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Entrepreneurial orientation and start-ups performance: The role of entrepreneurial self-efficacy

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Abstract

Purpose: This study examines how entrepreneurial orientation and entrepreneurial self-efficacy interact to identify and create entrepreneurial opportunities for start-ups a successful business in North Central Nigeria.

Research Methodology: Primary data were collected using questionnaires from a sample size of 354 SMEs owners and analyzed using PLS-SEM version 4.1.0.4.

Results: The results indicated significant positive relationships between EO and SP, EO and ESU, ESU and SP, EO and EOP, and EOP and SP. Mediation analysis revealed partial mediation of EOP and ESU on the relationship between EO and SP. The moderation analysis revealed that with an increase in ESE, the relationship between EO and SP is strengthened; ESE does not moderate the relationship between EO and ESU; higher ESE weakens the positive impact of ESU on SP, while a higher value of ESE results in a stronger relationship between EOP and SP, as depicted in graph 1-4.

Conclusions: Entrepreneurial Startups and opportunities mediate the influence of entrepreneurial orientation on SMEs' performance, as performance does not just occur in a vacuum.

Limitations: The study is limited to entrepreneurial orientation, self-efficacy, opportunities, and startups in North Central Nigeria.

Contribution: This study provides valuable insights to policymakers in entrepreneurship to create a holistic orientation policy that will ensure that people see the need and opportunities to engage in farming in order to ensure profits for the individual and food availability for the majority population.

Originality: This is the first study in Nigeria (Africa) to test how entrepreneurial orientation and self-efficacy interact to identify and create opportunities to start a successful business.

Keywords: *Entrepreneurial Orientation, entrepreneurial Self-Efficacy, entrepreneurial opportunities, entrepreneurial startups, Performance*

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1. Introduction

Tremendous research efforts worldwide have been devoted to understanding the nature, antecedents, and consequences of self-efficacy and entrepreneurial orientations. In particular, the EO construct of entrepreneurial orientation has been demonstrated to be an important predictor of business performance (Halberstadt et al., 2021; Lee et al., 2019; Makhloufi et al., 2024; Megha & Priyadharshini, 2021). The variables that were most studied and shown to have a positive influence on entrepreneurial orientation were personality traits and characteristics of owners/managers of small and medium enterprises

(SMEs). Self-efficacy has recently received attention from Western and Eastern researchers (Caliendo et al. 2023; Wibowo and Khan 2024; Yang 2020).

In Nigeria, although SMEs are given priority by the Nigerian Government because of their importance in job creation and sustaining national growth and development (Katunku, Sallah, Auta, & Ishaya, 2024; Kusa & Nson, 2023) across the globe, research on how to encourage more start-up SMEs is still in its infancy, as most research covers only SMEs' problems and challenges (Abdullahi, Jakada, & Kabir, 2016; Asogwa, Onyekwelu, & Azubike, 2023; Gumel, 2019). What and how to make individuals/entrepreneurs start new ventures and enhance startup SMEs' growth/performance have not been widely researched.

Identifying and analyzing the interactive impact of entrepreneurial self-efficacy (ESE) on entrepreneurial orientation (EO), entrepreneurial opportunity (EOP), and entrepreneurial start-ups (ESU) will therefore help create more startup businesses and enhance the performance of startup SMEs that will ultimately contribute to the economic growth and development of the economy. Hence, the need for a "Belief-Orientation-Opportunity-Action-Result" model was created in this study. In this model, an efficacious person can either recognize or create more opportunities and ideas through orientation, such that when properly acted upon, it will produce results. Therefore, if a person 'believes' in himself that he can perform certain business and is well 'oriented, ' then there is a high chance such a person can "recognize or create entrepreneurial business opportunities" such that' if that opportunity is correctly 'acted' upon it will yield desire' results.'

Therefore, this interactive paradigm (Belief-Orientation-Opportunity-Action-Result) will lead to threefold benefits, create more successful startups, benefit society by solving societal needs, and generate returns for business owners. Although entrepreneurial orientation is found in the literature to positively affect performance (Ataei, Karimi, & Zarei, 2024; Halberstadt et al., 2021; Lee et al., 2019; Makhloufi et al., 2024), what drives SME owners to be entrepreneurial is not fully understood, as few studies have been conducted to explain this relationship. Caliendo, Kritikos, and Rodriguez, et al., (2023) agree that self-efficacy is important to explain entrepreneurial success and performance.

However, most previous studies on entrepreneurial orientation have been conducted in Western countries, and few studies have been conducted elsewhere. A systematic analysis of the interactive model (Belief-Orientation-Opportunity-Action-Result) is therefore important in enhancing SMEs' performance and is needed to assess the generalizability of research findings. Nigeria has undergone various economic policies and programs during past decades and present administration to enhance SME performance with varied success (Etim, Akpan, Augustine, & Michael, 2022). The "Belief-Orientation-opportunity-Action-result" model as proposed in this study therefore provides a springboard for future researchers to study entrepreneurs' self-efficacy, entrepreneurial orientation and entrepreneurial opportunity to start a successful business.

2. Literature Review

2.1 Entrepreneurial Self Efficacy

According to Baba (2014), the concept of self-efficacy relates to the self-perception of how an individual perceives his capacity or capability and has some influence on his intention. This is a task specific concept.

Aurellia and Nuringsih (2023) described self-efficacy as a basic characteristic, belief, and confidence in one's ability to complete a job. Self-efficacy is the belief and confidence that entrepreneurship is easy or can be done. Self-efficacy also determines how much effort you can make in the face of obstacles in running your business (Aurellia & Nuringsih, 2023)

Wang et al. (2013) explain self-efficacy as a cognitive process that guides entrepreneurs' perceptions of the environment and their resource and information-gathering processes. They went further to explain that self-efficacy also refers to self-confidence, or a "can do" attitude.

