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A critical analysis of the Nigerian entrepreneurial ecosystem on transformational entrepreneurship

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ABSTRACT

Previous research suggests that the entrepreneurial ecosystems (EEs) support factors are critical for the systemic development of micro, small, and medium enterprises (MSMEs). However, there is limited understanding of how MSME owner's/manager's characteristics impact their perspectives of the EE support factors for business development. This study addresses this research gap to adopt a coherent approach to understand the EE in supporting MSMEs to achieve transformational entrepreneurship (TE), which builds sustainable businesses for long-term societal benefits. The MSMEs characteristics alongside the EE factors were tested with 576 MSMEs in Nigeria. The MSME owner's/manager's characteristics were positively correlated to their perspective of EE support factors (access to finance, markets, resources, and policies and regulations), which were inadequate. The findings will assist theory and practice development to understand and focus on the EE discussed in the context of TE in Nigeria, offering potential insights for similar developing economies.

KEYWORDS

Developing economy; entrepreneurship ecosystem; MSMEs; transformational entrepreneurship; sustainable entrepreneurship

Introduction

The landscape of the entrepreneurial ecosystems (EEs) within national boundaries is dynamic, and the EE support factors for micro, small, and medium enterprises (MSMEs) involve the cooperative and productive interactions among the various components and institutions (businesses, government, private, and public stakeholders) within the domestic and regional business environment, which play a critical role for the systemic development of MSMEs. This study uses Stam and Spigel (2016, p. 1) definition of EE as “a set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship within a particular territory.” The development of MSMEs can support transformational entrepreneurship (TE), which creates sustainable jobs, wealth, and long-term societal benefits, and helps facilitate local and regional socioeconomic development. Therefore,

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examining the EE support for MSMEs in Nigeria, a developing market, is essential to determine whether they realize the same benefits.

Previous studies have reported the importance of EEs for business development from both a global perspective (Prokop, 2021; Ratten, 2020; Theodoraki & Catanzaro, 2022) and regional context (Atiase et al., 2017; Audretsch & Belitski, 2021; Bichler et al., 2022; Fate, 2016; Igwe et al., 2020). Further research recognized that TE is essential to address social challenges such as high unemployment rate and limited national development and growth in developing economies (Agyapong & Boohene, 2020; Maas et al., 2019; Ratten & Jones, 2018; Yoruk et al., 2022). Indeed, TE creates sustainable businesses that supports jobs, improves national living standards, and provides long-term societal and economic benefits (Bichler et al., 2022; Maas et al., 2019; Schoar, 2010). Moreover, TE builds innovative businesses, which are regarded as the real drivers of economic growth (Maas et al., 2019; Miller & Collier, 2010; Ratten & Jones, 2018). In this context, EEs are critical in achieving TE in producing innovative businesses that support regional development (Audretsch & Belitski, 2021). However, previous research acknowledges weak EEs and a deficit of TE in developing countries (Maas et al., 2019), particularly in sub-Sahara Africa (SSA; Agyapong & Boohene, 2020).

This study investigates the EE factors in facilitating MSMEs' systemic development toward achieving TE from a MSME owner's/manager's perspective in a Nigerian context, which is currently under research. Moreover, there is a limited understanding of the relationship between MSMEs characteristics (for example, education level, gender, prior working experience, and current experience as owner/manager) and EE factors (for example, access to finance, markets, resources and policy and regulations), which is the focus of this study. Thus, it was necessary to undertake a survey of Nigerian MSME owner's/manager's perspectives of EEs to provide a comprehensive analysis and understanding of its impact on facilitating MSMEs systemic development toward supporting TE in Nigeria and the developing economy context (Agyapong & Boohene, 2020; Bichler et al., 2022; Maas et al., 2019; Ratten & Jones, 2018; Volkmann et al., 2021; Yoruk et al., 2022). The literature recognizes the criticality and dynamism of the EE in facilitating MSMEs' systemic development (Agyapong & Boohene, 2020; Bichler et al., 2022; Ratten & Jones, 2018), and there is a need to encourage a holistic approach to support TE, which comprises a symbiotic study of EE and MSMEs (Maas et al., 2019; Ratten, 2020; Yoruk et al., 2022). This holistic approach is essential because of the benefits of TE in supporting the long-term socioeconomic development of domestic and regional development that could assist developing countries achieve economic growth (Agyapong & Boohene, 2020; Maas et al., 2019; Schoar, 2010).

Consistent with previous findings, EEs play a key role in achieving TE (Maas et al., 2019; Ratten & Jones, 2018; Yoruk et al., 2022), but the existence of a positive

relationship between MSME characteristics and EE factors proposed by previous conceptual studies (Maas et al., 2019; Ratten & Jones, 2018), has received limited empirical support. This may be attributed to the focus of literature that considers other challenges of entrepreneurship research concerning developing markets (Atiase et al., 2017; Godwin & Simon, 2021; Igwe et al., 2020) and neglecting the under-represented MSME owners/managers and their perspectives of EE support factors. Although the moderating role of the EE on MSME development has been a core of the literature (Maas et al., 2019; Ratten & Jones, 2018; Yoruk et al., 2022), the substantial variability of MSME characteristics vis-à-vis the EE remains to be understood. The study aims to quantitatively address this necessity by focusing on MSME characteristics and EE factors. Access to finance, markets, and resources, including business support, capacity building, policy and regulation, and research and development, are essential EE factors in Nigeria (Fate, 2016; Godwin & Simon, 2021; Obeng & Blundel, 2015), and developing economies globally (Cantner et al., 2020). This study recognizes that EE factors should work harmoniously to support MSMEs' systemic development in developing markets (Audretsch & Belitski, 2021; Igwe et al., 2020; Sako, 2018; Spigel, 2017). However, it is accepted that limited finance and unfavorable market regulations are critical challenges undermining TE in developing markets (Atiase et al., 2017; Godwin & Simon, 2021; Ratten & Jones, 2018; Schoar, 2010; Yoruk et al., 2022).

The EE moderating role is necessary for driving entrepreneurial innovation (Theodoraki et al., 2022), which can support MSMEs in developing economies to achieve TE (Agyapong & Boohene, 2020; Maas et al., 2019; Yoruk et al., 2022). This is because MSMEs are important in stimulating prosperity and growth by providing sustainable employment and wealth generation (Godwin & Simon, 2021; James-Unam et al., 2015). Conversely, the MSME sector is characterized by high failure rates in developing countries (Igwe et al., 2018), resulting in a shortage of TE in developing markets (Agyapong & Boohene, 2020; Maas et al., 2019). Although, previous evidence exploring entrepreneurship activities suggested some improvement in developing countries (Onyeje et al., 2020). Entrepreneurship activities are insufficient, and MSMEs have underperformed in developing countries, particularly Nigeria (Onyeje et al., 2020; Igwe et al., 2020). Moreover, MSMEs in developing nations have not influenced apprenticeships to facilitate employment and poverty alleviation and accelerate national socioeconomic growth (Onyeje et al., 2020; Osotimehin et al., 2012). Thus, based on the above discussion, this study aims to answer the following research question:

- What are the perspectives of Nigerian MSME owners/managers on the EE support factors in facilitating MSME development toward achieving TE?

The study is structured as follows. Firstly, we discussed the literature review around EE and TE to deepen the understanding of the study. Secondly, we

discussed the research model, hypothesis, and the study's methodological approach. Thirdly, we interpreted and examined the data findings and discussed the research contribution to knowledge, and fourthly, we presented our policy recommendations and future research direction.

