Absorptive Capabilities as Determinants of Economic Sustainability of Small and Medium-Scale Enterprises

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Research Article

Abstract

Purpose *– Drawing from the Absorptive Capabilities theory, this paper examines the role played by dimensions of absorptive capabilities (i.e., knowledge acquisition, knowledge assimilation, knowledge transformation, and knowledge exploitation) on the economic sustainability of SMEs in Nigeria.*

Design/methodology/approach *– This study uses a cross-sectional research design to collect quantitative data from 343 owners/managers of SMEs in Plateau State. Structural equation modeling through the use of the Analysis of Moments of Structures (AMOS) software, version 23 was employed to test the hypotheses.*

Findings *– Research results indicate that all the dimensions of absorptive capabilities exert significant influence on the economic sustainability of SMEs. Thus the dimensions of absorptive capabilities serve as the antecedents of the economic sustainability of SMEs could be realized.*

Limitations- *The focus of this study is on SMEs in Plateau State alone. The use of a cross-sectional design may also undermine the results of the study.*

Implications *– This work adds to existing research on the subject of sustainability by revealing that dimensions of absorptive capabilities are necessary for the attainment of economic sustainability.*

Originality *– Based on current literature, studies on the dimensions of absorptive capabilities as predictor variables are limited. No study has been conducted on the influence of absorptive capabilities using four dimensions, on the economic sustainability of SMEs. Thus it is a pioneering study in terms of both content and context.*

Keywords: Absorptive capabilities, knowledge acquisition, knowledge assimilation, knowledge transformation, knowledge exploitation, economic sustainability.

1. Introduction

Small and medium enterprises (SMEs) account for the majority of businesses worldwide. They are the main propeller of job creation and economic development both locally and globally. A report by the World Bank Group (2022) posits that SMEs make up about 90% of businesses and are the contributors to more than 50% of employment worldwide. The report also maintains that formal SMEs' contributions to the national income (GDP) of emerging economies are up to 40% and these numbers are significantly higher when the contributions of the informal SMEs are added. The European Commission (2020) elucidates that small and medium-sized enterprises (SMEs) are the core of the European economy and they make up 99% of all EU businesses, employing around 100 million people. Africa is not left out in these happenings as SMEs

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account for up to 90% of all businesses in African markets and so, remain the major sources of employment in the African continent (Africa Union Commission., 2022).

Reports from PwC (2020) show that SMEs in Nigeria make up 96% of the total number of businesses in the country and contribute about 50% to the national GDP, generating 65% of total employment. However, despite the important roles this sector plays in contributing to economic growth and development of the national economy, the Small Medium Enterprise Development Agency of Nigeria (SMEDAN) puts the rate of failure for SMEs in Nigeria within the first five years at 80% (Agwu, 2014; Ajibola, 2020). Ugoani (2020) opined that a major challenge confronting SMEs is sustainability. Sustainability, according to Meflinda *et al*. (2018), is the concept that explains the capacity of an organization to exist over a long period and be resistant to factors that can affect its growth, performance, and strategies. It is worthy of note that many SME owners/managers have inadequate knowledge of sustainability strategies in operating their businesses (Melinda *et al*. 2018), and they also lack knowledge of how different organizational stakeholders affect the sustainability of their businesses (Mile, 2017). Reina *et al*., (2018), as cited (Ajibola, 2020) identified that some factors that jeopardize SMEs' growth and sustainability in Nigeria are low employee engagement, the high turnover rate of employees, inadequate customer loyalty, low customer patronage, lack of employee motivation in improving the success of the business, and low community support.

Quartey et al. (2017) posit that some of the opportunities large organizations benefit from our funding, accessibility to information, knowledge acquisition, and standardization, and the unavailability of these opportunities to SMEs makes their sustainability in Nigeria difficult. Meflinda *et al*. (2018) are also of the view that many SME owners/managers do not have the required knowledge and strategies needed to enhance the sustainability of their businesses. This agrees with the thoughts of Ali et al. (2018) when they argued that information and resources are necessary ingredients for propelling innovation, and inadequacy of this information and resources gives room for disappointment, which results in the non-attainment of SMEs' sustainability.