2.2 Entrepreneurial Orientation

The concept of EO was first popularized by Miller (2011), and Covin and Slevin (1989) consisting of three dimensions (innovativeness, proactiveness, and risk-taking). EO is the strategic posture in which a firm exhibits innovative, proactive and risk-taking behaviors (Corrêa, Queiroz, Cruz, & Shigaki, 2022). EO is measured by the entrepreneur's behaviors (innovativeness, and proactiveness) and managerial attitude (risk propensity) (Wales, Covin, & Monsen, 2020). Some scholars operationalized EO to consist of five variables: willingness to take risks, proactiveness, innovativeness, autonomy, and competitive aggressiveness (Bolton & Lane, 2012). Research has shown that these five variables can be used collectively or separately, without affecting one another. From the perspective of Wales et al. (2020), this study defines entrepreneurial orientation (EO) as the extent to which a firm or individual demonstrates a high propensity to innovatively initiate new ideas, proactively mobilize necessary available resources, and take all necessary risks therefrom to achieve a predetermined objective.

The dimensions of EO according to Astuti, Balqiah, and Yuliati (2024) have proven to be an influencing factor in enhancing SMEs' performance during the financial crisis in Greece and the global financial meltdown. Therefore, when considering entrepreneurial orientation, the personal characteristics of an entrepreneur that can lead to SME performance, innovativeness, proactiveness, and risk-taking are necessary to intervene and mediate entrepreneurial start-ups to achieve SME performance in a competitively complex environment.

2.3 Entrepreneurial Opportunity

Many definitions of the term opportunity have been proposed, most of which, according to Baron (2006), emphasize three key characteristics: potential economic value (it can generate profit), newness (i.e., some product, service, or technology that did not exist previously), and perceived desirability (e.g., moral and legal acceptability of the new business, product, or service in society). Baron (2006) defined opportunity as a perceived means of generating economic value (i.e., profit) that has not been exploited and is not currently being exploited. Sobakinova, Zhou, and Aureaar (2019) defined opportunity as a series of ideas, concepts, and actions that can create future products and services. Opportunities are unmet demands that currently exist in a particular market, although the potential for economic profit is not made explicit.

There are three schools of thought regarding entrepreneurial opportunities (Corrêa et al., 2022; Filser et al., 2023; Ruiz-Palomino & Martínez-Cañas, 2021).

2.3.1 The opportunity recognition school (Realism)

This school of thought believes that various opportunities objectively exist in the market irrespective of the entrepreneur, and that such opportunities are characterized by the potential for generating new economic value as a result of market imperfections. The realism school of thought believes that "opportunities exist in reality, " and that anybody can find these opportunities and exploit them. According to Filser et al. (2023), this school of thought is rooted in the work of Kirzner (1973). This school holds that entrepreneurs must be "alert" to be able to recognize opportunities. Ruiz-Palomino and Martínez-Cañas (2021) in his work used the word unintentional to describe opportunity recognition.

From the perspective of realism, Filser et al. (2023) defined EO as the profitable market potential that an entrepreneur offers. Baron (2006) defines opportunity recognition as the cognitive process (or processes) through which individuals conclude that they have identified an opportunity. Kronholm and Vidhall asserted that good ideas are the result of having non-redundant, heterogeneous contacts that enable a person to generate ideas by combining diverse information. Wang et al. (2013) defined opportunity recognition as perceiving a possibility for new profit potential through (a) the founding and formation of a new venture or (b) the significant improvement of an existing venture. From this definition, opportunity recognition can be conceived as an activity that can occur both before and after the firm's founding throughout its life.

2.3.2 The opportunity creation school (constructionism)

These schools of thought believe that opportunities are subjectively created. environments are characterized by ambiguous and equivocal information. This perspective opined that opportunities are not objective but rather created when a person interprets his environments and gives them meaning that differs from other people's interpretations. Therefore, they see opportunities as "subjective constructions " enacted by the entrepreneur (Filser et al., 2023). The opportunity creation school of thought according to Filser et al. (2023) and Ferreira et al. (2017) has its roots in Schumpeter's work in 1934. who defined opportunities based on a subjective construction. Here, under the creation, the school of thought is a radical entrepreneur or innovator that brings disequilibrium or disruption to the market or business environment. Ruiz-Palomino and Martínez-Cañas (2021) used the word intentional to describe opportunity creation.

2.3.3 The Evolutionary realism school

Here, the evolutionary realism school combines the strengths of both realist and constructionist perspectives to make sense of opportunities. The realist and constructionist schools of thought have their advantages; they do not have to be seen as opposing. Filser et al. (2023) address two different market situations using two different types of entrepreneurs. Therefore, from an evolutionary realism perspective, we define entrepreneurial opportunity "as the potential of a profitable market or business recognized or created by an entrepreneur or a business." This potential market or business can be recognized or created by an individual or business organization.

2.4 Entrepreneurial Start Up

Ruiz-Palomino and Martínez-Cañas (2021) described start-up as a process that involves different phases and activities, ranging from thinking about the business project (e.g., contact with advisory sources), to project preparation (e.g., activities such as planning, organizing, allocation of scarce resource), and the ultimate decision to launch the business. Successful startups generate new employment, present new investment prospects, and enhance the nation's economy (Greco, 2023).

2.5 SMEs Performance

Performance here is an indication that a business or SME is achieving its objectives. Business performance is indicated by growing sales, profits, and the ability of a business to surpass its competitors by accomplishing goals related to products and services (Fatima & Bilal, 2020).

Therefore, we define SME performance as comprising four key characteristics: efficiency, effectiveness, economy, and achievement of the set objective of an organization. We define SME performance as the ability to do the right thing well using the best resources economically to achieve set objectives in an environment.

2.6 Theoretical background and hypothesis formulations

2.6.1 EO and SP

Entrepreneurial orientations have been found in the literature to positively affect performance. Megha and Priyadharshini (2021) reveal that creativity and pro-activeness (two of the dimensions of EO) play crucial roles in SME performance. This study recommends that SME's foster an innovative and proactive culture to enhance their business performance, thus emphasizing the importance of entrepreneurial orientation in overall success. The construct of entrepreneurial orientation has been demonstrated to be an important predictor of business performance (Alam, Mohd, Kamaruddin, & Nor, 2015). Frare, Cruz, Lavarda, and Akroyd (2022) indicate that EO has a positive influence on firm performance through the firms' management control system (MCS) package. Korpysa (2019) relates innovativeness to start-up performance. In a more recent study, Makhloufi et al. (2024) revealed that entrepreneurial orientation positively influences entrepreneurial performance.

