSMEs are less likely than large businesses to have access to fund making them rely more on internally generated funds, or funding sourced from friends and family, to start, operate and/or expand their businesses (Abraham & Schmukler, 2017). However, access to finance remains a pivotal factor that can significantly influence the extent to which MSMEs can leverage their entrepreneurial orientation.

Despite the recognition of entrepreneurial orientation as a critical determinant of MSME performance (Brownhilder & Johan, 2017; Civelek, Rahman & Kozubikova, 2016; Ademosu & Morakinyo, 2021; Barine, 2021), there is a need for a comprehensive study that investigates the mediating mechanisms influencing this relationship. The inclusion of a mediator indicates that other factors apart from entrepreneurial orientation are influencing the relationship (Anwar, Clauss & Issah, 2022; Zarrouk, et al, 2020). From the foregoing, access to finance is used as mediators in line with the contingency theory. The contingency theory proposes that the relationship between entrepreneurial orientation and WMSME performance is contingent on how external factors such as access to finance align with WMSMEs internal strategies and capabilities. Therefore, access to finance has the potential to augment the connection between entrepreneurial orientation and WMSME performance. It is against this background that this study examines the mediating role of access to finance in the relationship between entrepreneurial orientation and WMSME performance in Kaduna,

Nigeria. This study hypothesized that entrepreneurial orientation does not significantly affect the performance WMSMEs in Kaduna State, Nigeria. And also, access to finance does not mediate the effect of entrepreneurial orientation on WMSME performance in Kaduna State, Nigeria. Due to the recent recognition of women entrepreneurs (WMSMEs) and their role in the economic growth and development of Nigeria (SMEDAN, 2021) and Kaduna State poverty rate of 43.5%, exceeding the national average poverty rate, with women being the most affected (Okoyeuzu, Obiamaka & Onwumere, 2012); this study focuses on WMSMEs in Kaduna State, Nigeria.

2. Literature Review

WMSME Performance

According to Vij & Bedi, (2016), "performance is the ability of the firm to satisfy its stakeholders, measured in terms of financial as well as non-financial indicators, using primary data to measure subjective business performance and secondary data to measure objective business performance, or both". MSMEs often do not reveal to the public their actual financial performance. This makes it difficult to objectively measure their performance. As such, scholars have resorted to subjective measures in evaluating their business performance (Wiklund & Shepherd, 2005; Alasadi & Abdelrahim, 2008).

Entrepreneurial Orientation

Lumpkin and Dess (1996) defined entrepreneurial orientation as "the propensity of firms to be innovative, proactive to the market place opportunities and be willing to take risk". The concept was initially introduced by Miller (1983), suggesting that a firm is entrepreneurial only if it demonstrates high scores across all three dimensions: innovation, proactiveness, and risk-taking. Later on, Lumpkin and Dess (1996) added two more dimensions – competitive aggressiveness and autonomy to Miller's (1983) initial three dimension bringing entrepreneurial orientation dimensions to five. Subsequently, the conceptualisation of entrepreneurial orientation in literature has expanded to encompass three to five dimensions (Richard, Barnett, Dwyer & Chadwick, 2004). There are two ways to conceptualising entrepreneurial orientation as seen in literature: the composite and the multidimensional approach. The composite approach by Covin and Slevin (1989), states that entrepreneurial orientation represents a unidimensional construct characterised by innovativeness, risk taking, and pro activeness as stated originally by Miller (1983). According to Miller (1983) the three sub dimensions must show positively correlation in order for entrepreneurial orientation to be established, presuming a direct positive link between entrepreneurial orientation and business performance. This shared variance of the dimensions indicates the overall strategic orientation of the entrepreneur (Covin and Wales, 2012). Scholars like Covin and Slevin (1989) and Wiklund and Shepherd (2005) argued that entrepreneurial

orientation should be perceived as a unified construct, suggesting that its various dimensions hold similar relationships with firm performance.