Literature review

There is a need to develop entrepreneurship activity and behavior in emerging countries (Agyapong & Boohene, 2020; Godwin & Simon, 2021; Kuratko & Morris, 2018; Njoku et al., 2014) because if domestic and regional businesses, both large and MSMEs, become entrepreneurial, they will effectively compete globally and improve national productivity and contribute to socioeconomic development (Gast et al., 2018). Thus, EE needs attention to become adequate to help businesses (Yoruk et al., 2022), more to effectively support entrepreneurship activities and MSMEs (Agyapong & Boohene, 2020; Cantner et al., 2020; Spigel, 2017). Moreover, the EE is critical for the domestic economy in supporting business productivity to enable regional development and growth (Audretsch & Belitski, 2021).

For example, emerging countries such as Brazil, China, India, and Russia (the BRIC countries) and Malaysia saw their productivity and global competitiveness surge from the 1970s to the present decade through developing their EE to support MSME development (Godwin & Simon, 2021; James-Unam et al., 2015). Moreover, it is accepted that adequate EE support for MSMEs would drive their systemic development toward achieving TE (Fate, 2016; Maas et al., 2019; Miller & Collier, 2010), which is essential in supporting national and regional economic growth (Bichler et al., 2022; Volkmann et al., 2021). From the above discussions, the two main theoretical pillars for this research were identified as EE and TE, which are hereafter discussed.

EE framework

The EE involves dynamic, productive, and cooperative interactions among the various components and organizations within the business environment, which support entrepreneurship activities and behavior (Auerswald, 2015; Bouncken & Kraus, 2022; Cao & Shi, 2020; Isenberg, 2014; Spigel, 2017). Moreover, globalization has widened EE's perspective across national borders (Bouncken & Kraus, 2022; Theodoraki & Catanzaro, 2022) due to the effective blending of localized cultural attitudes, social networks, investment opportunities, universities, and economic policies to support national and regional innovation from an international perspective (Theodoraki et al., 2022).

In today's dynamic environment, the critical EE support for MSMEs in developing markets such as Nigeria includes access to finance, markets, resources, business support, capacity building, policy and regulation, and

research and development (Fate, 2016; Godwin & Simon, 2021; see, Table 1). The various actors in the EE consist of the holistic system of individuals, the community, public sector, private sector, and nonprofit organizations such as charities and universities (Audretsch et al., 2021; Berbegal-Mirabent et al., 2022), performing diverse EE functions that impact and determine the outcomes of entrepreneurship and MSME development in emerging markets (Kamara et al., 2022; Maas et al., 2016; Sako, 2018; Stam & Spigel, 2016).

Within the dynamic EE, culture also influences entrepreneurship activity and behaviors because individuals from a cultural group with a high inclination toward wealth are likely to venture into entrepreneurship (Adeosun-Familoni, 2015; Dedekuma & Akpor-Robaro, 2015; Godwin & Simon, 2021). However, identifying a suitable generic structure of the EE is challenging because each structure has emerged under a distinctive set of conditions and circumstances reflecting its domestic economy (Mason & Brown, 2014; Yoruk et al., 2022). For example, open markets with income-paying consumers were the essence of all for-profit businesses (Drexler et al., 2014; Pérez-Luño et al., 2016). In addition, the availability of market accessibility has been reported as critical for business uptake in developing markets (Igwe et al., 2018; Drexler et al., 2014). Furthermore, the quality and availability of human capital (Drexler et al., 2014) can enhance venture creation and start-up scalability potential within developing economies (Fate, 2016).

This is because developing markets with intellectuals and high-caliber workforces can create an enhanced environment for early stage venture creation and business sustainability (Drexler et al., 2014; Fate, 2016; Prokop, 2021; Sako, 2018). Furthermore, ventures with sufficient financial assets can obtain adequate resources to support their business development and new venture

Table 1. Nigerian critical EE support factors for MSMEs.

Determinant	Default	Key players
Access to finance	Institutions and mechanisms that give direct and indirect funding to entrepreneurs at various stages of their business lifecycle via grants, debt/loans, and equity.	Commercial banks; microfinance banks; development financial institutions; angel investors; venture capitalist; private equity; donor agencies/multilaterals; government; NGOs/foundations; corporate bodies; leasing companies; faith-based organizations.
Access to markets	Structures that connect businesses with integration into major distribution networks by facilitating trade (customers, distributor channels, suppliers, large corporates, and so on).	Government; donor agencies/multilaterals; corporate bodies; NGOs/foundations; accelerators; industry clusters.
Access to resources	Support entrepreneurs access data, knowledge, tools, and infrastructure resources, including technology and workspace.	Government; corporate bodies; NGOs/foundations; incubators/ accelerators; industry clusters; media.
Policy and regulations	The Nigerian government set up institutions to foster an enabling and competitive environment through policy and regulatory frameworks.	Ministries, departments, and agencies (MDAs); parastatals; regulatory bodies; state government; local government.

Note: Fate (2016, p. 10)

creation (Leonidou et al., 2016; Mason & Brown, 2014). Indeed, funds are required to hire personnel, purchase or lease facilities and equipment, invest in marketing and sales, and conduct research (Drexler et al., 2014; Fate, 2016). Businesses can also generate financial capital from consumers and partners in several ways (Drexler et al., 2014). However, these systems differ significantly between countries and regions (Cantner et al., 2020; Drexler et al., 2014; Fate, 2016).

Markets differ significantly in fostering venture creation and scaling business sustainability (Drexler et al., 2014; Mason & Brown, 2014; Stam & Spigel, 2016), and businesses in developing nations can benefit from educated, skilled, and trained employees (Drexler et al., 2014; Mason & Brown, 2014). Indeed, education enhances the ability to develop new skills and understand the market and workplace dynamics (Cao & Shi, 2020; Mason & Brown, 2014), with institutions like universities (Prokop, 2021) playing a pivotal role in domestic and regional entrepreneurship development and growth (Drexler et al., 2014; Fate, 2016; Yoruk et al., 2022).

There is an emphasis on the role of social support for MSMEs in domestic and regional markets growth and development (Drexler et al., 2014; Fate, 2016; Mason & Brown, 2014; Yoruk et al., 2022). The emphasis is that the government and large businesses typically play a crucial role in venture creation and early stage venture development among the EE actors. However, working with new businesses is challenging, and how these links are structured varies between countries (Cantner et al., 2020; Drexler et al., 2014). As a result, to understand the EE's crucial role in supporting the systemic development of MSMEs, there is a need to focus and investigate the EE support factors within the domestic business environment and their backing for venture creation and sustainability (Drexler et al., 2014; Fate, 2016).

From a policy perspective, the EE aims to create more high-growth ventures (Drexler et al., 2014; Mason & Brown, 2014; Prokop, 2021), which requires developing the environment (Yoruk et al., 2022) so that it assists the aspirations and objectives of the MSMEs (Agyapong & Boohene, 2020). Moreover, it is realistic to cultivate the EE needs to create a distinct architecture that symbiotically works with a nation's entrepreneurs and MSMEs (Cao & Shi, 2020; Drexler et al., 2014; Stam & Spigel, 2016). This policy approach requires a shift from the emphasis on conservative motives and short-term strategies, dominating domestic and regional policy agendas in SSA (Bichler et al., 2022; Dana, 2007) and Nigeria, where policies are typically inadequate and ineffective, with poor implementation (Fate, 2016; Godwin & Simon, 2021; Mason & Brown, 2014). Table 1 summarizes the critical EE factors and key actors within Nigeria.