Specifically, a review of the relevant literature revealed that EO positively impacts outcomes such as recognizing entrepreneurial opportunities (Ataei et al., 2024), exploiting opportunities (Halberstadt et al., 2021), promoting startup decisions (Kropp, Lindsay, & Shoham, 2008), promoting start-up activities (Wei, Lee, Jia, & Roh, 2023), startup performance (Lee et al., 2019), business performance and success

(Halberstadt et al., 2021), and affects students' performance (Ataei et al., 2024). Thus, we hypothesize the following:
H1: There is a significant positive relationship between EO and SME's performance (SP)

2.6.2 EO and ESU
Entrepreneurship orientation (EO) counts as an important factor influencing the performance of start-ups and established firms (Halberstadt et al., 2021). Kropp et al. (2008) indicates that start-up decision is positively related to the proactiveness and risk-taking components of entrepreneurial orientation. Lee et al. (2019) submitted that the entrepreneurial orientation of startups was found to have a positive effect on startup growth and performance.

Wei et al. (2023) posited that in a business ecosystem where entrepreneurial resources persist, individuals are more likely to participate in startup activation, and that entrepreneurial orientation can encourage business startup activities in developed countries that are rich in entrepreneurial resources and in developing countries that have scarce entrepreneurial resources. The study emphasized the need for efforts to increase entrepreneurial orientation and resources to create an entrepreneurial ecosystem in which startups actively appear.

Ataei et al. (2024) found that students and universities who are innovative, proactive, and risk-taking affect their performance in achieving their entrepreneurial aims to launch innovative businesses. We therefore hypothesized thus:
H2: There is a significant positive relationship between EO and ESU

2.6.3 ESU and SP
Caliendo, Kritikos, and Stier (2023) show that individuals driven by opportunity motives perform better in terms of innovation and business expansion activities. Start-ups according to the knowledge broker position redefine the ecosystem architecture (Magliocca, Herold, Canestrino, Temperini, & Albino, 2023). Ghezzi, Gastaldi, Lettieri, Martini, and Corso (2016) related start-ups to innovative disruption and value generation. In a study on the economies of Canada, China, and South Korea, Ressin (2022) submitted that more (increase in the number of) startups is positively related to the sustainable development of the social, economic, and institutional spheres, and therefore the drivers of economic growth in these three economies. Thus:
H3: there is a significant positive relationship between ESU and SP

2.6.4 EO and EOP
Entrepreneurship orientation is widely regarded as a core competence of entrepreneurial firms, as it is the basis for identifying and exploiting opportunities that create value. (2021). Entrepreneurs with an entrepreneurial orientation will be able to identify new opportunities (Ataei et al., 2024), create tangible and intangible resources for innovation, and exploit opportunities to launch innovative products (Bismala, Manurung, Andriany, & Siregar, 2022; Halberstadt et al., 2021) or services that will meet the needs and expectations of customers.

Ataei et al. (2024) reveal a positive and significant effect of entrepreneurial orientation on the recognition of entrepreneurial opportunities. They found that an innovative culture had a positive effect on the recognition of entrepreneurial opportunities to launch innovative businesses. The study argued that if the thoughts, intentions, and interests of students and universities are oriented toward entrepreneurship, agricultural students will be oriented toward recognizing entrepreneurial opportunities. Thus:
H4: There is a significant positive relationship between EO and EOP

2.6.5 EOP and SP
Entrepreneurial opportunity has been studied from the perspectives of both opportunity recognition (unintentional) and opportunity creation (intentional) (Ruiz-Palomino & Martínez-Cañas, 2021). Corrêa et al. (2022) submitted that Opportunity can be discovered, or created.

Scholars have related opportunity creation to the entrepreneurial start-up process (Ruiz-Palomino & Martínez-Cañas, 2021). From the perspective of opportunity recognition, Filser et al. (2023) see an opportunity as something that has not yet been realized, that is, a potential.

Scholars have highlighted the connection between entrepreneurial opportunity and some outcomes of entrepreneurial opportunity recognition and creation, such as venture creation and startup entrepreneurship (Olugbola, 2017), innovative performance (Wang et al., 2013), entrepreneurial success (Shamsudeen, Keat, & Hassan, 2017), sustainable entrepreneurial ventures (Bapoo, Tehseen, Haider, Yusof, & Motaghi, 2022), entrepreneurial process, start-up (Ruiz-Palomino & Martínez-Cañas, 2021), identification of new markets, product creation, modifications, and development. Entrepreneurial opportunity therefore contributed significantly to enterprises' performance, and Korpysa (2019) related opportunities to start up performance.
Thus:
H5: There is a significant positive relationship between EOP and SP

2.6.6 The mediating role of Entrepreneurial Opportunity and ESU
Although entrepreneurial orientation has an impact on SMEs' performance, to some extent, this impact can be indirect via entrepreneurial opportunities or start-ups. Olugbola (2017) highlighted the positive effects of opportunity identification, motivation, and resources on startup entrepreneurship. Entrepreneurial opportunity recognition and creation are important variables for effective venture creation (Shamsudeen et al., 2017), gaining competitive advantage, and enhancing SME performance. In a study, (Makhloufi et al. (2024) assert that opportunity recognition (OR) augments (strengthens) the positive relationship between entrepreneurial orientation (EO) and entrepreneurial performance (EP). Entrepreneurial orientation helps recognize and create opportunities, thus enhancing SME performance. This opportunity, when properly acted upon, can translate into an SME's performance. Thus:
H6: EOP positively mediates the relationship between EO and SP.