This study seeks to investigate the attainment of economic sustainability by considering factors that could enhance its actualization. Though extant literature has considered different contributory factors to sustainability, for example, Čiarnienė *et al.* (2021) looked at employee voice, Kenebara and Uranta (2019) argued for corporate social responsibility, Zawawi and Wahab (2019) studied corporate spirituality, Osagie and Ohue (2019) focused on person-organization fit, etc., this study considers absorptive capabilities as necessary ingredients for attaining economic sustainability in SMEs, especially in a developing economy like Nigeria. Absorptive capabilities, according to Kim and Park (2018) refer to the capabilities of an organization to reset its business operations and processes through acquisition, assimilation, transformation, and exploitation of knowledge to achieve its organizational goals. Though Absorptive Capabilities have been researched by several scholars, studies on their dimensions are still very limited. Several researchers have posited that all the dimensions are separate, but complement each other (Zahra and George, 2002), but limited studies have investigated this theory systematically and verified the internal working mechanism of these dimensions, thus leaving a gap in the literature and limiting the theory development and managerial practice of the concept (Xie *et al.*, 2018). This gap brings about the empirical investigation of the influence of acquisition, assimilation, transformation, and exploitation of knowledge on the economic sustainability of SMEs in Nigeria, using Plateau State as the focus.

Therefore, this study contributes to the current body of literature by researching the interrelationships between the dimensions of absorptive capabilities and economic sustainability (which is also a dimension of organization sustainability) of SMEs in Nigeria. Practically, this study provides insights into the importance of absorptive capabilities and how owners/managers of SMEs can take advantage of them to achieve economic sustainability in their businesses.

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2. Literature Review

2.1 Theoretical Review

In this study context, absorptive capabilities may be viewed as a tool in the hands of owners/managers of SMEs, which aid in achieving improved organizational performance, growth, success, innovation, and sustainability through the provision of operational knowledge. This means that when an organization acquires new knowledge about its operations, assimilates/absorbs this knowledge, transforms it, and exploits it for its use, it leads to that organization's sustainability. Therefore, this study adopts the Absorptive Capability theory propounded by Cohen and Levinthal (1989) and examines the extent to which organizations use external knowledge to achieve organizational goals. This theory, according to Miles (2012) assumes that absorbing new knowledge will enhance an organization's flexibility and innovativeness and will help to achieve a higher level of performance than it would without absorbing the new knowledge. This means that organizations with higher abilities to absorb new knowledge/information from the environment will be more competitive than organizations with lower abilities. Zahra and George (2002) further reconceptualized this theory into four capabilities or dimensions, which are knowledge acquisition, knowledge assimilation, knowledge transformation, and knowledge exploitation. This applies to this study because the researchers believe that the components of absorptive capabilities (acquisition, assimilation, transformation, and exploitation) are factors needed for organizations to function effectively and realize sustainability. Figure 1 showcases a relationship among the key variables that influence the economic sustainability of SMEs. The framework is put forth to show whether the economic sustainability of SMEs is a function of absorptive capabilities dimensions.

2.2 Conceptual Review

2.2.1 Economic Sustainability

In the context of organizational sustainability, economic sustainability is defined as how business organizations can remain in business over a long period (Singh *et al.*, 2016). It is primarily based on how monetary capital combines with other capital assets of the firm i.e., natural, social, and human (Kahn, 1995). Economic sustainability also referred to as "economic viability" is at the center of corporate sustainability since it contributes to the general social welfare and generates profits and jobs (Azapagic, 2003). A firm can present cash flow that assures essential liquidity and is responsible for the creation of wealth as well as indicating the ability to perform business undertakings responsibly while ensuring profitability (Dyllick and Hockerts, 2002; Munck and Borim-de-Souza, 2012). This implies that economic sustainability includes economic performance, cost savings, efficient use of resources, wastage minimization, sustainable financial welfare creation, and other economic issues (Čiarnienė *et al.*, 2021). This also suggests that in the organizational sustainability triple bottom line, economic sustainability is the profit-making side of the firm. Vinodh and Joy (2012) assert that the most important economic aspects of SMEs are capital availability, operational efficiency, production cycle implementation, and use of quality raw materials. Hoogendoorn *et al.* (2019) also posit that the long-term success of an entrepreneur is dependent on good sustainable practices, and an entrepreneurial venture without economic sustainability will fail especially when the aspects of social and environmental sustainability are not given due attention.