Lumpkin and Dess (1996) proposed the second approach to entrepreneurial orientation known as the multidimensional approach. It is characterised by innovativeness, autonomy, risk taking, proactiveness, and competitive aggressiveness. According to the authors, entrepreneurial orientation varies independently depending on the external and internal context offering unique contributions from each other, with each contribution ranging from low to high (Lumpkin & Dess, 1996; Covin & Lumpkin, 2011) in relation to the stage the business is in its life cycle, type of product or service offered (Miller, 2011; Covin & Lumpkin, 2011). In line with this, Hughes and Morgan (2007) discovered that the five dimensions of entrepreneurial orientation exert distinct impact on the performance of new businesses. Similarly, Covin and Wales (2012) contended that assuming uniform antecedents and consequences for risk-taking, innovativeness, and proactiveness may not hold true. This research uses the uni dimensional approach to entrepreneurial orientation. As such, hypothesis one of the study is stated thus:

Access to finance

According to Bhavani & Bhanumurth, (2014), access to finance is making financial services (such as savings, credit, payments and insurance) available to all those who would like to have without any barriers - price and non-price. According to Gvetadze, Kraemer-Eis, Lang, Prencipe, Signore and Torfs (2018), availability refers to "the supply of external capital, its type, range and quality, and SMEs' capabilities to access it". In this study, access to finance refers to the ability of individuals and businesses to obtain funds or credit to support their financial needs, such as starting or growing a business, investing in new projects, or purchasing goods and services.

Empirical Reviews

In their study Mahmood and Hanafi (2013), investigated the link between entrepreneurial orientation and SME performance of women owned businesses in Malaysia, with competitive advantage as a mediator. The study randomly administered mail questionnaire to 1040 SMEs owners/managers, and regression analysis was used to analyse data and their study found a significant relationship between entrepreneurial orientation and business performance and that competitive advantage partially mediates the relationship. Mozumdar, Hagelaar, Gerben van der Velde and Omta (2020) investigated the determinants of the business performance of women entrepreneurs in the developing world context where they sampled 300 Bangladeshi women entrepreneurs engaged in handicraft business out of 400 to fill their questionnaire.

Hierarchical multiple regression was used to analyse the data and entrepreneurial orientation was found to positively affect performance.

Study by Birech, Karoney, and Alang'o (2018) examined the link between entrepreneurial orientation and performance of women-owned SMEs in Uasin Gishu County, Kenya. Census sampling was used to collect data from the 81 SMEs in Uasin Gishu Count using questionnaire. The collected data was analysed using chi square and the results showed a significant positive effect of entrepreneurial orientation on SMEs performance of SMEs in Uasin Gishu County, Kenya. Nasip, Fabeil, Buncha, Hui, Sondoh and Abd Halim, (2017) conducted a study on the influence of entrepreneurial orientation and social capital on business performance among women entrepreneurs along West Coast Sabah, Malaysia. They sampled 128 women owned SMEs and administered copies of questionnaire. SEM was used to analyse the data. The results showed that risk taking and social capital were related to performance while proactiveness and innovativeness were not significantly related to performance.

Anwar, Clauss and Issah (2022) in their study investigated opportunity recognition as a mediator in the relationship between entrepreneurial orientation and new venture performance in Pakistan. From a population of 9159 SMEs, the authors drew a sample of 700 SMEs and copies of questionnaire were sent to them. Strutural Equation Modelling Smart PLS was used for data analysis and the results showed that entrepreneurial orientation is linked with increased opportunity recognition and new business performance. Ademosu and Morakinyo (2021) in their study investigated entrepreneurial orientation and SME performance in Ikeja, Lagos State, Nigeria where they randomly selected 96 SMEs from 125 in Ikeja, Lagos State and copies of questionnaire were administered to them. Multiple regression was used to test the hypotheses and a significant impact was found between entrepreneurial orientation and SMEs Performance. Barine (2021) conducted a study to investigate entrepreneurial characteristics and SMEs performance in Port Harcourt Metropolis. In their study, 144 SMEs were randomly stratified from 200 SMEs in Port Harcourt and copies of questionnaire were administered to them for data collect. The study used Pearson Product Movement coefficient to analyse data and found a significant positive effect of entrepreneurial characteristics on SME performance in Port Harcourt.