Entrepreneurial orientation without the action to start a business will not just translate to business performance. For performance, there must be a venture. Success or performance does not just occur in a vacuum; it occurs in an environment, and the environment in this context is the business created for a person to utilize the orientations obtained over time. Hence, we predict an indirect relationship between entrepreneurial orientation and SME performance via ESU. When there is a business, an individual applies all entrepreneurial orientations to transform the business into a successful venture. EO supports start-up formation to create an organizational culture and policies that positively impact business performance (Halberstadt et al., 2021; Lee et al., 2019). EO reflects an individual desire and motivation to start a business (Kropp et al., 2008; Wei et al., 2023), expand into new markets, and develop innovative products and services (Bismala et al., 2022) that meet the needs and expectations of customers. EO has a significant influence on a person's motivation to start a business, and hence, the person translates EO into SME performance. Thus, we hypothesize the following:
H7: ESU positively mediates the relationship between EO and SP

2.6.7 The moderating role of ESE
Entrepreneurial self-efficiency is important in entrepreneurial orientation, opportunity, start-up, and performance (Aurellia & Nuringsih, 2023; Wang et al., 2013; Yang, 2020; Yunusa et al., 2022). Several studies have found that ESE has an impact on entrepreneurial orientation (Yang, 2020), helps people recognize and create opportunities (Wang et al., 2013), and serves as a key driver for the launch of new SMEs (Abiodun, 2020). Entrepreneurial self efficacy (ESE) affects the Optimism of MSME actors (Pranitasari, Anhar, Warcito, Said, Harini & Endri, 2024). Therefore, an entrepreneurial mind-set is essential for the growth and prosperity of any business. Yunusa et al. (2022) asserted that entrepreneurs should exhibit a high level of self-efficacy to be entrepreneurially oriented. That will help develop innovative strategies for sustainability of SMEs (Diawati, Muhamad, Permana, & Suparwata, 2024) and the society.

Therefore, ESE is essential because it helps individuals believe they can create a business and be able to manage it successfully, just like Mr. So, and so is doing it. Research in emerging and developed

countries has found that under this condition, ESE can lead to venture creation and eventual business performance (Caliendo, Kritikos, Rodriguez, et al., 2023; Drnovšek, Wincent, & Cardon, 2010; McGee & Peterson, 2019), ESE influences performance (Muliyanto, Indrayani, Satriawan, Ngaliman, & Catrayasa, 2023), Sulaimiah, Nuruly, Suprayetno, Wardani & Endri (2024) submitted that ESE has a significant positive effect on job satisfaction and performance of medical personnel. The literature has emphasized the role of ESE in EO (Yang, 2020; Yunusa et al., 2022), entrepreneurial intention (Wibowo & Khan, 2024), venture creation, opportunity recognition, and creation (Sobakinova et al., 2019). Importantly, high ESE can be a key determinant of successful entrepreneurial activities, SMEs' performance, promotion of venture creation (Caliendo, Kritikos, Rodriguez, et al., 2023) and advance to different stages of venture creation and development. Research frequently endorses Entrepreneurial Self-efficacy (ESE) as a key driver for the launch of a new SME. Yang (2020) submitted that a person with positive self-efficacy believes' pursues higher goal and strives to attain the goal. Thus, ESE augments the relationship between entrepreneurial orientation and SME performance via entrepreneurial opportunity and start-ups. Thus, we hypothesize the following:

H8: ESE moderates the relationship between EO and SP. This positive relationship is much stronger for individuals with high ESE and weaker for individuals with low ESE

H9: ESE moderates the relationship between EO and ESU such that this relationship is stronger for individuals with high ESE and weaker for individuals with low ESE

H10: ESE moderates the relationship between ESU and EP such that Start-ups individuals with high ESE perform better than individuals with low ESE

H11: ESE moderates the relationship between EOP and SP such that this relationship is stronger for individuals with high ESE and weaker for individuals with low ESE

Assuming that ESE moderates the relationship between EO and SME performance, it is also plausible that an entrepreneur's characteristics conditionally affect the strength of the indirect relationship between EO and SME performance. In other words, the effect of Entrepreneurial Opportunity gained from EO on SMEs' performance (mediation effect) may be moderated by ESE, demonstrating a moderated mediation effect. Additionally, the effect of ESU as a result of EO on SMEs' performance (mediation effect) may be moderated by ESE, thereby demonstrating a moderated mediation effect. As we assume a strong association between EO and SMEs' performance, EOP and SME performance, and ESU and SME performance when ESE is high, we expect that ESE positively moderates the mediation effect. That is, the mediation effect is stronger when ESE is high, as claimed in the following hypothesis:

H12: The mediated relationship between EO and SME performance via EOP is stronger for individuals with high ESE than for those with low/without ESE

H13: ESE moderates the indirect effect of EO on SME performance (via ESU). Specifically, ESU positively mediates the indirect effect when ESE is high

2.7 Conceptual Framework

Figure 1 presents the research model of this study, based on the above theoretical arguments and hypotheses.

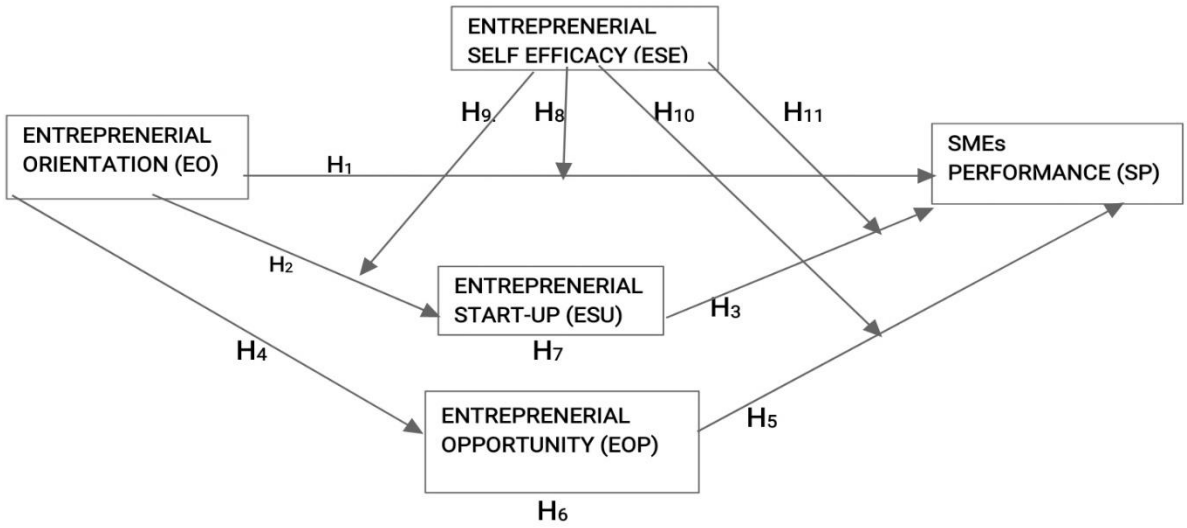


Figure 1. Conceptual Framework
Source: Author's Model (2024)

3. Methodology

3.1 Research Design

The positivist philosophical paradigm, based on the assumption that a single tangible reality exists that can be understood, identified, and measured (Park et al., 2020), was adopted for this study. It is suitable for gathering quantitative data using a cross-sectional approach, making statistical assumptions, and the interrelationships between variables.