TE framework

TE creates ethical, scalable, systemic, and sustainable ventures, which are the real engine of economic development and growth (Godwin & Simon, 2021; Schoar, 2010). TE also build a virtue-based enterprise that is innovative and optimally utilizing resources (Marmer, 2012; Miller & Collier, 2010; Ratten & Jones, 2018; Schoar, 2010), required to shape new socioeconomic value systems, particularly in developing markets where the inadequate EEs is undermining MSMEs systemic development (Maas et al., 2019). Therefore, new transformational perspectives are required to build and sustain practical entrepreneurial activities and behaviors (Maas et al., 2016; Ratten & Jones, 2018) that promotes a systemic change and an investigative and universal approach to accommodate both individualistic and societal attitudes supporting entrepreneurship (Maas et al., 2019; Yoruk et al., 2022). This is because the potential of national and regional socioeconomic development would remain limited and only benefit a few individuals, businesses, and nations without TE capability in developing economies (Agyapong & Boohene, 2020; Maas et al., 2019; Ratten & Jones, 2018).

To realize these benefits, there is the need to search for novel ideas to support sustainable socioeconomic growth following the decline in industrial manufacturing, particularly in developing markets such as Nigeria, and recent crashes in global financial systems (Maas et al., 2016; Marmer, 2012; Ratten & Jones, 2018). These solutions should be sustainable, systemic, ethical, and scalable (Marmer, 2012), with the EE (Fate, 2016; Igwe et al., 2020; Ratten, 2020) encouraging and supporting TE to be achievable in developing markets (Agyapong & Boohene, 2020; Yoruk et al., 2022), enabling these economies to be socially and economically productive, which go beyond national and regional scope to positively impact global socioeconomic development and growth (Maas et al., 2016; Schoar, 2010).

Furthermore, there is a need for a re-think of supporting entrepreneurship activities (Maas et al., 2016; Ratten & Jones, 2018), and the focus of this drive should be systemic to produce TE in developing nations (Agyapong & Boohene, 2020; Yoruk et al., 2022). **Figure 1** illustrates the elements discussed to highlight the notion of TE. The idea is that ethics, scalability, sustainability, systematic tools, and technology entrepreneurship are combined with traditional and social entrepreneurship's global-centric value system. This system creates a socioeconomic value system to support TE development (Agyapong & Boohene, 2020; Maas et al., 2016; Marmer, 2012; Sousa, 2019).

Emerging economy, subsistence, and TE

The rapid rise of emerging markets, such as the BRIC countries, has ignited interest in understanding the fundamental role MSMEs play in driving the

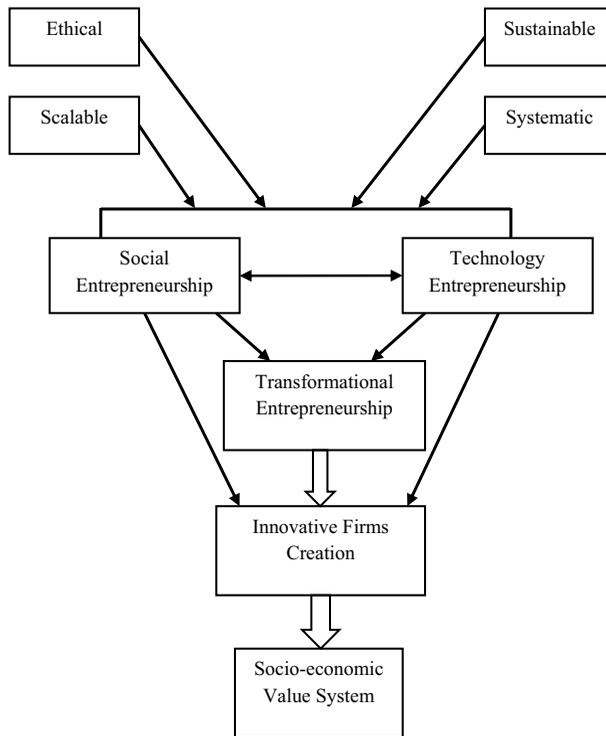


Figure 1. Conceptualization of TE.

Note: Marmer (2012), Maas et al. (2016), Sousa (2019)

transformation of underdeveloped countries such as Nigeria (Ratten & Jones, 2018; Schoar, 2010; Sousa, 2019). Prior studies highlight an unprecedented increase in business activities and new entrepreneurial start-ups in emerging markets over the previous decade and the pivotal role of entrepreneurship in underpinning economic development (Igwe et al., 2018; James-Unam et al., 2015; Igwe et al., 2020). During this period, businesses' market capitalization grew to 25% in emerging countries from a modest 5%. This swing contributes to the increasing awareness that entrepreneurship and MSMEs are the key catalysts of development, transforming these markets (Kuratko & Morris, 2018; Onakoya et al., 2013).

Studies acknowledged that subsistence entrepreneurs are vast in number in underdeveloped countries such as Nigeria, where they operate on a small scale and provide alternative employment opportunities to themselves and, typically, family members (Igwe et al., 2018; Schoar, 2010). Nevertheless, they do not create substantial economic job opportunities (Igwe et al., 2018; Godwin & Simon, 2021; James-Unam et al., 2015). Moreover, transformational entrepreneurs who are the real drivers of TE and facilitate economic growth and development (Yoruk et al., 2022) are fewer and harder to identify (Schoar, 2010). This is because TE has high human capital and a greater inclination to risk-taking (Miller & Collier, 2010; Schoar, 2010).

By contrast, subsistence entrepreneurship has a modest human capital and a solid drive to survive and support the family (Maas et al., 2019; De Mel et al., 2008; Schoar, 2010). Subsequently, the transition to TE from subsistence entrepreneurship is minimal (Maas et al., 2019; Schoar, 2010), which provides substantial evidence for the distinctions between the two (De Mel et al., 2008; Schoar, 2010; Sousa, 2019). Transformational entrepreneurs are likely to expand and employ more staff, are highly motivated, willing to explore unfamiliar environments and risk-takers that are more significant (Agyapong & Boohene, 2020). By contrast, subsistence entrepreneurs are reluctant to transition into different business situations and are content to remain in their current venture, which is consistent with Nigeria’s problem (Maas et al., 2019; Schoar, 2010; Sousa, 2019).

TE socioeconomic value system

TE earns its name by building innovative, ethical, scalable, sustainable, and systematic ways to transform domestic and regional markets into productive and sustainable societies (Agyapong & Boohene, 2020; Miller & Collier, 2010; Ratten & Jones, 2018). To understand TE and its benefits and value system, Marmer (2012) identified a matrix (see Figure 2) that places transformational, technology, social, and economic entrepreneurship on a graphical scenery of a socioeconomic value system. The X-axis (economic impact) presents a simple gauge of income, profit, market capitalization and return on investment (ROI). Scalable businesses produce goods and services that many people are enthusiastic about paying to have the highest impact.