3. Methodology

The research model shows the relationship between the variables as used in the study. The model is derived from the review of literature on entrepreneurial orientations and access to finance. This study adopts entrepreneurial orientation as a unidimensional variable. Access to finance (availability and use of fund) gives the entrepreneur the opportunity to get the necessary funds for growth and expansion, and government

support programmes are initiatives aimed at promoting new and innovative businesses. The relationship is presented in Figure 1

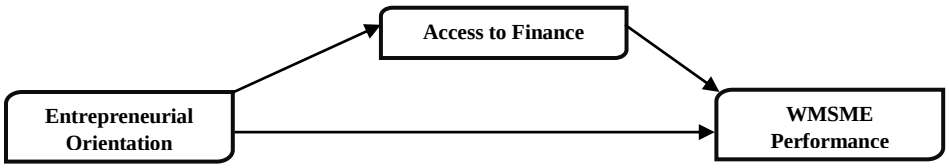

Figure 1: Research Model

This study aims to assess the mediating role of access to finance in the relationship between entrepreneurial orientation and performance of women owned MSMEs in Kaduna state, Nigeria. Cresswell, Clark, Gutmann, and Hanson (2008) delineated three primary research design categories: quantitative, qualitative, and mixed methods. This study adopted a quantitative research design where emphasis is laid on associations among variables through the use of measurement instruments and statistical analysis. The data were collected from the population at a single point in time (Thomas, 2021).

The data was collected from the registered members of the Government Enterprise and Empowerment Program (GEEP) 2.0. This list was accessed through the office of the Director of National Orientation Agency of Nigeria, Kaduna State. The programme has 5,086 registered women entrepreneurs. From this populations, a sample of 356 owners and/or managers of these businesses was drawn using Yamane (1971) formular. To cover up for non-response and missing values, the copies of questionnaire administered were doubled the sample size (Hair, Wolfinbarger & Ortinall 2008). As such, 712 copies of questionnaire were self-administered and returned copies of questionnaire were 391. The sampling technique used was multi-stage sampling. Multi-stage sampling is a probability sampling method that involves sampling at multiple stages, resulting in a gradual reduction in the sample size (Sharma, 2023). This method was used because of its ability to capture geographic diversity and population heterogeneity effectively. At stage one, 5,086 women business owners participating in the GEEP 2.0 Program were extracted from the entire participants of the programme. At stage two, the population was divided into the three Senatorial Zones in Kaduna State: Kaduna North, Kaduna Central, and Kaduna South. The purpose of this, is to categorise the population into these distinct zones for further sampling. At stage three, four local government areas were randomly selected from each Senatorial Zone. At the fourth stage, proportional sampling was used to allocate samples to each of the selected local government areas. Four local government areas were selected from each senatorial

zone. Copies of questionnaires were administered through the National Orientation Agency, Kaduna State.

The questionnaire used in the study comprised of Likert scale questions with 1 being "strongly disagree" and 5 "strongly agree". The scales were adopted/adapted from authors that developed them and were further validated. To measure performance, an eight-item scale adapted from Spillan and Parnell (2006) was used. To measure entrepreneurial orientation, a 3 item and a six item scales were adopted from Hughes and Morgan (2007) for innovativeness, proactiveness, risk taking and competitive aggressiveness and autonomy respectively; a five- item scale for access to finance was adapted from Rajamani, Jan, Subramani and Raj (2022).

4. Result

The collected data was coded and entered into SPSS 25. Preliminary data analysis was done to check the quality of the collected data. These preliminary analyses include, analysis of missing values, analysis of outliers and normality test. Missing values were checked and treated using substitution method for where the missing values were less than 10% (Hair *et al.,* 2014). However, there were no missing values that warranted deletion as the missing value percentage was less than 10%. In all 30 missing values were replaced using mean substitution. The descriptive statistics – minimum and maximum were used to identify responses that were outside the range of between 1 and 5. Mahalanobis (D^2) was further used to check for multivariate outliers as recommended by Hair *et al.,* (2014) and five cases were deleted from the dataset as D^2 value was greater than the Critical Chi Square value, indicating the presence of multivariate outlier. At the end of the preliminary analysis, 386 observations were used for further analysis. This study made use of Partial Least Squares Structural Equation Modelling (PLS-SEM) through Smart PLS 4 to present the analysis which comprised of the measurement and structural model evaluations. The assessment of the Structural Model involved investigating coefficients of determination (R^2), predictive relevance (Q^2), significance, and sizes of path coefficients, along with effect sizes (F^2) (Hair, Hult, Ringle, Sarstedt, Danks & Ray, 2021; Guenther, Guenther, Ringle, Zaefarian, & Cartwright, 2023).