3.2 Population, Sample Size and Sampling Procedure

The study population consisted of 3,074 SMEs owners in the informal agricultural sector (crop farming, livestock farming, and food processing) in the North Central States of Nigeria. Plateau (542), Benue (530), Kogi (470), Kwara (120), Nasarawa (610), Niger (572), and FCT (230). Using Yamane's (1967) sample size formula, a sample of 354 SMEs owners was established. In selecting the participants for the study, the North Central States of Nigeria formed the strata, and simple random sampling was employed.

Out of the targeted sample size of 354 issued with the questionnaire, 321 (91%) cooperated and responded to the face-to-face administered questionnaire. The high response rate (91%) was attributed to the fact that a personal approach was employed to collect the data. This approach was chosen to enable face-to-face interaction between the researcher and respondents and to improve the quality and response rate. The results from the field show that males were more predominant in crop farming (201) than females (52), with the majority belonging to the 30 – 40 age range

3.3 Area of the study

The North Central (Middle Belt Nigeria) is one of the six geopolitical zones of Nigeria and comprises six states; Plateau, Benue, Kogi, Kwara, Nasarawa, and Niger, as well as Federal Capital Territory (FCT). The largest City Abuja (Centre for Unity) and other major cities, such as Jos, Ilorin, Makurdi, Minna, Lafia, Okene, Suleja, Bida, Gboko, and Otukpo. Some languages, such as Berom, Mushere, Bassa, Yoruba, Adara, and Tarok, are spoken.

The major economic activities in the zone are agriculture, livestock rearing, and commerce. Jos is mainly used for tin mining, and some specific crops and fruits in other parts of the plateau, such as tomatoes, vegetables, onions, sweet potatoes, Arish potatoes in Bokkos, sugarcane, Achae in Mushere, and Mangu. Other crops cultivated in parts of the zone include rice, Beans, Yam, Maize, and millet.

3.4 Area of the study

The variables were all measured by adapting items developed by previous scholars drawn from the extant literature, where some modifications were made to suit the study context.

Entrepreneurial Self-Efficacy (ESE) is measured using the scale of an item adapted from Srimulyani and Hermanto (2021). For example, the respondents were asked to rate their level of confidence in successfully identifying new business opportunities, creating a business, creating new products, thinking creatively, and commercializing ideas. This scale consisted of ten items, of which two could not satisfy the factor loading and, hence, were removed and omitted. The calculated reliability and convergent validity values were CA = 0.960, CR = 0.968, and AVE = 0.833, which are all acceptable.

Entrepreneurial orientation (EO): Here, Bolton and Lane (2012), Al Mamun and Fazal (2018) and Covin . Theescale was0) Scale were adapted. The reliability and convergent validity values calculated were CA = 0.970, CR = 0.974 and AVE = 0.790 which are all acceptable

Entrepreneurial Opportunity (EOP) was measured by adapting scale developed by Kuckertz, Kollmann, Krell, and Stöckmann (2017), and Ben (2013) scale adapted from the work of Sobakinova et al. (2019). The reliability and convergent validity values calculated were CA = 0.938, CR = 0.952 and AVE = 0.800 which are all acceptable

Entrepreneurial Start (ESU) was measured by adapting the scale of items from Kee and Rahman (2020). The reliability and convergent validity values calculated were CA = 0.941, CR = 0.953 and AVE = 0.771 which are all acceptable

SME performance was measured by adapting Garg, Joubert, and Pellissier's (2004) items scale. The scale consisted of four items. The reliability and convergent validity of the remaining items were satisfactory (CA = 0.932, CR = 0.953, AVE = 0.832).

A 5-point Likert scale was used for all scales ranging from 1 (strongly disagree) to 5 (strongly agree). The tools were validated through confirmatory factor analysis, of which all the factor loadings were above 0.50, indicating that the measures are robust to use in this particular environment.

3.5 Data analysis

The data were analyzed by partial least squares structural equation Modelling (PLS-SEM) using SmartPLS version 4.1.0.4. The PLS-SEM software was used because of its predictive relevance (Hair, Hult, Ringle, & Sarstedt, 2014). Exploratory factor analysis was performed to determine the factor structure of the measurements. The Cronbach's alpha was used to determine the reliability of the scale and its items. 0.7 was used as a threshold for the factor loading, that is' a factor loading of less than 0.7 was not accepted

4. Result and discussions

Table 1. Distribution of Biographical Data of the Respondents

Demographic variable		Frequency	%
Gender	Male	237	66.9
	Female	117	33.1
Age	Below 30 years	71	20.0
	Between 30-50 years	187	52.8
	51 years and above	96	27.1
State's	FCT	26	7.3
	Benue	61	17.2
	Kogi	54	15.3
	Kwara	13	3.7
	Niger	66	18.6
	Nasarawa	70	19.7
	Plateau	64	18.1
Age of SMEs (Years)	0-3	97	27.4
	4-6	62	17.5

	7-10	195	55.1
Type ofAgribusinesses	Crops farming	167	47.1
	Food processing	78	22.0
	Livestock farming	109	30.8

Source: Field Survey (2024)