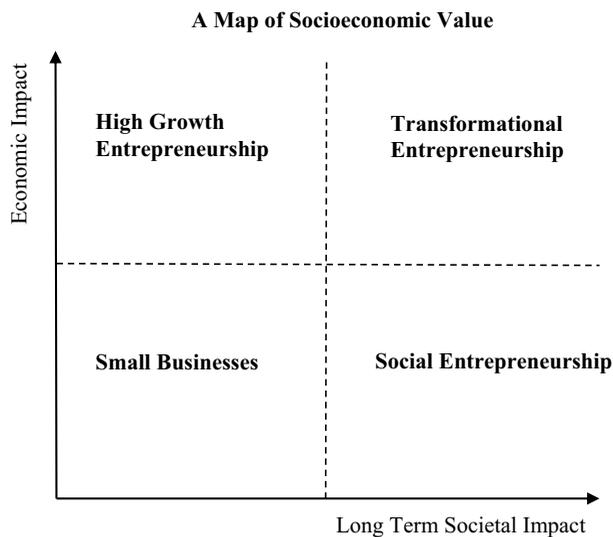


Figure 2. The socioeconomic value system grid.
 Note: Marmer (2012)

The more subjective Y-axis (societal impact), where organizations move on the scale of long-term societal impact, relies on the world's significant challenges and problems they can solve. For MSMEs to achieve TE, their activities and operations should simultaneously converge at the high end of the economic and long-term societal impact spectrum, where their contribution to sustainable job creation, wealth creation, and long-term impact and benefits on society is significant (Maas et al., 2019; Marmer, 2012). A push downward would produce a negative domain, with predominant subsistence businesses, which lack the requisite scale with insufficient impacts on jobs and wealth creation, such as street vendors that are prominent in Nigeria and developing markets (Agyapong & Boohene, 2020; Maas et al., 2019; Marmer, 2012).

TE and economic development

TE creates sustainable enterprises to support sustainable employment, benefit communities, and drive economic growth and national development (Agyapong & Boohene, 2020; Onakoya et al., 2013; Sako, 2018; Schoar, 2010). The GEM (2015) report supports and argues that sustainable entrepreneurship drives employment and per capita gross domestic product (GDP) growth (Gries & Naudé, 2010; Nakku et al., 2020). Economic growth and development are vital for regions, firms, and industries, by elevating productivity in the traditional and modern sectors (Gries & Naudé, 2010; Neumeyer & Santos, 2018).

The focus of entrepreneurship (whether subsistence or transformational) is on individuals' activities and behaviors within a supportive EE (Cao & Shi, 2020; Carree & Thurik, 2010). Therefore, socioeconomic development and TE require an adequate EE in developing markets to help and support the MSMEs' systemic development (Igwe et al., 2018). As a result, employment and growth generation, a central focus of public policies standard between nations for generating jobs and growth, should receive attention from macroeconomic policymakers (Cantner et al., 2020; Carree & Thurik, 2010).

Research model and hypotheses

There is no coherent theoretical framework for investigating the EE in facilitating TE in a developing economy context. However, existing literature suggests that the EE support factors (Bichler et al., 2022; Igwe et al., 2020) are key drivers in supporting TE (Agyapong & Boohene, 2020; Maas et al., 2019). It is recognized that the EE is critical, as it is fundamental for MSMEs' innovativeness (Audretsch & Belitski, 2021; Bodlaj & Čater, 2019; Igwe et al., 2020; Suresh & Ramraj, 2012). The study maintains that a holistic approach comprising the MSMEs and EE could drive MSMEs innovation for long-term societal benefits (Agyapong & Boohene, 2020; Igwe et al., 2020) to support TE

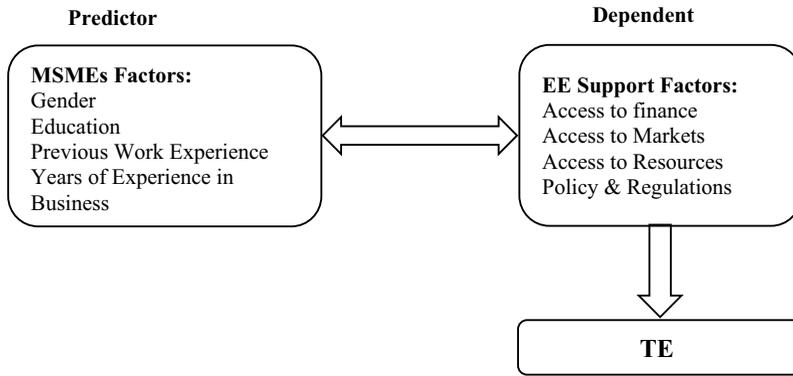


Figure 3. Research model for the study.

Note: Raftery et al. (1995)

(Maas et al., 2019; Ratten, 2020) and national and regional development (Audretsch & Belitski, 2021; Theodoraki et al., 2022; Yoruk et al., 2022).

Therefore, the theoretical framework for this study (Figure 3) comprises:

- Predictors: MSMEs owners/managers characteristics (gender, education level, prior experience, current experience as owner/manager).
- Dependents: the EE factors under examination (access to finance, markets, resources, and policy and regulations).

As listed in Table 1, four critical EE support factors for MSMEs were recognized in the literature. Fate (2016) identified these factors should be the primary focus of policymakers in developing an intervention framework to support EEs in Nigeria, as they are critical to support MSMEs' systemic development (Atiase et al., 2017; Bichler et al., 2022; Godwin & Simon, 2021).

The theoretical framework for this study suggests that MSMEs owner's/manager's characteristics (gender, education level, prior experience, current experience as owner/manager) play a predicting role in understanding the MSMEs owner's/manager's perspective of the EE support factors (finance, markets, resources, and policy and regulations).

Predictor variables

The predicting variables have been recognized to positively impact MSMEs development (Adeosun-Familoni, 2015), including personal factors, the external environment, and the entrepreneurial mindset and cultural values are critical factors (Adeosun-Familoni, 2015; Isenberg, 2011), which influence MSMEs innovativeness (Mambula, 2002; Roxas et al., 2017). Owner's/manager's gender relationship to business development is contentious, and uncertainty concerning gender because gender-based entrepreneurship (Schneider,

2017) study in Africa is limited (Mersha & Sriram, 2018). However, previous research recognized that male owners/managers were more confident in their ability to succeed, while females displayed a greater fear of success due to economic disfranchising (Mersha & Sriram, 2018). Thus, helping to understand a gender-based approach to the relationship between owner/manager gender and their perspective of the EE factors.

There is an understanding that owner's'/manager's educational levels can impact business performance (Adisa et al., 2014; Agwu & Emeti, 2014). With the requisite education, owners/managers have an improved influence on the business (Adisa et al., 2014). As a result, it explains the relationship between owner/manager education level and their perspective of the EE factors. Owner's'/manager's prior experience before starting their own business is a factor that can stimulate MSMEs development (Bird, 1995). In addition, innovative entrepreneurs with previous work experience from large technology firms have been reported to pioneer significant new ventures in the US (Gompers et al., 2008). This suggests that prior experiences are critical in perceiving the value of business opportunities (Oyeku et al., 2014; Smith & Chimucheka, 2014). Thus, the owner's'/manager's previous experiences can help them understand their perspectives of the EE role in their business development. Furthermore, the owner's'/manager's recent experience in the business constitutes an essential development factor impacting their current strategic approach (Mitchelmore & Rowley, 2008; Oyeku et al., 2014). Moreover, start-ups and existing ventures face different challenges due to the owner's'/manager's relative experience. Therefore, recent experience as owners/managers of the business would assist them in understanding their perspective of EE impact.

Dependent variables and hypothesis development

The literature suggests that EE factors (finance, markets, resources, and policy and regulations) are critical to achieving TE (Fate, 2016; Maas et al., 2019).

Access to finance

Access to financial resources is crucial to achieving TE, particularly in emerging countries (Schoar, 2010), where inadequate financing, lack and limited access to funding are restricting MSMEs development in Nigeria (Fate, 2016; Godwin & Simon, 2021).

H1: If the EE support factor (access to finance) is adequate and supporting MSMEs' systemic development, TE can be achieved.

Access to markets

Market failure in developing countries such as Nigeria is negatively impacting and constraining MSMEs development (Adisa et al., 2014; Agwu & Emeti, 2014; Dean & McMullen, 2007), where their participation in supply chains is inhibited by limited access to critical market infrastructure such as roads and transportation systems that link and make markets accessible (Atiase et al., 2017; Fate, 2016).