Measurement Model

To evaluate the measurement model; the internal consistency and reliability, convergent validity and discriminant validity for all the indicators were established (Hair, *et al*., 2014). To establish reliability of constructs, its indicator loadings, Cronbach's alpha and CR show should be over 0.70 (Ringle, Sarstedt, Sinkovics, & Sinkovics, 2023). However, indicator loading, Cronbach's alpha and CR over 0.95 are undesirable and

item loadings below 0.70 should be deleted if deletion leads to an increase in AVE and/ CR (Ringle *et al*, 2023).

Entrepreneurial orientation is measured as reflective – reflective higher order construct (HOC) in this study based on five lower order constructs – innovation (IN), proactiveness (PR), risk taking (RT), autonomy (AU) and competitive aggressiveness CA). Its reliability and validity were assessed alongside other constructs (Sarsdedt *et al.,* 2019) using the disjoint two-stage.

Table 1: Internal Consistency, reliability and Validity

Constructs	Item	Item Loadings	Cronbach's alpha	Composite reliability (CR)	Average variance extracted (AVE)
	IN	0.795			
	PR	0.700			
	RT	0.804			
Entrepreneurial	AU	0.678			
Orientation	CA	0.695	0.788	0.855	0.543
	AF1	0.701			
	AF2	0.850			
	AF3	0.676			
Access to	AF4	0.845			
Finance	AF5	0.836	0.841	0.888	0.617
	P1	0.744			
	P2	0.748			
	P3	0.805			
	P4	0.686			
	P5	0.817			
WMSME	P6	0.685			
Performance	P8	0.783	0.873	0.902	0.569

Source: Authors Computation

HOC using disjoint two-stage approach considers the lower order variables of the HOC in the path model (Sarsdedt *et al.,* 2019). These reflective first-order variables are then directly connected to all other constructs that the higher-order construct is theoretically related to which are AF and MSMEs performance. To run the disjoint two-stage approach, the latent variable scores (LVS), were of entrepreneurial orientation were saved to other lower-order components (AF and P to form part of the data). In stage two of the disjoint two stage process, the LVS were to measure entrepreneurial orientation. Figure 1 presents the graphical output of the measurement model and Table 1 presents the indicator reliability, internal consistency reliability and convergent validity.

Item P7 loaded 0.439 and was deleted from the model. However, Items AU, CA, AF3, P4, and P6 loaded below 0.7 but above 0.5 and were not deleted because their deletion

did not improve their reliability or the AVE. As such, reliability of the constructs has been achieved. Equally, from Table 1, convergent validity was also achieved the individual items converge to measure their respective parent constructs yielding AVE values above the threshold of 0.500 (Ringle, *et al,* 2023)

Table.2: Discriminant validity using HTMT

	AF	EO	P
AF	1.000		
EO	0.283	1.000	
P	0.601	0.733	1.000

Source: Authors Computation

Discriminant validity was achieved using HTMT following the recommendation of Ringle *et al,* (2023) that HTMT values should not exceed 0.850.