Rasouli and Kumarasuriyar (2016) identified two aspects of economic sustainability. They posited that some scholars believe that the core of economic sustainability is the connecting link between economic growth and the use of natural resources, while others assume that economic sustainability's core concept is the long-term performance of capital. Considering both views, economic sustainability could be argued to center on economic performance measurements, which Zawawi and Wahab (2019) reasoned are generally taken for profit and loss factors, such as profit growth, returns on equity or assets, sales growth, transportation costs, after-tax income, marketing costs, etc. Khan and Quaddus (2015) concluded that

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economic sustainability consists of several aspects including employment, sales growth, income stability, profitability, and return on investment, while earlier research by Doane and MacGillivray (2001) submitted that economic sustainability is "the most elusive component of the triple bottom line approach which includes the economic, social and environmental sustainability".

2.2.2 Absorptive Capabilities

Absorptive Capacity/Capability takes its root from the concept of Dynamic Capabilities, which Teece *et al.* (2007) introduced and defined as the ability of an organization to integrate, build, and reconfigure internal and external competencies to address happenings in a rapidly changing environment. Karimi and Walter (2015) in their definition viewed Dynamic Capabilities as those factors or resources within an organization that enable the organization to unexpectedly respond to new situations. Though several scholars have made contributions to the theory of Dynamic Capabilities to describe its main elements, the contribution of Wang and Ahmed (2007) birthed Absorptive Capability, who emphasized that Adaptive Capability, Absorptive Capability, and Innovative Capability are the most important factors of Dynamic Capabilities.

Absorptive capacity, according to Kaur (2017) is the ability of an organization to gather and understand new knowledge acquired through business collaborations to improve the skillset possessed by the company. Slater and Narver (2014) opined that absorptive capacity refers to the process of acquisition and dissemination of organizational memory, and shared interpretation of information, whereby new insights or knowledge, that facilitate organizational changes responsible for enhancing performance are developed. Zahra and George (2002) on their part, indicated that absorptive capabilities are a set of organizational procedures and processes through which an organization can acquire, assimilate, transform, and invest knowledge to obtain dynamic organizational viability. This implies that absorptive capability is knowledge-based; that is, how knowledge got externally (from outside the organization) is put to use by the organization in achieving its objectives.

Absorptive capabilities are concerned with acquiring knowledge from partners and transferring it within the organization. It also contributes to the transfer of new practices and the flow of knowledge between the departments of the organization and the creation of new wealth, and the acquisition of competitive advantage and high financial performance (Khaghaany & Almagtome, 2019). Studies conducted by Gebauer *et al.* (2012) and Andreeva and Kianto (2011) affirm that absorptive capacity plays a contributory role in facilitating organizational innovation.

Though Zahra and George (2002) proposed that Absorptive Capabilities involve two general subsets or dimensions: Potential absorptive capacity (PACAP) and Realized absorptive capacity (RACAP), Camisón and Forés (2010), Miles (2012), and Al-Ghazali & Al-Janabi (2021) agree that Zahra and George's (2002) two dimensions of Absorptive Capabilities could be further broken down to four dimensions, which are knowledge acquisition, knowledge absorption (assimilation), knowledge transfer (transformation) and knowledge exploitation. Camisón and Forés (2010) gave the following illustrations of these dimensions:

Knowledge Acquisition is the ability of the organization to define, obtain, differentiate, and appraise external knowledge that is essential to its operations. Acquisition capacity is based on the organization's ability to gain knowledge from its external environment i.e., from its partners on marketing experience, management techniques, product improvement tools, and technology expertise.

Knowledge Absorption focuses on the ability of the organization to absorb/assimilate outside/external knowledge. This ability takes the form of processing and analyzing new information or acquired knowledge, and interpreting, understanding, assimilating, and classification of this information/knowledge. This capacity is measured by relying on various processes and outputs, especially job barriers, knowledge sharing, and communication (Whangthomkum *et al.*, 2006).