4.1 Path Coefficient Effect

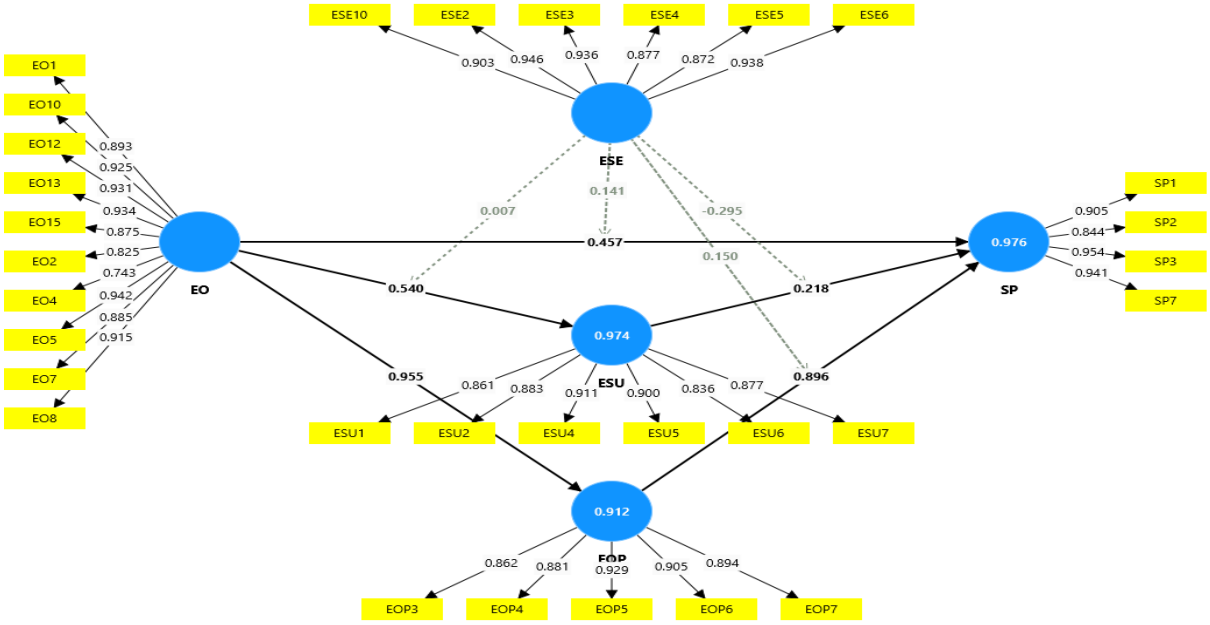


Figure 2. Path coefficient

4.2 Structural Analysis Results

Table 2. Path analysis results (direct effects)

Hypotheses	Relationships	Standardized Path	T. Values	P. Values	Accepted/Rejected
H1	EO-> SP	0.457	5.322	0.000	Accept Alternate Hypo.
H2	EO-> ESU	0.540	13.267	0.000	Accept Alternate Hypo.
H3	ESU-> SP	0.218	2.236	0.025	Accept Alternate Hypo.
H4	EO-> EOP	0.955	117.885	0.000	Accept Alternate Hypo.
H5	EOP->SP	0.896	9.072	0.000	Accept alternate hypo.

The results of the path analysis, in line with the hypothesized direct relationships, were evaluated, as presented in Figure 2 and Table 2. H1 examines the direct relationship between entrepreneurial orientation (EO) and SME performance (SP), revealing a significant positive relationship between EO and SP ($\beta = 0.457$, $t = 5.322$, $P = 0.000$), consistent with previous research (Ataei et al., 2024; Makhloufi et al., 2024; Megha & Priyadharshini, 2021). Hypothesis (H2), consistent with Wei et al. (2023), indicates that EO has a significant positive influence on entrepreneurial start Ups (ESU), with $\beta = 0.540$, $t = 13.267$, and $P = 0.000$. The results for H3 demonstrated a statistically positive and significant relationship between ESU and SME performance (SP) ($\beta = 0.218$, $t = 2.236$, $P = 0.025$), in line with Ghezzi et al. (2016), who related start-ups to innovative disruption and value generation. H4 assessed the relationship between EO and entrepreneurial opportunity (EOP), and the results revealed that EO has a significant positive influence on entrepreneurial opportunity recognition and creation ($\beta = 0.955$, $t = 117.885$, $P = 0.000$), which is in line with previous research indicating that EO creates awareness to recognize opportunities (Halberstadt et al., 2021; Lee et al., 2019) and performance (Wei et al., 2023). H5 revealed a significant positive relationship between entrepreneurial opportunity and SME performance (SP) ($\beta = 0.896$, $t = 9.072$, $P = 0.000$). Thus, the findings for H1, H2, H3, H4, and H5 are consistent with those of previous studies.

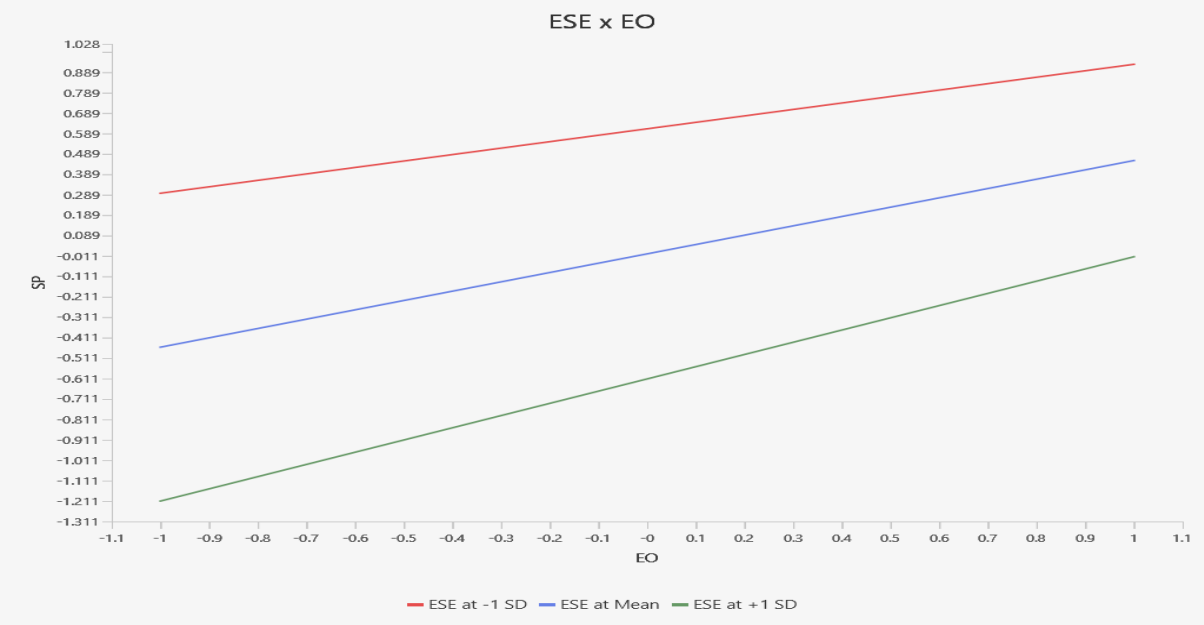
As shown in Table 2, all the P Values were below 0.05; hence, all the alternate directional hypotheses stated in the work were accepted. Further, PLS-SEM analysis was also conducted to determine the mediating roles of entrepreneurial Start-Ups, and Entrepreneurial Opportunities in the relationship between entrepreneurial Orientation and SMEs Performance (SP), and the results are presented in Table 3 below