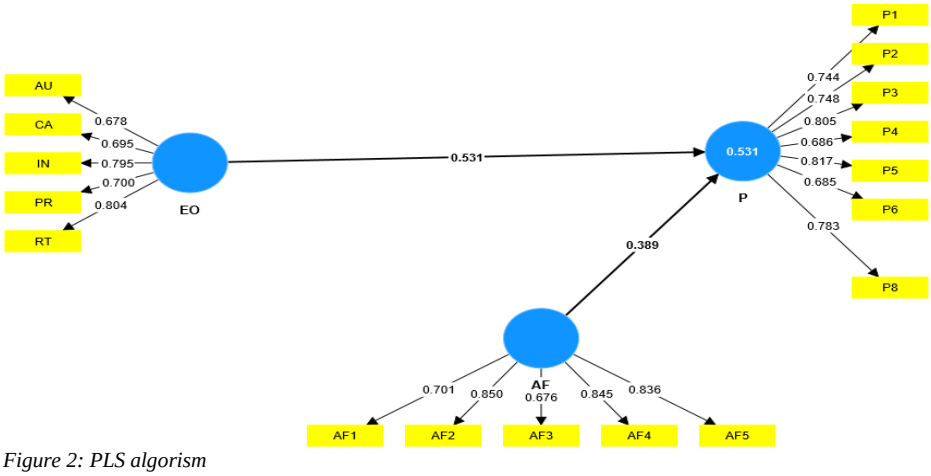

Figure 2: PLS algorism

Structural Model

This section details the assessment of the structural model in which the direct relationship and the mediating relationship through bootstrap analysis. Specifically, the analysis employed a standard bootstrapping procedure with 5000 bootstrap samples encompassing 386 cases to evaluate the significance of path coefficients within the direct and mediating relationships (Henseler *et al.*, 2009; Hair *et al.*, 2014). The assessment focused on several key parameters including coefficients of determination

(R2), significance and magnitude of path coefficients, effect sizes (F2), and predictive relevance (Q2) (Guenther et al., 2023)

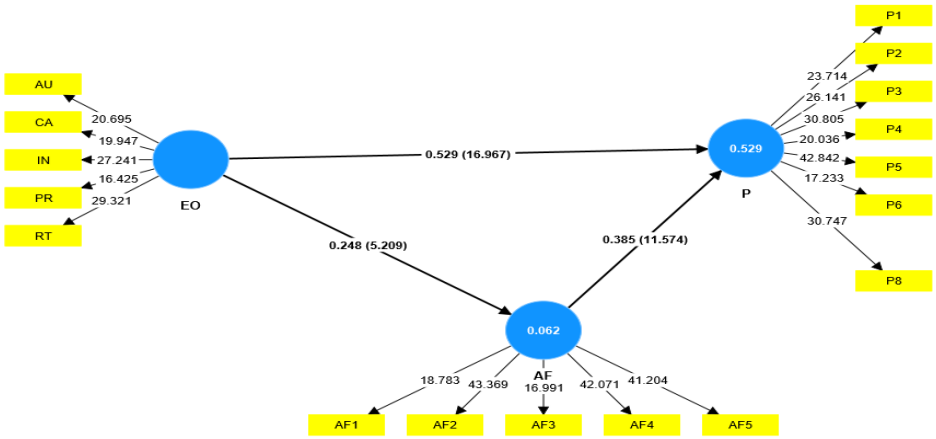

Table 3: *Test of direct hypotheses*

	Path	Standard deviation	T statistics	P values	Decision
EO -> P	0.529	0.031	16.967	0.000*	Rejected

*Note: *Significant level 1%. Source: Authors Computation*

Table 4: *Test of indirect hypotheses*

Total Effect (EO -> P)		Direct Effect (EO -> P)		Indirect Effect (EO -> AF -> P)		Percentile Bootstrapping 97.5%	
Beta	T/P Values	Beta	T/P values	Beta	P values	2.50%	97.50%
0.625	21.423(0.000*)	0.529	16.967(0.000*)	0.095	4.699(0.000*)	0.058	0.138

*Note: *Significant level 1% . Source: Authors Computation*

From Table 3, the direct hypothesis - H_{01}: Entrepreneurial orientation does not significantly affect the performance of women owned MSME in Kaduna State, Nigeria is rejected ($\beta = 0.529$, $t= 16.967$, $p < 0.001$). As such, the relationship between entrepreneurial orientation and WMSMEs performance in Kaduna is positive and significant suggesting that higher levels of entrepreneurial orientation are related with higher levels of performance.

Additionally, mediation analysis was conducted to evaluate the indirect impact of access to finance. in the relationship between entrepreneurial orientation and the WMSME performance in Kaduna State, Nigeria. To achieve this, a test of the significance of the indirect effects, the total effect and the direct effect between the

independent variables and the dependent variables were conducted. The results in Table 4 show a significant indirect effect of entrepreneurial orientation on WMSME performance through access to finance (H1: B=0.095, t= 5.699, p<0.001). The total effect of entrepreneurial orientation on WMSME performance was significant (B= 0.625, t=21.423, p<001). With the inclusion of the mediator, the direct effect of entrepreneurial orientation on WMSME performance was still significant (B=0.529, t=16.967, p<001). This shows a complementary partial mediation.

Following the recommendation of Zhao, Lynch Jr & Chen, (2010), the analysis employed the 2.5% and 97.5% lower and upper confidence interval levels, respectively, to thoroughly assess the statistical significance of the indirect path. Table 4 displays positive values for both the lower and upper confidence interval levels without zeros (0) between them. This suggests the presence of partial mediation based on the confidence interval assessment.