Knowledge Transfer is also known as transformation ability, which defines the extent an organization can develop and improve upon an internal procedure that aids the transfer and mixing of previous working knowledge with knowledge newly acquired or absorbed. Transformation can be realized by making an

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addition to or removal of knowledge, or by interpreting and combining existing knowledge innovatively and differently. The ability to transform/transfer knowledge is affected by three important variables (Choong and Fang, 2010), which are information technology; procedures, methods, and systems; and organizational culture.

Knowledge Exploitation is concerned with the ability of the organization to integrate the knowledge acquired, absorbed, and transformed into procedural operations to refine, expand and reinforce existing procedures, processes, competencies, and knowledge, and create new processes, goods, and organizational forms. Therefore, the ability to invest knowledge indicates the application of new external knowledge and its use for commercial purposes to organizational goals (Choong and Fang, 2010).

2.3 Empirical Review and Hypotheses Development

In the study of Olaleye *et al*. (2020), the absorptive capability was found to contribute to the innovative performance of organizations, though it did not mediate the relationship between strategic thinking and innovative performance. The study recommends that the issues of knowledge acquisition, absorption, transformation, and exploitation be addressed systematically. However, the study of Al-Ghazali shows a positive and significant relationship between absorptive capability and sustainability of safe performance and also supports the interacting effect of absorptive capabilities on authentic leadership and sustainability of safe organizational performance.

The work of Kim and Park (2018) argues that an organization's capacity to acquire external knowledge and exploit it will enhance its technological advancement, innovation, and commercialization capacities. This is in line with Fernando and Perera's (2021) study, which found that absorptive capability has positive effects on the competitive advantage of ICT firms in Sri Lanka. This finding also agrees with the study of Mweu *et al*. (2021), who posited that absorptive capability plays a significant role in attaining organizational performance; which Cameron and Quinn (2011) supported when they asserted that the absorptive capabilities of an organization are a major factor in determining the applicability of its dynamic performance.

Rua *et al*. (2019) in their research of SMEs carried out in Portugal discovered that absorptive capabilities positively influence innovation, which takes the same position as the works of Galunic and Rodan (1998), Mahoney and Pandian (1992), and Teece *et al.* (1997). Rua *et al.* (2019) also saw a positive relationship between absorptive capabilities and the export performance of SMEs, which also has the belief of Eisenhardt and Martin (2000). Owoseni and Twinomurinzi's (2018) studies conducted in Lagos, Nigeria on mobile app usage in operations of SMEs elucidate that the Absorptive Capabilities of SMEs increase their opportunity-sensing ability, opportunity-shaping ability, and opportunity-seizing ability. Results from Albort-Morant et al.'s (2018) study on the relationship between Absorptive Capabilities and Green Innovation Performance support that Absorptive Capabilities exert a significant positive impact on Green Innovative Performance, which is in line with the position of Gluch *et al.* (2009) and Hashim *et al.* (2015). The work of Kianto *et al.* (2017) shows Absorptive Capabilities to be positively associated with organizational performance (operational efficiency and innovation) and also mediates the relationship between organizational compatibility and organizational performance in the buyer-seller context.

In determining the relationship between the dimensions of Absorptive Capabilities on organizational innovation and performance in large, medium, and small-sized firms in South Korea, Collier et al. (2013) and Ali *et al.* (2016) discovered that acquisition, assimilation, and exploitation are major drivers of organizational innovation dimensions (product innovation, process innovation, and management innovation), which in turn increases organizational performance. The transformation dimension did not show any significant relationship with the innovation dimensions. The authors however posited that the result does not suggest that transformation was less important, but instead implied that unpronounced

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importance when put side by side with the other three Absorptive Capabilities dimensions. Also, the study of Müller *et al.* (2020) reveals a positive and significant influence of acquisition and assimilation of external knowledge on exploratory and exploitative innovation strategy; and a positive and significant effect of transformation and exploitation of external knowledge on exploratory and exploitative innovation strategy of industry enterprises in Germany. Xie *et al.* (2018) in their study of high-tech companies in China realized positive relationships between the four dimensions of Absorptive Capabilities (acquisition, assimilation, transformation, and exploitation) and firms' innovation performance, which agrees with the study of Kostopoulos *et al.* (2011), Sciascia *et al.* (2014), and Tortoriello (2015).