4.3 Mediation Analysis

Table 3. Mediation results (Specific indirect effects)

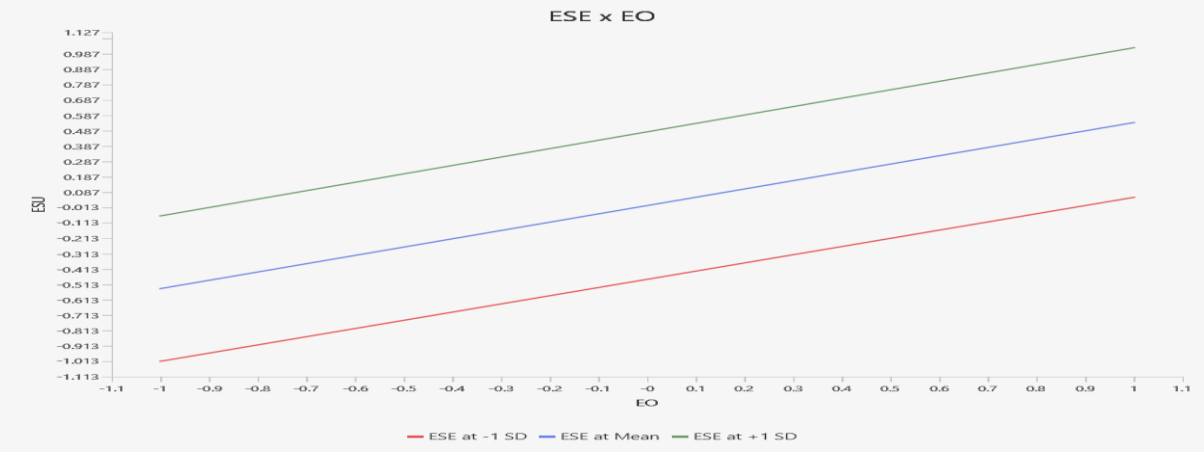
Hypotheses	Relationships	T. Values	P. Values	Accepted/Rejected
H6	EO->EOP->SP	9.035	0.000	Accept Alternate Hypo.
H7	EO->ESU->SP	2.170	0.030	Accept Alternate Hypo.

Regarding H8, this study assessed the moderating role of ESE on the relationship between EO and SP. Without the inclusion of the moderating effect (EO × ESE), the R-squared value for self-efficacy was 0.782. This shows that 78.2% of the changes in SMEs' performance are accounted for by entrepreneurial orientation. With inclusion of the interaction term, the R value increased to 0.976. This shows an increase of 19.4% in variance explained by the dependent variable (SP). The significance of the moderating effect was analyzed, and the results revealed a significant positive moderating impact of ESE on the relationship between EO and SP ($\beta = 0.141$, $t = 2.323$, $p = 0.021$; Figure 2, Table 4), supporting H8. This shows that with an increase in ESE, the relationship between EO and SP is strengthened. Further, a slope analysis is presented to better understand the nature of the moderating effect (Figure 1). As shown in Graph 1, the line is slightly steeper for entrepreneurs with high self-efficacy, which shows that at high self-efficacy, the impact of entrepreneurial orientation on SMEs' performance is much stronger than at low self-efficacy. However, at a low level of self-efficacy, the line tends to straighten, which means that, at a high self, the increase in entreprenerial orientation leads to similar changes in SMEs performance. In conclusion, high ESE strengthens the impact of EO on SP. F square effect size was 0.154, according to Cohen proportion (Correll, Mellinger, McClelland, & Judd, 2020). 0.02, 0.15, and 0.35, constituted the small, medium, and large effect sizes of moderation, respectively. This shows that the augmenting effect of ESE is medium but contributes significantly to explaining the endogenous construct (SP).



Graph 1:

Second, the moderation results for H9 revealed that entrepreneurial self-efficacy does not moderate the relationship between Entrepreneurial Orientation and start-ups (β = 0.007, t = 0.502, p = 0.616; Figure 2, Table 4, Graph 2). Therefore, H9 is not supported because ESE does not moderate the relationship between EO and ESU. This is because most respondents believe they have self-efficacy to do a business, but lack the entrepreneurial orientation to start a business.



Graph 2:

Third, the significance of the moderating effect of ESE on the relationship between ESU and SP was analyzed, and the results revealed a negative but significant moderating impact of ESE on the relationship between ESU and SP (β = -0.295, t = 3.597, p = 0.000; Figure 2, Table 4), supporting H10. This shows that with an increase in ESE, the relationship between ESU and SP is weakened. As shown in Graph 3, the line is much steeper for low ESE, which means that at a low ESE level, the impact of ESU on SP is much stronger in comparison to high ESE. However, at a high level of ESE, the line tends to straighten (dampens the positive effects of ESU on SP), which shows that at a high ESE, the increase in ESU does not lead to similar changes in ESU. In conclusion, higher ESE weakens the positive impact of ESU on SP.