H2: If the EE support factor (access to markets) is adequate and supporting MSMEs' systemic development, TE can be achieved.

Access to resources

Accessing business resources such as raw materials, data, information, and business tools such as technology solutions are challenging in developing countries (Fjose et al., 2010), where insufficient structures prevent access to resources within Nigeria and undermine MSMEs development (Fate, 2016).

H3: If the EE support factor (access to resources) is adequate and supporting MSMEs' systemic development, TE can be achieved.

Policy and regulations

A significant challenge in developing countries is that multiple government agencies perform similar roles and intervention programs (Akuhwa et al., 2015). For example, Nigerian MSMEs revealed that products registered with the National Agency for Food and Drug Administration and Control (NAFDAC) had to go through the same registration process with the Standard Organization of Nigeria (SON; Fate, 2016). Other challenges identified included limited capacity and funding for policy implementation (Akuhwa et al., 2015). The following hypothesis is therefore proposed:

H4: If the EE support factor (policy and regulations) is adequate and supporting MSMEs' systemic development, TE can be achieved.

Method

Unit and sample of analysis

Measuring the EE and TE elements remains a complex challenge because there is no universally accepted measurement tool. Therefore, a questionnaire was developed to obtain data from Nigerian MSMEs. This study obtained a list of MSMEs from the Small Medium Enterprises Development of Nigeria (SMEDAN), which registers and support MSMEs in Nigeria. SMEDAN

classified micro as enterprises with 1 to 10 employees, small with 11 to 49, and medium with 50 to 199. From the SMEDAN registration of about 1,530,000 MSMEs. Yamane's (1967) formula was applied to determine the sample size:

$$s = \frac{N}{[1 + N(e^2)]}$$

Where: S = sample size, N = target population, e = marginal of error (degree of freedom). With a 95% confidence level, a 2.5% margin of error applied and a population of 1,530,000. Therefore:

$$s = \frac{1530000}{[1 + 1530000(0.025^2)]} s = \frac{1530000}{[1 + 1530000(0.000625)]} s = \frac{1530000}{957.25} = 1598$$

Accordingly, 1,600 MSMEs were investigated across all industry groups in the southern region of Nigeria, and 576 (36%) completed responses were obtained (see, [Table A1](#)). MSMEs were regarded as the unit of analysis with the owners/managers as the primary target because they control the business.

Questionnaire and participants

The study's research aim and questions informed the questionnaire's development. The questionnaire was administered as a drop and pick-up afterward survey, which adopted the checklists and Likert scale approach (Hair, 2015) for simplicity and understanding of the participants. The questionnaire was structured as Section A investigated the MSMEs owners/managers demographic such as gender, education level, prior experience, and recent experience as a business owner/manager. Thereafter, Section B investigated the MSMEs owner's/manager's perspectives on the EE support factors for their business.

Data analysis

Data analysis used two approaches: a summary of biographical data and a multiple linear regression (MLR). In terms of MLR, the study coded the collected data into SPSS software version 25 for analysis by executing a multiple linear regression to address the research aim (Stevens et al., 2012).

Biographical data

From the 1,600 MSMEs, 576 (36%) usable responses were received for the analysis. 413 were male (72%), and 163 were female (28%) (see, [Table A1](#)). Although the survey shows sufficient representation regarding gender spread, male MSMEs owners/managers were predominant. However, 28% of females

indicates an encouraging trend of female participation in business ownership as prior evidence from SMEDAN in 2013 shows female ownership was 23%.

MSMEs owners/managers with bachelor's degrees numbered 372 (64%), and diploma degrees 120 (21%). In comparison, master's degree holders were 54 (9%), and primary/secondary level was 32 (6%) (see, [Table A1](#)). The fact that a total of 546 (94%) owners/managers hold a University degree indicates the growing trend of graduates venturing into business, consistent with SMEDAN data that noted more than 51% of MSMEs graduate ownership. Prior working experience shows that 264 (46%) had no experience before starting a business. A modest 46 (8%) had less than a year of previous experience. One hundred and twenty-seven (22%) had 1–5 years of prior experience, followed by 96 (17%) with 6–10 years' experience, while 43 (8%) had 11–15 years of experience (see, [Table A1](#)). The statistics show 241 (42%) had been in business between 1–5 years. Overall, 220 (38%) for 6–10 years, and 107 (19%) had been in business for 11–15 years. Only 8 (1%) had been in business for over 15 years. The evidence underpins a growing rate of new business owners (see, [Table A1](#)).

Descriptive statistics

The descriptive statistical breakdown analysis (see, [Table A2](#)) shows the number of MSMEs respondents and the mean, standard deviation and variance statistics. Overall, the mean indicates the central tendency of the data set, with the standard deviation indicating the spread of the data to the mean. In summary, the data sets demonstrated a low standard deviation across the variables, which indicates that the data clustered around the mean, thus, suggesting the actual values lay within the range of the mean and the data are a true reflection of the population (Burns & Burns, 2008). In addition, a low variance suggests data points are close to the mean and each other, indicating a consistency in opinion to the situation (Burns & Burns, 2008).

Kaiser–Meyer–Oikin (KMO) test

The KMO test was performed to measure the sampling adequacy of the variables based on [Table 2](#) below. The test reveals the KMO is 0.801, Bartlett test of sphericity: $\chi^2=8751.5855$, $df=21$, $p=.000$. The KMO value obtained exceeded 0.6, which exceeded the recommended minimum value of 0.5 (Hair et al., 2015). Thus, substantiating the sampling adequacy to be sufficient and valid to perform factor analysis. Moreover, from the results, the Bartlett sphericity test shows that there were sufficient correlations ($sig=0.000$, $df>0.7$) existing among the variables (Burns & Burns, 2008).

Table 2. KMO test of the EE variables.

KMO and Bartlett's Test		
Kaiser–Meyer–Olkin measure of sampling adequacy		.801
Bartlett's test of sphericity	Approx. chi-squared	8751.555
	<i>df</i>	21
	Sig.	.000

Table 3. Factor analysis of EE variables.

Component Matrix ^a	
	Component 1
AccessToFinance	1.000
AccessToMarket	1.000
AccessToResources	1.000
PolicyandRegulationsSupportive	1.000

Extraction Method: principal component analysis^a

^aOne component extracted.

Table 4. Total variance explained for the construct.

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	Percent of Variance	Cumulative %	Total	Percent of Variance	Cumulative %
1	4.000	100.000	100.000	4.000	100.000	100.000
2	.000	.000	100.000			
3	.000	.000	100.000			
4	.000	.000	100.000			

Note: Extraction method: principal component analysis

Exploratory factor analysis

The study performed the principal component analysis (PCA) with varimax rotation to observe the EE structure. Referring to Anderson and Gerbing (1988), the study checked the constructs of the factored structure and suggested deleting elements with loadings < 0.50 for new models (Hancock et al., 2010). The research factored in the four EE support variables to observe the factor construct loading of items. Thus, Table 3 below shows the exploratory factor analysis of the EE support factors with values. The observed variables loaded appropriately if loading 0.500 or above on a factor and the difference between the main loading and other cross-loadings of 0.300 (Howell et al., 2005).

The PCA with varimax rotation was only one construct, comprising the EE support variables in the regression analysis. The PCA shows the number of factors included in the study (Weaver & Maxwell, 2014). Only items with significant loadings were used in the survey's regression analysis. Table 4 below displays the eigenvalues, and total variance is explained, which presents the variance accounted for by each variable/component.

Table 5. Reliability test for the variables.