Therefore, based on the Absorptive Capability theory that posits that when organizations identify, acquire, and assimilate information or knowledge from the environment (internal or external), for transformation and exploitation, it brings about innovation and achievement of organizational goals (which leads to sustainability of the organization), and also considering the conceptual and empirical review, this study puts forth the following hypotheses;

HI: Knowledge acquisition capacity significantly influences the economic sustainability of SMEs.
H2: Knowledge assimilation capacity significantly influences the economic sustainability of SMEs.
H3: Knowledge transformation capacity significantly influences the economic sustainability of SMEs.
H4: Knowledge exploitation capacity significantly influences the economic sustainability of SMEs.

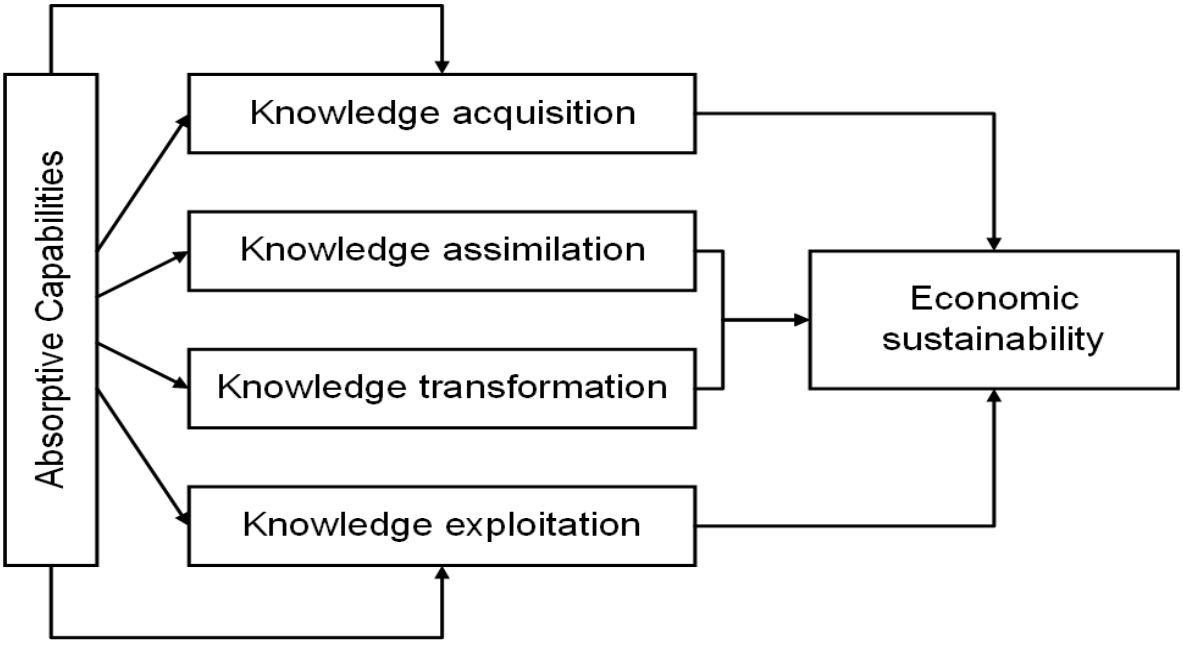

Fig. 1: Conceptual model of the study

3. Methodology

A cross-sectional research design was followed in obtaining useful data to address the research hypotheses. The population for this study was drawn from records made available to the researchers by the Plateau State Micro-Finance Development Agency (PLASMIDA), an agency of the state government in charge of all matters relating to small and medium-scale enterprises in the 17 local government areas of the state. Their responsibilities include SME registration; training; granting of loans and other credit facilities through banks and donor agencies; regulations of SMEs operation to conform with global best practices; collaboration with local and foreign NGOs in the interest of registered members, procurement and distribution of high-quality inputs to members, etc. The records show that there are about 2,514 SMEs in Plateau State (though registration of these SMEs is always an ongoing process). These registered SMEs cut

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across areas such as crop farming; poultry farming; piggery; fishery; paint-making; soap making; hair and body salon; decoration and event planning; restaurants and eateries; mobile phone sales and repair services; furniture making; interior and home furnishing; shoe-making/cobbler; fashion design/tailoring; building materials; bee-keeping; farm produce processing, to mention a few.