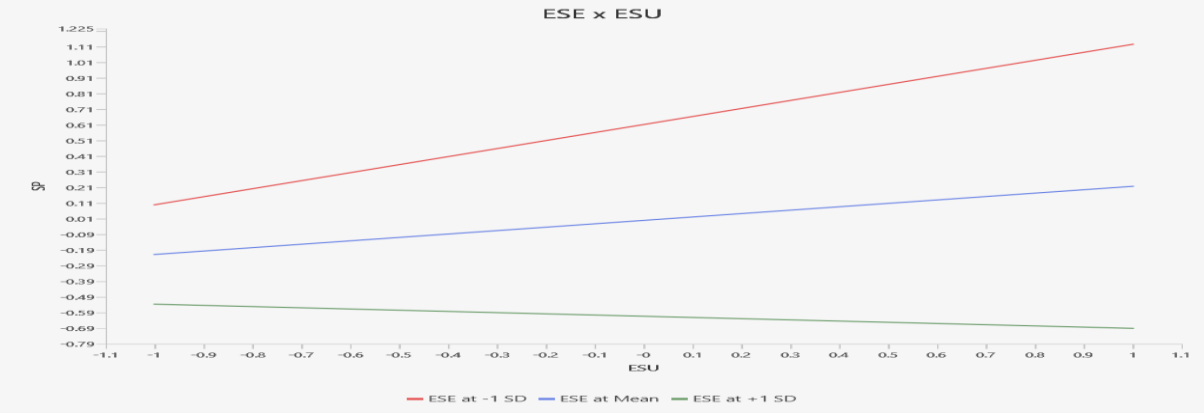


Figure 3:

Finally, based on Hypothesis H11, it was anticipated that ESE would moderate the relationship between EOP and SP. Additionally, supporting the hypothesis of moderation, the strength of indirect value (mediation) is likely to rely on the value of moderation (ESE), which is known as the conditional indirect effect (moderated mediation). Based on Table 4, hypothesis H11 is supported, as the coefficients of the interaction between EOP and ESE have a significant positive effect on SME performance ($\beta = 0.150$, $t = 2.519$, $p < 0.013$; Figure 2, Table 4, Graph 4). Moreover, it was discovered that a higher ESE value results in a stronger relationship between EOP and SP. The moderating impact of ESE on the relationship between EOP and SP is illustrated in Figure 4.

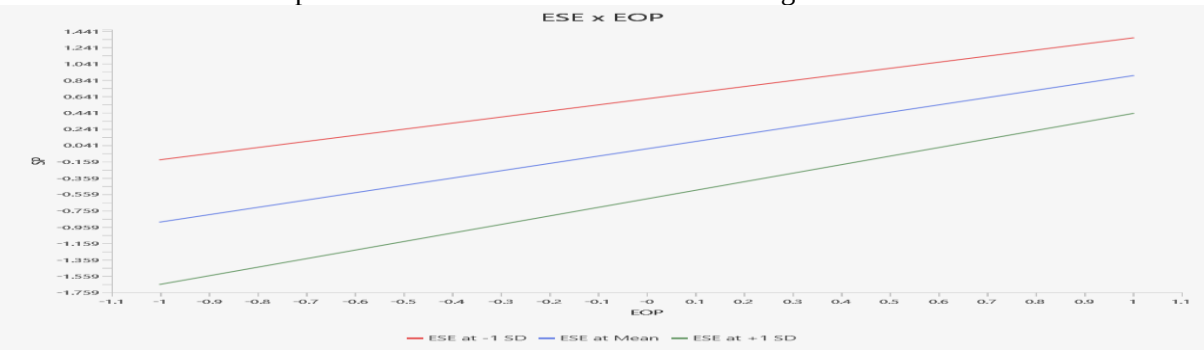


Figure 4:

5. Conclusion

The study identified two EOP variables applicable to entrepreneurs in different market situations: opportunity recognition and opportunity creation.

In North Central Nigeria, most people believe they have self-efficacy to do business, but they often lack the entrepreneurial orientation to start a business; hence, the reason for low entrepreneurial activities in the region.

Most people who have recognized and discovered farming opportunities and who are engaged in crop farming are doing well. However, the challenge of crop farming in the North Central part of the Plateau, Benue, and Nasarawa is the affordability of fertilizer and chemicals, which are very costly and beyond the reach of farmers.

Vegetables such as tomatoes, carrots, cabbages, and potatoes boomed in the plateau, but there were inadequate processing plants; hence, more than half of the harvest ended up in the waste bin.

Most food processing businesses that are dominant in the North Central States are rice-processing plants. Entrepreneurial Startups and opportunities mediate the influence of entrepreneurial orientation on SMEs' performance, as performance does not just occur in a vacuum. Before the performance, there

must be a business, and this business start-ups-up) provide the enabling environment for an entrepreneur to transform EO into a successful business

Entrepreneurial Self-efficacy moderates the relationship between Entrepreneurial Orientation, entrepreneurial startup entrepreneurial opportunity, and SME performance; however, entrepreneurial self-efficacy does not moderate the relationship between entrepreneurial orientation and entrepreneurial startup of SMEs in North Central Nigeria.

5.1 Recommendations

The two EOP variables (opportunity recognition and opportunity creation) are applicable in the different market situations by different types of entreprenur's

To encourage people to start a business, an interactive causal-predictive paradigm model (Belief-Orientation-Oppotunity-Action-Result) is required. This will help to identify and develop entrepreneurial opportunities to start a successful venture.

Since most respondents demonstrate that they have self-efficacy in doing a business, government and corporate bodies are hereby recommended to encourage people to start or go into the farming business through continuous entrepreneurial orientation of the people to be self-reliant. There is a need to remind people of their strengths and abilities to step outside their comfort zones by taking risks to start a business.

To encourage farming and reduce the high cost of foodstuffs in our markets, stakeholders and the government at all levels can provide supplementary support to ensure the availability and affordability of fertilizer and chemicals to genuine farmers and not political farmers. Modern farming techniques can also be introduced to boost crop yields, considering the concept of sustainability (Nson, 2024).

The interactive causal-predictive paradigm (Belief-Orientation-Oppotunity-Action-Result) proposed in this study is recommended to enhance business SME performance.

The study recommends market analysis by entrepreneurs and business managers to find a product or service-market fit for their business because most respondents believe they have the self-efficacy to do a business but lack the entrepreneurial orientation to start a business.

We recommend that future scholars test this interactive causal-predictive paradigm model (Belief-Orientation-Oppotunity-Action-Result) in settings facing comparable problems to avoid the wrong generalization of the model in other settings.

List of Abbreviations

EO: Entrepreneurial Orientation
SP: SMEs Performance
ESU: Entrepreneurial start ups
EOP: Entrepreneurial opportunity
ESE: Entrepreneurial self efficacy
PLS-SEM: Partial least square structural equation modelling
SMEs: small and medium enterprises

Declarations

Availability of data and materials

The data analyzed in this study are included in this article.

Competing interests

I declare no competing interests.

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