Therefore, null hypotheses two is rejected and the alternative hypotheses which states that access to finance significantly mediates the relationship between entrepreneurial orientation and WMSME performance in Kaduna state is accepted.

These findings were consistent with the findings of Barine (2021); Ademosu and Morakinyo (2021) and Aroyeun, Adefulu and Asikhia (2019) who found entrepreneurial orientation to significantly affect SMEs performance

Table 5: Coefficient of determination (R^2), Effect size (F^2) and Predictive Relevance (Q^2)

	F-squared		Q^2predict	R-squared
AF -> P	0.295	AF	0.054	0.059
EO -> AF	0.066	P	0.383	0.527
EO -> P	0.558			

Source: Authors Computation

To evaluate the structural model, R^2, F^2, and Q^2 were employed (Guenther et al., 2023). The coefficient of determination, R^2, signifies the explained variance in each independent variable (Sarstedt, Ringle & Hair, 2021), representing the combined effects of the independent variables on the dependent variable (Hair *et al*., 2014; Hair *et al*., 2019). The adjusted R^2 value obtained from Table 4 is 0.527, indicating that entrepreneurial orientation and access to finance have a moderate-to-strong ability to predict the performance of women-owned MSMEs in Kaduna State. Specifically, 52.7% of the variability in the performance of women-owned MSMEs in Kaduna state can be attributed to entrepreneurial orientation and access to finance. As recommended by Hair et al. (2019), who propose R^2 values of 0.75, 0.50, or 0.25 to be considered substantial, moderate, or weak respectively, the R^2 value in this study falls within the moderate category.

F^2 is the assessment of the effect of removal of a certain independent variable on dependent variable's R^2 value (Hair, *et al*, 2019). In PLS path model, when an independent variable is excluded from the mode, F^2 measures the variation in R^2 value and ascertain whether the excluded independent variable has a strong effect on the value of the dependent variable. The F^2 results from Table 4, showed that entrepreneurial orientation exhibited the highest f-square value of 0.558, indicating a large effect size on the performance of women owned in accordance with Cohen's suggestion (Cohen, 1988) of 0.02, 0.15, and 0.35 for small, medium, and large degrees of predictive relevance, respectively.

Q^2 assesses the predictive relevance of the dependent variable (Hair *et al*., 2014, Shmueli, Ray & Estrada, 2016). The guideline for assessing predictive relevance of the model says that value should be larger than zero (0) to suggest predictive relevance of the model. Based on Hair *et al.,* (2019)'s recommendation, Q^2 values of 0, 0.25, and 0.50 represent small, medium and large predictive relevance respectively. Table 4, shows that Q^2 predict value for the performance of women owned MSMEs to be 0.383, which shows that the model can explain 38.8% of the variance in the WMSME performance in Kaduna State beyond what would be expected by chance. Following Hair, *et al*. (2019)'s recommendation of 0, 0.25, and 0.50 for small, medium and large predictive relevance respectively; the Q^2predict value indicates that the model has a medium predictive relevance.

5. Conclusion and Recommendations

To assess the mediating effect of access to finance in the relationship between entrepreneurial orientation and WMSME performance in Kaduna state, Nigeria in the study, two hypotheses were proposed and tested using Smart PLS 4. The null hypotheses were all rejected showing that entrepreneurial orientation significantly affects performance of MSMEs in Kaduna state and that access to finance significantly mediates the relationship between entrepreneurial orientation and performance of women owned MSMEs in Kaduna State, Nigeria. This implies that women entrepreneurs who have access to the necessary financial funds are able to translate their entrepreneurial drive and innovative strategies to business outcomes. Therefore, this study concludes that access to finance significantly mediates the relationship between entrepreneurial orientation and performance of women owned MSMEs in Kaduna State, Nigeria.

Based on the findings, the study recommends enhancing access to finance through improved financial inclusion and the implementation of targeted financial support programs specifically tailored to address the needs of women-owned MSMEs. This study has the following limitations. The data was collected at a single point in time

which may not have captured changes or trends over time. Further studies could use longitudinal data and technological adoption or digital platforms to moderates the relationship.

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