Questionnaires were used as the source of primary data to elicit answers from respondents (who are either business owners and/or managers). A non-probability convenience sampling method was employed in sampling these 352 registered business owners/managers of SMEs using the Krejcie and Morgan (1970) sample determination table). All the 352 administered questionnaires were returned (as they were administered to the business owners/managers at their bi-monthly meeting/training at the PLASMIDA secretariat), with research assistants engaged by the researchers and some employees of the agency taking out time to explain in details the contents of the questionnaires to those respondents who needed clarifications. 343 questionnaires were deemed usable, as 9 were removed because of insufficient information provided. This means 97% of the returned questionnaires were used for the study, which met the recommendation of Garson (2016). The focus of this study is the dimensions of Absorptive Capability and Economic Sustainability of SMEs in Plateau State. In measuring Absorptive Capability dimensions (knowledge acquisition, knowledge assimilation, knowledge transformation, and knowledge exploitation), an 18-item scale measurement developed by Jimenez-Barrionuevo *et al.* (2011) was adopted, while Economic Sustainability's measurement was based on a 5-item scale borrowed from Cella-de-oliveira's (2013) social performance indicators. The items were measured on a 5-point Likert scale.

4. Data Analysis

The respondents' demographic profile is shown in Table 1. It indicates that 57.4% of the respondents were male, while females make up 42.6%. This suggests that we have more males than females in the SME business in Plateau State. The age range of respondents shows that 6.7% are below 20 years of age, 19.8% make up the 21 to 30 years age bracket, 31.5% are in the 31 to 40 years category, 26.2% are between 41 and 50 years of age, 12% are within 51 to 60 years of age, while 3.8% are 61 years old and above. This implies that the SME business in Plateau State has more youths than adults in its population (i.e., 58% are below 40 years of age). The class of business consists of micro, small, and medium-scale businesses, but this study only considers small and medium-scale businesses. Small-scale enterprises make up 70.3%, while medium-scale enterprises account for 29.7%. This shows that there are more registered small-scale businesses in Plateau State than medium-scale businesses. The academic qualification of respondents also reveals that 19.8% are NCE/OND/Diploma holders, 48.7% are Bachelor's degree holders, 12.8% are Master's degree holders, 5.5% have PhDs, and 13.1% possess other certificates or have no formal education. This implies that the majority of SME business owners/managers (86.9%) in Plateau State have higher education certificates. The table finally reveals the age of the SMEs. 56% of the SMEs have been in operation for 10 years and below; 28.9% have been operating between 11 and 15 years; 12% have been in business between 16 and 20 years, while 3.2% have been operating for upward of 21 years. This suggests that more businesses (56%) were established in the past 10 years.

With the aid of SPSS, version 23, the useful questionnaires (343) received from respondents were cleaned (i.e., checked for out-of-range values, missing values, and identification of outliers). No out-of-range value was found, but missing values and outliers were worked on to ensure that the data were fit and suitable. A face validity approach was then used to ascertain the validity of the measuring instrument.

Table 2 highlights the reliability of the study model using the Cronbach alpha test. The alpha values which are Knowledge Acquisition (0.840); Knowledge Assimilation (0.778); Knowledge Transformation (0.827); Knowledge Exploitation (0.765); and Economic Sustainability (0.820), all met the minimum requirement (i.e. greater than 0.7) as postulated by Garson (2016) and Hair *et al.* (2016).

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Table 1: Respondents' demographic profile

	Frequency	Percentage	Cumulative Percentage
Gender			
Male	197	57.4	57.4
Female	146	42.6	100
Age range			
Below 20 years	23	6.7	6.7
21 – 30 years	68	19.8	26.5
31 – 40 years	108	31.5	58
41 – 50 years	90	26.2	84.2
51 – 60 years	41	12	96.2
61 years and above	13	3.8	100
Class of business			
Small	241	70.3	70.3
Medium	102	29.7	100
Academic qualification			
NCE/OND/Diploma	68	19.8	19.8
Bachelor's degree	167	48.7	68.5
Masters' degree	44	12.8	81.3
PhD	19	5.5	86.8
Others	45	13.1	100
Age range of business			
Below 10 years	192	56	56
11 - 15 years	99	28.9	84.9
16 - 20 years	41	12	96.9
21 years and above	11	3.2	100

The validity of the model was tested utilizing the convergent validity method. According to Zhou and Xu (2013), convergent validity is a situation where all items of a specific variable are effectively reflected on their linked indicator. Hair *et al.* (2014) elucidated that three things are required for convergent validity, which are factor loadings, composite reliability (CR), and average variance extracted (AVE). They also posit that the factor loadings and AVE values must be higher than 0.50, and the CR value must be greater than 0.70.

