EFFECT OF TECHNOLOGICAL AND SOCIO-CULTURAL ENVIRONMENT ON SMALL AND MEDIUM ENTERPRISE (SME) SURVIVAL IN SOUTH EAST NIGERIA

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Abstract
This study examined the effect of technological and socio-cultural environment on Small and Medium Enterprise (SME) survival in South East Nigeria. The population of the study comprised owner-managers of all 57035 registered SMEs in the region, out of which a sample of 432 provided the needed primary data needed for meeting study objectives. The data collection process involved the administration of a structured questionnaire to a cross-section of these individuals. Subsequently, path analysis was conducted using the Partial Least Square Structural Equation Modeling (PLS-SEM) approach. Findings indicated that both technological and socio-cultural environment had positive and statistically significant effect on business survival. Therefore, SMEs that embrace modern technological practices are more likely to thrive in a competitive marketplace. Furthermore, cultural values, community support and social networks significantly influence business longevity and success. Therefore, it was recommended that SMEs should invest in modern technologies such as digital marketing, e-commerce platforms, and financial management software to enhance their operational efficiency, as well as integrate local cultural values and traditions into their business practices, products, and marketing strategies to resonate with the community.
Keywords: *Technological environment, Socio-cultural environment, Survival, Small And Medium Enterprise (SMEs).*

INTRODUCTION

Small and Medium Enterprises (SMEs) play a crucial role in the economic development of countries worldwide, serving as engines of growth, innovation, and employment. Globally, SMEs contribute significantly to GDP and job creation, accounting for approximately 90% of businesses and more than 50% of employment worldwide. In the context of Nigeria, SMEs are a vital component of the economy, contributing to approximately 48% of the national GDP and 96% of businesses (NBS, 2023). However, these businesses operate within environments with preset and dynamic conditions, which may have a bearing on how they meet their objectives, including their sustainability and continual relevance in their market. Data provided by NBS (National Bureau of Statistics, 2021) have pointed to a Nigerian business landscape characterised by endemic low performance and failure of SMEs.

The situation in the south east is not immune to this phenomenon as researchers such as Marcel (2024) have emphasised a pattern of generally epileptic performance of businesses in the region. As an area recognised for its significantly high entrepreneurial spirit and the significant role played in the Nigerian economy (Marcel, 2024; Okoli et al., 2021), an empirical study into the cause of widespread business failure therein, becomes paramount. Accordingly, the study aimed to examine the role of two important components of the environment within which businesses in the region exist and conduct their quotidian affairs. Firstly, the technological environment can have significant impact on a business enterprise, especially in the modern-day digital landscape. The ability of businesses to adapt to technological change and leverage progress can be a crucial tool for success and growth (Blichfeldt & Faullant, 2021), in the same vein, the inability to cope with technological changes in the environment can lead to market irrelevance and lack of competitive advantage, eventually causing business collapse.

The socio-cultural environment can also play a critical role in ensuring that a business thrives, in that, the attitudes and behaviour of customers are vital determinants of the success of businesses. Businesses often face a diverse market, and thus, sensitivity to prevailing cultural factors can thus, dictate whether a business firm lasts in serving its market (Manuel, 2022). The study thus, sought to find out whether technological and socio-economic environments predict business survival, and how businesses can adopt to dynamics in ensuring sustainability. The implications for a thriving SME sector, in the south east, for employment,

poverty reduction and income cannot be gainsaid. The study will therefore, prove to be valuable in helping achieve a vibrant business landscape in the south east within a technological and socio-cultural context.
In line with the aim the study, the following hypotheses were formulated for testing.

H_{01}: Technological environment does not have significant effect on SME survival in South East Nigeria.
H_{02}: Social cultural environment does not have significant effect on SME survival in the South East Nigeria.

LITERATURE REVIEW

Technological Environment

Mbanote (2024) defines technological environment as encompassing changes in technology that can reshape how a company operates, prompting significant shifts in the organisation's strategies. The environment, as highlighted by Chouhan (2015), may include the rate of progress in innovation and productivity within an industry, as well as institutional arrangements for development and application of new ideas. It comprises both machines (hard technology) and scientific thinking (soft technology) used to solve problems and promote progress. Operating within the external business realm, technological factors can transform enterprises by shaping how they operate, and hold potential for both threats and opportunities. Technological innovation, for example, impact everything from production to customer interaction, and can lead to higher productivity, cost reduction, and new product offerings. However, it can also render existing products obsolete. Staying abreast of technological changes can, thus, be crucial for growth and competitiveness (Mbanote, 2024).