Reliability Statistics		
Cronbach's alpha	Cronbach's alpha based on standardized items	N of items
1.000	1.000	4

Table 6. Item-total statistics for the variables.

Item-total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-total Correlation	Cronbach's Alpha if Item Deleted
AccessToFinance	3.88	1.869	1.000	1.000
AccessToMarket	3.88	1.869	1.000	1.000
AccessToResources	3.88	1.869	1.000	1.000
PolicyandRegulationsSupportive	3.88	1.869	1.000	1.000

Reliability and viability

Reliability refers to the replicability of research design to obtain the same results (Hair, 2015; Kothari, 2004). Moreover, reliability includes research findings or developments in repeated research throughout the same study (Boeijs, 2010; Denscombe, 2010). The study utilized the Cronbach's alpha test (Cronbach's α) to test the variables' reliability and internal consistency. The Cronbach's alpha results showed that the EE support factors for MSMEs variables with four items have a 1.0 Cronbach alpha. Thus, the construct had Cronbach's alpha greater than 0.70 indicating higher reliability (Hair et al., 2015).

Parasuraman et al. (1988) state that a construct's validity depends on how the construct items represent the measured themes. The construct used in this study was sufficient for validity because the construct was developed from previous work by Fate (2016), who focused on the EE and policy development for stakeholders with deference to Nigerian MSMEs development. Tables 5 and 6 summarize the reliability and Item and total statistics for the EE variables. Table 6 shows the item-total statistics for the EE construct, which offers the measured reliability of the EE constructs.

Results and findings

To explore the research aim, this study examines the perspectives of Nigerian MSME owners/managers on the EE support factors in facilitating MSME development toward TE.

The MSMEs response rate

Firstly, the study analyzed the owner's/manager's responses (see, Table A3) concerning the EE support factors. Overall, 70% strongly disagree that access to finance is easily accessible. This statistic is critical evidence of the high rate

of MSMEs' failure and under-development in Nigeria (Igwe et al., 2018; Agwu & Emeti, 2014; Fate, 2016) and the shortage of TE. Chukwuemeka and Fate (2016) state that inadequate funding negatively impacts MSME development. Atiase et al. (2017), Godwin and Simon (2021), and Schoar (2010) acknowledged the crucial role of financial resources to businesses.

Over 70% of respondents strongly disagree with access to markets, and 29% further disagree that access to markets is easily accessible. Dean and McMullen (2007) state that market failure in developing countries has inhibited MSMEs development (Adisa et al., 2014; Agwu & Emeti, 2014; Inyang & Enuoh, 2009). MSMEs' participation in supply chains is limited because of a shortage of access to critical infrastructures such as roads and transportation systems that link and make markets accessible (Fate, 2016). The statistical evidence supports that critical infrastructure influences MSMEs negatively in Nigeria (Agwu & Emeti, 2014; Anyadike et al., 2012; Atiase et al., 2017; Fate, 2016; Mambula, 2002).

For access to resources, 71% of respondents strongly disagree that access to critical resources in Nigeria is available. These statistics validate the lack of MSMEs development and shortage of TE in Nigeria. Fjose et al. (2010) stated that access to business resources such as raw materials, data, information, tools, and infrastructural support such as technology was challenging to obtain in developing countries (Atiase et al., 2017; Obeng & Blundel, 2015). Furthermore, Fate (2016) noted insufficient structures have influenced inadequate access to Nigeria's resources.

When analyzing policy and regulations, over 70% strongly disagree, and over 20% further disagreed that the EEs were adequate for their business. Weak policies and regulations were a significant challenge in enabling TE, such that multiple government agencies were performing comparable roles or implementing similar intervention programs (Mambula, 2002; Obeng & Blundel, 2015). For example, it was discovered that business products registered with the NAFDAC had to undergo the same registration process with SON (Fate, 2016), thus, impacting negatively upon MSMEs' limited resources.

Regression results

The study executed a multiple linear regression analysis consistent with Berry (1993). Referring to Poole and O'Farrell (1971), the multiple linear regression is denoted as:

$$kY = a + \sum bi Xi + ui = 1$$

Where Y represents the dependent variable: $X1, X2 \dots Xi \dots X$ is k independent variables: a & bi denotes the regression coefficients, indicating the parameters of the model regarding a given population; and u is the

error term, which can be because of the effect of an unknown predictor variable (s) or even a very random component within the relationship. Subsequently, regression analysis was executed to observe the statistical significance of the independent and dependent variables. The regression statistic is critical in understanding the ecosystem's role in supporting MSME's development toward TE. Table A4 shows the variance analysis (ANOVA), which presents the statistical significance between the regressed variables with a significant association of ANOVA *F-values* at a one percent significance level ($p=.000$). For example, the evidence shows the predictors and dependent variables are statistically significant, with ANOVA *F-values* at a one percent significance level ($p =.000$). MSMEs gender ($p=.001$); MSMEs years in business ($p=.001$); MSMEs education level ($p=.001$) and MSMEs previous experience ($p =.001$) (see, Table A4 for results).

The study observed and analyzed the regression results R^2 and its adjusted p -values and *F-values*. As indicated, the R^2 indicates the overall fitness of the regression model. The adjusted R^2 values ranging between zero and one further explain the variances of EE variables because of the predictor variables. The closer the adjusted R^2 values are to one, the higher the predictor variables' variance. Furthermore, the closer the values are to zero, the lesser the EE variables' variations. Within the regression results, the R^2 values are access to finance (0.280), access to market (0.280), access to resources (0.280), and policy and regulation (0.280), indicating a reliable model (see, Table A4). The adjusted R^2 values are access to finance (0.275), access to market (0.275), access to resources (0.275), and policy and regulation (0.275). These statistics imply that the regression model can explain the MSMEs owner's/manager's perspectives on the business's EE support factors, with access to finance (28%), market access (28%), access to resources (28%), and policy and regulation (28%).

The *F-value* further observed whether the predictor's variable is statistically significant with EE variables. To evaluate the model's overall fitness, the study observed the ANOVA *F-values* of the regression model. The *F-values* are access to finance (55.649), access to market (55.649), access to resources (55.649), and policy and regulations (55.649), which are all significant at the 1% level ($p=.000$), determined by the p -values of the *F-statistic*. Similarly, a relationship is statistically significant if the p -value is less than 0.05 or 0.01. See, Table A4 for the multiple regression model summary, from which the researchers discussed the R^2 and its adjusted values, p -values, and *F-values*. The regression tables report the statistical correlation between the predictor and dependent variables.

Regression analysis and hypotheses testing

Multiple regression analyses were conducted to test H1, H2, H3, and H4. The regression results demonstrate a positive statistical significance between the regressed factors (see, Table A3 for results) with a p -value of ($p = .000$). The

regression supports H1 with ANOVA *F*-values at a 1% significance level ($p = .000$). Thus, H1 is supported. H1: If the EE support factor (access to finance) is adequate and supporting MSMEs' systemic development, TE can be achieved. It implies that accessibility of finance is critical in supporting TE.

The regression supports H2 with ANOVA *F*-values at a 1% significance level ($p = .000$). Thus, H2 is supported. H2: If the EE support factor (access to markets) is adequate and supporting MSMEs' systemic development, TE can be achieved. The implication is that the accessibility of markets is critical in helping TE. The regression supports H3 with ANOVA *F*-values at a 1% significance level ($p = .000$). Thus, H3 is supported. H3: If the EE support factor (access to resources) is adequate and supporting MSMEs' systemic development, TE can be achieved. The assumption is that the accessibility of resources is critical in supporting TE. The regression supports H4 with ANOVA *F*-values at a 1% significance level ($p = .000$). Thus, H4 is supported. H4: If the EE support factor (policy and regulations) is adequate and supporting MSMEs' systemic development, TE can be achieved. The implication is that conducive policies and regulations are critical in supporting TE.