Table 2: **Reliability Test**

Variables	Acquisition	Assimilation	Transformation	Exploitation	Economic Sustainability
Cronbach Alpha values @ 0.70 threshold	0.840	0.778	0.827	0.765	0.820

Table 3: Validity Test

Variables	**Items**	**Factor loadings**	**Average Variance Extracted (AVE)**	**Composite Reliability (CR)**
Knowledge Acquisition	ACQ 4	0.845	0.714	0.758
	ACQ 5	0.845		
Knowledge Assimilation	ASS 1	0.813	0.735	0.917
	ASS 2	0.815		
	ASS 3	0.904		
	ASS 4	0.893		
Knowledge Transformation	TFN 3	0.728	0.570	0.798
	TFN 4	0.824		
	TFN 5	0.707		
Knowledge Exploitation	EXP 1	0.813	0.661	0.796
	EXP 2	0.813		
Economic Sustainability	ECS 3	0.728	0.517	0.756
	ECS 4	0.701		
	ECS 5	0.728		

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According to Hayduk and Littvay (2012), items with factor loadings less than 0.50 must be deleted to have a better outcome for CR and AVE. The convergent validity of the model is highlighted in Table 3. In measuring the sample adequacy of the data, the KMO and Bartlett's test of sphericity was engaged. The rule of thumb is that the KMO value must be greater than 0.7 for it to be adequate and Bartlett's test must be significant at 0.000 with $p < 0.001$. Table 4 shows an excellent result of KMO at 0.859, which means the samples do not have multicollinearity problems and therefore, are appropriate for factor analysis. The result of Bartlett's test shows a high statistical significance which favors the correlation matrix. These results meet the requirement for KMO and Bartlett's test as recommended by Pallant (2007). The total variance explained is 70.36%, where the first factor explains 46.057%, the second factor explains 11.249%, while the third and fourth factors explain 8.278% and 4.780% respectively of the total variance.

Table 4: Bartlett's test of sphericity

Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy	0.859	
Bartlett's test of sphericity	Approx. Chi-square	6666.240
	df	190
	Sig.	0.000

The results of the discriminant validity and correlation analysis are in Table 5. The discriminant validity values (which is the square root of AVE) are illustrated in bolded italic. The rule of thumb for discriminant validity is that each value must be greater than the correlation values both in the column and in the row. The table also shows a positive and significant relationship between knowledge acquisition and the economic sustainability of SMEs ($r = 0.499$, $p<0.01$). This means a positive change in knowledge acquisition is associated with a positive change in economic sustainability. Looking at the result between knowledge assimilation and economic sustainability, the result shows a significant association at $r = 0.664$, $p = 0.001$. The result of knowledge transformation and economic sustainability ($r = 0.706$, $p = 0.001$) shows a positive and significant relationship; and so is the result of knowledge exploitation and economic sustainability, which reveals a positive and significant relationship ($r = 0.576$, $p = 0.001$).

4.1. Hypotheses Testing and Model Fit

In testing the hypotheses, a structural model was developed, using the analysis of moment structures (AMOS) to test the relationship between the independent and dependent variables. The result of the analysis (using the class of business and academic qualification of respondents as control variables) is displayed in Table 6 and Figure 2. Hypothesis 1 is significant and accepted i.e., knowledge acquisition significantly influences the economic sustainability of SMEs, even though the relationship is a negative one (β=-0.170, t-value=-2.958 & p=0.003). Hypothesis 2, which posits that knowledge assimilation positively and significantly influences the economic sustainability of SMEs, was found to be significant, and so, accepted (β=0.282, t-value=4.073, & p=0.000).