Socio-Cultural Environment

As argued by Mbanote (2023), socio-cultural environment of business is a blend of the social system and people's culture. It encompasses customs, values, conduct codes, beliefs, and traditions. This environment significantly impacts every business, necessitating thorough analysis and strategic alignment. Essential facets like education levels, values, attitudes, work ethics, and family structures intricately compose the sociocultural fabric. Changes in this environment act as stimuli, potentially yielding threats or opportunities that businesses must recognise and navigate. The dynamic and evolving sociocultural environment plays a pivotal role in shaping businesses. It encompasses attitudes, behaviours, and values in society, closely linked to population, lifestyle, culture, tastes, customs, and traditions. This complex web, incorporated by communities and inherited across generations, defines the social and cultural landscape. Furthermore, socio-cultural environment is the evolving backdrop against which businesses operate, where societal shifts can either challenge or empower a firm's marketing endeavors. It underlines the need for adaptability and strategic resonance within the dynamic currents of culture and society.

Business Survival

Business survival is the ability of a firm to continuously be in operation despite various challenges i.e. the managerial process of directing the affairs of a firm regularly on a going concern basis and meets the needs of all stakeholders (Akindele et al., 2012). Lebas and Euske (2002) provided a good definition of survival as doing today what will lead to measured value outcomes tomorrow. Amos et al. (2005) pointed out that enterprises' survival cannot be left in anticipation that will develop naturally, despite the employee's natural desire to perform and be rewarded for it, the author went further to say this desire of survive needs to be accommodated, adapted, and nurtured. Survival is not a new phenomenon among the academics and the industrialists. Folan and Browne (2005) documented that performance and survival has been a source of influence to the actions taking by firms and the degree to which a business/enterprise realizes its goals as well as its stated objectives through the strategies and policies of the business life. In the same vein Barney (2002); Carton and Hofer (2006) assert that the idea of survival is hanged on the position or premise that it is a combination of productive assets made up of human, physical, and capital resources, for the major reason of fulfilling a dream, vision or accomplishing a shared purpose.

Empirical Review

Technological Environment and SME Survival

Milly (2021) examined the technological factors on the performance of small and medium businesses with specific focus on Ugandan businesses. Data for the study was gathered through a cross-sectional survey involving 64 managers, 177 workers and 213 clients in Kampala district, Uganda. Regression analysis indicated that technological factors had effect on business survival. In a related study, Taufeek (2020), in a Ugandian study found that technological environment was positive and significant in predicting business survival based on results obtained from path analysis of data collected from a cross-sectional survey of 250 business owners in Kigali.

Socio Cultural Environment and SME Survival

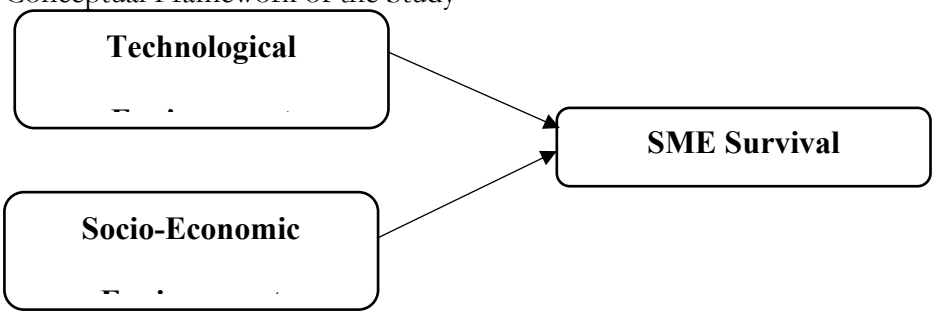
Using a causal approach, Mark and Muogbo (2023) applied multiple regression analysis to self-reported survey data collected from 327 business owner-managers, finding that business survival was positively and significantly determined by socio-cultural factors in the external environment of enterprises. Similarly, Ojelade et al. (2022) investigated the impact of social-cultural factors on the survival of SMEs in Ibadan metropolis. Primary data was obtained from a questionnaire survey of the opinions of 275 SME owner-managers and analysed using PLS-SEM. It was found that socio-cultural environment faced by businesses in the study area positively determined their level of survival.

Conceptual Framework

The conceptual framework of the study is illustrated in figure 1 showing SME survival as outcome of changes in the technological and socio-cultural environments.

Figure 1

Conceptual Framework of the Study



Note. Researcher's Compilation.

Environmental Determinism Theory

The study was guided by the Environmental Determinism Theory developed by researchers such as Montesquieu (1748) and Ratzel (1882). The theory explains how external environmental factors can significantly influence the performance and outcomes of businesses and organisations. The Environmental Determinism theory underscores the pivotal role of the external business environment in shaping the performance outcomes of SMEs. It posits that the success or failure of SMEs is largely determined by the conditions, forces, and factors present in their external environment.