Discussion

A body of literature focusing on the EE suggests that the support factors should be the primary focus of policymakers in developing an intervention framework to support MSMEs' systemic development (Audretsch & Belitski, 2021; Fate, 2016; Ferrandiz et al., 2018; Igwe et al., 2020; Mambula, 2002; Ratten, 2020; Theodoraki et al., 2022). It is further recognized that these EE factors are critical for achieving TE (Agyapong & Boohene, 2020; Maas et al., 2019; Ratten & Jones, 2018; Volkmann et al., 2021; Yoruk et al., 2022). It is also accepted that policymakers should focus on these EE factors when building intervention frameworks for MSMEs, as they are essential prerequisites for MSMEs development, TE and national development (Bendickson, 2021; Obeng & Blundel, 2015). The critical EE support factors are access to financing, markets, resources, and policy and regulations.

The results suggest that the EE support factors play a critical role in facilitating MSMEs' systemic development toward TE. Specifically, access to finance, markets, resources, and policies and regulations positively correlate to MSMEs' systemic development in achieving TE. This relationship provided additional evidence to suggest that if the Nigerian EE is adequate (Audretsch & Belitski, 2021; Fate, 2016; Yoruk et al., 2022) in supporting the MSMEs (Godwin & Simon, 2021; Igwe et al., 2020), TE can be achieved (Agyapong & Boohene, 2020; Maas et al., 2019; Ratten & Jones, 2018).

This research adds new theoretical insights by extending the existing literature on TE by researching the relationship between the EE and TE. In addition, the evidence addresses the research gap to adopt a coherent approach to

understanding the EE in supporting MSMEs to achieve TE in Nigeria, which before this study have not been the focus of an empirical study (Agyapong & Boohene, 2020; Audretsch & Belitski, 2021; Fate, 2016; Maas et al., 2019; Igwe et al., 2020; Yoruk et al., 2022). Moreover, by developing and empirically testing a theoretical framework, the study made a theoretical contribution to the literature on TE (Figure 3). For the predictors (H1, H2, H3, and H4), the expectation is that MSMEs would achieve TE if the EE support factors adequately support the MSMEs. However, the findings highlight the Nigerian EE is inadequate in supporting the MSMEs to extend a body of work (Audretsch & Belitski, 2021; Bichler et al., 2022; Fate, 2016; Ferrandiz et al., 2018; Igwe et al., 2020; Mambula, 2002; Ratten, 2020; Theodoraki et al., 2022).

The data supported the study's proposed theoretical framework, which attempts to establish a relationship between MSMEs owner's/manager's characteristics and their perspective of the EE support factors. The theory suggests that providing the EE adequately supports the MSMEs, TE is achievable. The positive relationship between gender and the EE factors and the poor view of the EE suggests the difficulty in accessing finance, markets, and resources, and the flawed policy and regulatory framework on MSMEs are not gender-based. The MSMEs face the difficult challenge of receiving adequate support (Fate, 2016; Godwin & Simon, 2021; Igwe et al., 2020). It is essential to note that the educational level of owners/managers might be a supportive factor toward EE and TE development (Fate, 2016; Theodoraki et al., 2022; Yoruk et al., 2022).

The findings here advanced the understanding of the relationship between the owner's/manager's prior experience and recent experience and their view of the EE factors, which previous research has not considered. Moreover, the positive relationship between the MSMEs characteristics and the EE policy and regulatory support provides additional evidence for examining the EE with the suggestion that owner's/manager's characteristics could help understand the impact of the EE on business from an individual-level perspective. Nigerian MSMEs have challenges accessing funding to support innovation and expansion. Despite several financial sources, a substantial funding gap exists for MSMEs (Fate, 2016; Godwin & Simon, 2021), influencing their businesses' growth. Moreover, banks only account for 13% of Nigerian MSMEs loans, which is concerning. Therefore, MSMEs rely on informal/unregulated lending institutions and families for funding (Fate, 2016; Godwin & Simon, 2021). These alternative arrangements require unattainable terms and unrealistic collateral, which affects TE. Market accessibility and penetration are challenging for Nigerian MSMEs. This limited access is due to a shortage of critical infrastructures, such as roads, alongside poor internet access and coverage (Igwe et al., 2018; Atiase et al., 2017). The underdeveloped market is negatively impacting MSMEs from achieving TE.

Within Nigeria, business and market data are inaccessible and unavailable. Fate (2016) and Igwe et al. (2018) recognized that business support in Nigeria is insufficient or ineffective. Moreover, MSMEs fail to perform adequate risk appraisal and business analysis for strategic decision-making, such as the consumer price index (Liguori et al., 2021). As a result, MSMEs lack access to relevant data supporting MSMEs competitiveness in many industries. Moreover, supply chain frameworks for MSMEs remain inadequate (Igwe et al., 2018; Atiase et al., 2017) and, in other cases, corrupt (Mambula, 2002; Olotu, 2014; Smith & Chimucheka, 2014). The findings demonstrate that stakeholders do not sufficiently provide MSMEs with relevant resources.

The government is the primary policy and regulatory entity for MSMEs. It is acknowledged the government also establishes and implements policies to govern and regulate entrepreneurial activities through institutions like the Bank of Industry (BoI), the Central Bank of Nigeria CBN, and SMEDAN. Most institutions with policy implementation and regulatory oversight lack capability and funds (Olotu, 2014; Smith & Chimucheka, 2014). Furthermore, cross-regional program execution sometimes exceeds their limited budget. Where policies and regulations are available, weak performance constraints their support to MSMEs. Several factors resulted in a poor policy and regulatory framework, such as institutionalized bureaucracy/corruption (Mambula, 2002; Olotu, 2014; Smith & Chimucheka, 2014). Adisa et al. (2014) noted that MSMEs face severe challenges due to ineffective policy and regulatory frameworks.

Conclusions

Based on this research findings, the following conclusions are drawn. The study offers several recommendations for both policy and business practice in Nigeria. Developing supportive policies for MSMEs and analyzing the effectiveness of existing legislature is necessary to support TE. The Nigerian national policy framework should seek to enhance EEs to support MSMEs. These policies should be favorable in reducing administrative barriers that constrain MSMEs from accessing financial resources and regulatory frameworks to drive market accessibility in addition to improving accessibility of critical business resources, such as market data and providing sufficient infrastructures, electricity, and transport systems in Nigeria. MSMEs are currently placing limited value on developing a long-term strategy for the business and focusing on day-to-day operational issues. These challenges require a holistic approach with a change in perspective and practice to address these systemic problems, with a different mindset and focus on advancing TE to solve these short-term initiatives.

The shortage of finance is a critical factor contributing to MSME's underdevelopment. Nonetheless, MSMEs in developing countries lack sufficient fixed assets, such as buildings, land, and machinery, which banks require as

collateral to secure financial credit. Appropriate regulatory policies such as simplified collateral loan simplification procedures should be considered to improve MSMEs' funding outcomes. Excessive bureaucracy and the threat of corruption impose a disproportionate burden on MSMEs, negatively influencing their development. In Nigeria, it manifests in extreme or overly rigid administrative procedures, such as multiple agencies performing similar duties, unnecessary levies and license requirements, and prolonged decision-making processes involving numerous officials that impedes business operations. Supportive policies should be developed to create efficient institutional structures to coordinate and monitor regulatory activities to address administrative bottlenecks.