In the context of business operations, therefore, the theory can be used to explain the environment within which businesses operate as an active force that shapes their strategies, decisions, and performance. It implies that the external environment exerts a deterministic influence on a company's ability to achieve its goals and objectives. Specifically, the theory emphasizes the importance of strategic adaptation. Successful businesses are, therefore, those that recognise the determinative influence of the external environment, in the case of the current study, external technological and cultural factors, adjust their strategies, operations, and decision-making processes accordingly. They proactively scan the environment for changes and are agile in responding to emerging threats and opportunities (MBASkool, 2023). Ultimately, the theory argues that businesses that align their strategies and operations with the prevailing external environment, are more likely to perform well and achieve their objectives.

METHODOLOGY

A causal design was adopted for the study for the purpose of explicitly evaluating the existing cause-and-effect relationship between Technological Environment and Socio-Cultural Environment, as exogenous constructs, and SME Survival, as the endogenous construct. The population of the study comprised of owner-managers of all 57,035 registered SMEs across the five states of the South East - Abia, Anambra, Ebonyi, Enugu, and Imo. However, due to the large size of this number, given research constraints, a sample was drawn therefrom, using the Yamane (1968) sample determination formula for finite population. Accordingly, the acquired necessary sample size of 398 was increased by 30% to 518 to account for possible non-response problems.

Multistage sampling, comprising of quota and purposive sampling, was utilised in the administration of questionnaires to the study sample across capitals of the five states in the region (however, for Anambra, Onitsha was used rather than the capital, given its high level of economic activity). The use of capitals was informed by the centrality of the locations and their economic relevance. These locations presented ideal conditions to adequately study the behaviour of SMEs given the high cluster of businesses in these locations. Purposive sampling was applied in the selection of respondents across areas with high business presence. The data collection tool was a structured questionnaire administered using the drop-off/pick-up method. In analysing the collected data, Partial Least Structural Equation Modelling (PLS-SEM) was employed to evaluate construct causal relationships.

RESULT AND DISCUSSIONS

Of the 518 questionnaire copies administered, 432 were properly filled and returned giving a response rate of 96%. Subsequently, all further analyses were done using 432 responses.

Table 1

Descriptive Statistics

Construct	Mean	Median	Min	Max	SDV	Kurtosis	Skewness
TE	2.96	3.00	1.00	4.00	0.98	-1.59	-0.09
SE	4.31	4.57	2.00	5.00	0.76	0.90	-0.98
SU	3.63	3.86	1.00	5.00	0.91	0.20	-0.68

Note. SmartPLS Output Based on Data from Field Survey, 2024.

Data on the study variables are described in Table 1 in terms of the mean, minimum, maximum, standard deviation, skewness and kurtosis values. Technological environment (TE) revealed an average value of 2.96 with a standard deviation value of 0.98. However, the minimum and maximum values stood at 1 and 4 respectively. Technological environment (TE) had minimum and maximum values of 2 and 5 respectively however, it showed an average of 4.31 along with a standard deviation of 0.76. Furthermore, SMEs survival (SU) showed a minimum value of 1 and a maximum value of 4 with an average value of 3.63 accompanied with a standard deviation value of 0.91. All the skewness and kurtosis values were less than 1 which shows that there is a normal distribution of data.

The PLS-SEM analysis conducted was done in two main stages. The first was an assessment of the measurement model. This involved checking for indicator reliability, internal consistency, as well as convergent and divergent validity. In assessing indicator reliability, values above 0.708 are generally recommended, as they indicate that the construct explains more than 50% of indicator variance, thus providing acceptable item reliability (Hair et al., 2019). Thus, loadings that did not meet this condition (TE6, SE5 and SU5) were discarded, as can be seen in table 2. All retained indicators were confirmed to be reliable.

Table 2

Indicator Reliability, Internal Consistency and Average Variance Extracted

		Factor Loadings	Cronbach Alpha	Composite Reliability	AVE
Technological Environment	TE1	0.832	0.882	0.914	0.679
	TE2	0.853			
	TE3	0.844			
	TE4	0.799			

	TE5	0.789			
Socio-Cultural Environment	SE1	0.878	0.862	0.907	0.712
	SE2	0.905			
	SE3	0.873			
	SE4	0.704			
SME Survival	SU1	0.846	0.874	0.914	0.728
	SU2	0.754			
	SU3	0.907			
	SU4	0.896			

Note. SmartPLS Output.