There is a need to promote MSMEs start-ups and support existing businesses to address the current high failure rate. Nascent entrepreneurs, youths and the student community should be encouraged by supportive legislature, trade organizations and enterprise support networks to consider an entrepreneurial career as a viable and prosperous career route after completing their education. Thus, government bodies, education systems, and business must effectively collaborate to enable such transformational change to occur. Therefore, it is vital that critical organizations, such as the Nigerian BoI, CBN, SMEDAN, and various MSME support programs, ensure the prospective entrepreneurial community is aware of opportunities and niche industries. Moreover, improving the business investment climate for youths and graduates and strengthening their capacity to respond to trade and investment opportunities can positively impact upon economic development, employment creation, and poverty reduction within Nigeria.

Future research and limitations

Future research should explore other internal and external factors outside the EE, such as large firms' contribution to granting MSMEs supply chain opportunities, which can support their development. These studies should involve a focused study examining MSMEs' performance, productivity, and innovation patterns. There is a need to further understand the issues inhibiting MSMEs' development and TE shortage in emerging countries. The authors recommend a further quantitative and qualitative investigation to enable key stakeholders to remain informed regarding challenges to MSMEs, EE support factors, and TE. The authors further suggest examining development trajectories within a range of MSMEs. Moreover, there is a need to understand and evaluate specific challenges within MSMEs. Further research can investigate other variables, such as entrepreneurial culture within developing countries. These data will further inform the shortage of TE and contribute to knowledge and the literature. The nature of this research can inform further studies in similar SSA economies. A comparative study of SSA countries should provide novel insights into an under-researched area.

Disclosure statement

No potential conflict of interest was reported by the authors.

Ethical approval statement

The study got ethical approval and clearance before data collection with Coventry University, England, UK (ethics approval reference number: P68748). Participants' opinions and suggestions were respected, and the information collected was confidential. Thus, participants were given an informed consent form explaining the purpose of the research study. Moreover, during the data collection process, the person-to-person contact offered the opportunity for more collaboration and clarification on ethical guidelines.

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Appendices

Table A1. MSMEs profile/responses.

MSMEsGender		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	413	71.7	71.7	71.7
	Female	163	28.3	28.3	100.0
	Total	576	100.0	100.0	
MSMEsEducation		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary/secondary	32	5.6	5.6	5.6
	Diploma	120	20.8	20.8	26.4
	Bachelor	370	64.2	64.2	90.6
	Masters	54	9.4	9.4	100.0
	Total	576	100.0	100.0	
MSMEsPreviousExperience		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Nil	264	45.8	45.8	45.8
	<1 year	46	8.0	8.0	53.8
	1–5 years	127	22.0	22.0	75.9
	6–10 years	96	16.7	16.7	92.5
	11–15 years	43	7.5	7.5	100.0
	Total	576	100.0	100.0	
MSMEsYearsinBusiness		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1–5 years	241	41.8	41.8	41.8
	6–10 years	220	38.2	38.2	80.0
	11–15 years	107	18.6	18.6	98.6
	16–20 years	8	1.4	1.4	100.0
	Total	576	100.0	100.0	

Table A2. Descriptive Statistics

Descriptive Statistics				
	N	Mean	Std Deviation	Variance
MSMEsGender	576	1.28	.451	.203
MSMEsEducation	576	2.77	.689	.474
MSMEsPreviousExperience	576	2.32	1.385	1.919
MSMEsCuurentExperience	576	2.80	.787	.619
Valid N (listwise)	576			

Table A3. Response Rate for Ecosystem Factors

		Frequency	Percent	Valid Percent	Cumulative Percent
AccessToFinance					
Valid	Strongly Disagree	407	70.7	70.7	70.7
	Disagree	169	29.3	29.3	100.0
	Total	576	100.0	100.0	
AccessToMarket					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	407	70.7	70.7	70.7
	Disagree	169	29.3	29.3	100.0
	Total	576	100.0	100.0	
AccessToResources					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	407	70.7	70.7	70.7
	Disagree	169	29.3	29.3	100.0
	Total	576	100.0	100.0	
PolicyandRegulationsSupportive					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	407	70.7	70.7	70.7
	Disagree	169	29.3	29.3	100.0
	Total	576	100.0	100.0	

Table A4. Regression Results

Access to Finance						
ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.495	4	8.374	55.649	<.001 ^b
	Residual	85.920	571	.150		
	Total	119.415	575			

^aDependent variable: AccessToFinance

^bPredictors: (Constant), MSMEsYearsinBusiness, MSMEsGender, MSMEsEducation, MSMEsPreviousExperience

Model Summary									
Model	R	R ²	Adjusted R ²	Std Error of the Estimate	Change Statistics				
					R ² Change	F Change	df 1	df 2	Sig. F Change
1	.530 ^a	.280	.275	.388	.280	55.649	4	571	< .001

^aPredictors: (Constant), MSMEsYearsinBusiness, MSMEsGender, MSMEsEducation, MSMEsPreviousExperience

Access to Market						
ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.495	4	8.374	55.649	<.001 ^b
	Residual	85.920	571	.150		
	Total	119.415	575			

^aDependent variable: access to market

^bPredictors: (Constant), MSMEsYearsinBusiness, MSMEsGender, MSMEsEducation, MSMEsPreviousExperience

Model Summary

Model	<i>R</i>	<i>R</i> ²	Adjusted <i>R</i> ²	Std Error of the Estimate	Change Statistics				
					<i>R</i> ² Change	<i>F</i> Change	<i>df</i> 1	<i>df</i> 2	Sig. <i>F</i> Change
1	.530 ^a	.280	.275	.388	.280	55.649	4	571	< .001

^aPredictors: (Constant), MSMEsYearsinBusiness, MSMEsGender, MSMEsEducation, MSMEsPreviousExperience

AccessToResources

ANOVA^a

Model		Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.
1	Regression	33.495	4	8.374	55.649	< .001 ^b
	Residual	85.920	571	.150		
	Total	119.415	575			

^aDependent Variable: AccessToResources

^bPredictors: (Constant), MSMEsYearsinBusiness, MSMEsGender, MSMEsEducation, MSMEsPreviousExperience

Model Summary

Model	<i>R</i>	<i>R</i> ²	Adjusted <i>R</i> ²	Std Error of the Estimate	Change Statistics				
					<i>R</i> ² Change	<i>F</i> Change	<i>df</i> 1	<i>df</i> 2	Sig. <i>F</i> Change
1	.530 ^a	.280	.275	.388	.280	55.649	4	571	< .001

^aPredictors: (Constant), MSMEsYearsinBusiness, MSMEsGender, MSMEsEducation, MSMEsPreviousExperience

Policy & Regulation

ANOVA^a

Model		Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.
1	Regression	33.495	4	8.374	55.649	< .001 ^b
	Residual	85.920	571	.150		
	Total	119.415	575			

^aDependent Variable: PolicyandRegulationsSupportive

^bPredictors: (Constant), MSMEsYearsinBusiness, MSMEsGender, MSMEsEducation, MSMEsPreviousExperience

Model Summary

Model	<i>R</i>	<i>R</i> ²	Adjusted <i>R</i> ²	Std Error of the Estimate	Change Statistics				
					<i>R</i> ² Change	<i>F</i> Change	<i>df</i> 1	<i>df</i> 2	Sig. <i>F</i> Change
1	.530 ^a	.280	.275	.388	.280	55.649	4	571	< .001

^aPredictors: (Constant), MSMEsYearsinBusiness, MSMEsGender, MSMEsEducation, MSMEsPreviousExperience