Cronbach's Alpha and Composite Reliability (CR) statistics were also computed to test for internal consistency and stability of constructs. Hair et al. (2019) prescribes alpha and CR values of above 0.6 for satisfactory reliability. All computed values for both measures were determined to be within this threshold (see table 2), indicating that study constructs were internally consistent and stable. To test for the convergent validity, Average Variance Extracted (AVE) values were examined for study constructs. Computed values in all cases were greater than 0.50, confirming convergent validity, being indicative of the fact that the constructs explained at least 50% of the variance of its items.

In addition to convergent validity, divergent validity was tested with the use of the Heterotrait-Monotrait (HTMT) ratio. The statistic is the mean value of the item correlations across constructs relative to the (geometric) mean of the average correlations for the items measuring the same construct (Voorhees et al., 2016). Discriminant validity problems are present when HTMT values are high than 0.90 for structural models (Henseler et al., 2015). Computed HTMT values, as contained in table 3, confirmed the presence of divergent validity among study constructs, essentially upholding the uniqueness of the constructs in the model and implying data quality.

Table 3

Heterotrait-Monotrait Ratio (HTMT)

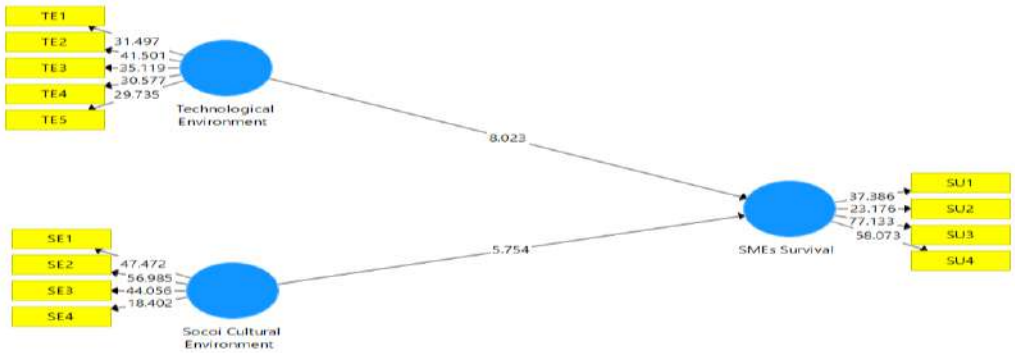
	TE	SE
SE	0.047	
SU	0.058	0.462

Note. SmartPLS Output.

The determination of the accuracy of the measurement model was proceeded by the estimation of the structural (inner) model establishing causal relationships among latent constructs. Standard assessment criteria included estimating path coefficients, t-values, p-values and Coefficient of Determination (R^2). The estimation of the path model followed a bootstrapping procedure involving 5000 subsamples. The estimated model for the study is illustrated in figure 2 showing SME Survival as positively determined by exogenous constructs of Technological Environment and Socio-Cultural Environment.

Figure 2

Estimated Path Model of the Study



Note. SmartPLS Output.

To ensure that the inner model was free of collinearity issues, Variance Inflation Factor (VIF) was computed for the model constructs. All VIF values were less than 5 indicating the absence of critical collinearity (Hair et al., 2019). Additionally, the in-sample predictive power of the estimated model was tested with the Coefficient of Determination (R^2). Computed value for the statistic stood at 0.71, indicating that both Technological Environment and Socio-Cultural Environment accounted for 71% of variations in SME Survival. The remaining 29% were explained by other factors not included in the model. Based on Hair et al. (2019), the computed R^2 reflected very high predictive power.

Table 4
Estimated Path Coefficient of the Study

	β	t	p	H_0 Decision
Technological environment-> SME Survival	0.507	8.023	0.000	Not Accepted
Socio-cultural Environment-> SME Survival	0.378	5.754	0.000	Not Accepted

Note. SmartPLS Output.

The result of the path analysis is presented in table 4, with estimated coefficients with their associated t and p values. The causal path relationships between Technological Environment and SME survival (0.507, $t = 8.023$, $p < 0.05$), as well as between Socio-Cultural Environment and SME Survival (0.378, $t = 5.754$, $p < 0.05$), were estimated to be positive and statistically significant, providing sufficient empirical evidence preventing the acceptance of the null hypothesis in both cases.

CONCLUSION AND RECOMMENDATIONS

This study examined the effect of the technological and socio-cultural components of external environment on SME survival, with specific focus on southeastern Nigeria. Findings of the study generally upheld the significant role external operating environment had on business success. Specifically, the survival of SMEs in the region was positively predicted by technological and socio-cultural factors at magnitudes that were statistically different from zero. This therefore, necessitates a commitment towards modern technological practices through such avenues as leveraging digital tools, improving operational efficiencies, and fostering innovation; as well as aligning business strategies to prevailing cultural values, engaging in community support and leveraging social networks. Such practices have been confirmed by the study to significantly influence business longevity and success.

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