Table 5: Discriminant Validity and Correlations Analysis

Variables	1	2	3	4	5
Economic Sustainability (1)	***.719***	.			
Knowledge Acquisition (2)	.499**	***.845***			
Knowledge Assimilation (3)	.664**	.771**	***.857***		
Knowledge Transformation (4)	.706**	.691**	.777**	***.868***	
Knowledge Exploitation (5)	.575**	.552**	.642**	.565**	***.813***

**. Correlation is significant at the 0.01 level (2-tailed).

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Hypothesis 3, which assumes that knowledge transformation has a positive and significant relationship with economic sustainability was also found to be significant at (β=0.483, t-value=8.269, & p-value=0.000) and therefore accepted. Finally, H4 (knowledge exploitation capabilities positively and significantly influence economic sustainability of SMEs) was found to be significant ((β=0.215, t-value=4.567, & p-value=0.000) and accepted.

Table 6: Research hypotheses tests

Hypotheses	Regression Path	Standardized regression weights	SE	t-value	p-value	Decision
H1	ACQ →ECS	- 0.170	0.051	- 2.958	0.003	Accepted
H2	ASS → ECS	0.282	0.051	4.073	0.000	Accepted
H3	TFN → ECS	0.483	0.054	8.269	0.000	Accepted
H4	EXP → ECS	0.215	0.052	4.567	0.000	Accepted

Model fit statistics: CMIN/DF = 0.869; NFI = 0.993; RFI = 0.984; TFI = 1.001; TLI = 1.002; CFI = 1.000; RMSEA = 0.000

Figure 2 also displays the result of the model fit test carried out to ensure that the structural model has a good fit with the dataset. The indices used and their outcome is as follows: CMIN/DF = 0.869; NFI = 0.993; RFI = 0.984; TFI = 1.001; TLI = 1.002; CFI = 1.000; RMSEA = 0.000. This result meets the requirement for a satisfactory goodness-of-fit as postulated by Hooper *et al*. (2009) and cited by Olutuase et al. (2020).

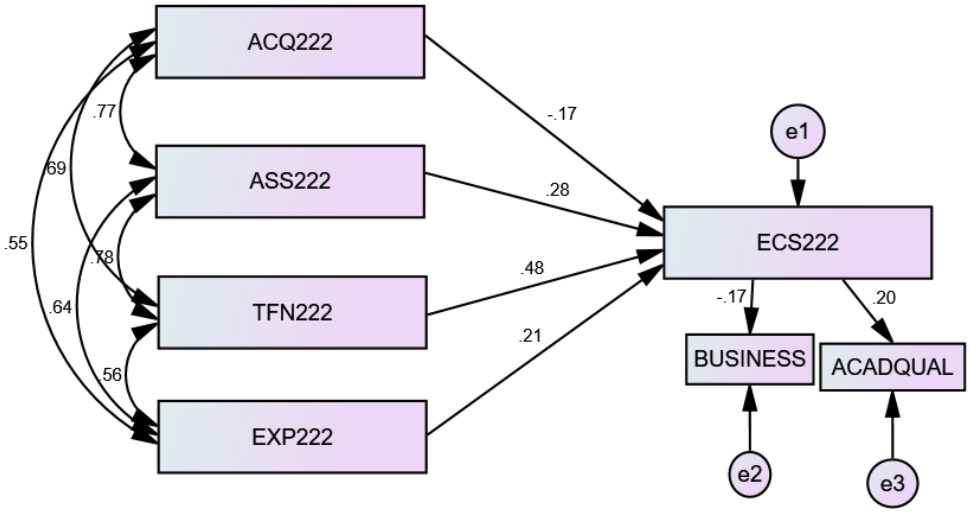

Fig. 2: Tested structural model of dimensions of absorptive capabilities and economic sustainability

5. Discussion

This study investigated the role of Absorptive Capabilities dimensions (knowledge acquisition, knowledge assimilation, knowledge transformation, and knowledge exploitation) on the Economic Sustainability of small and medium-scale enterprises (SMEs) in Plateau State, Nigeria. Utilizing the theory of absorptive capabilities, which maintains that absorbing new knowledge from outside an organization will help an organization become more innovative and flexible and achieve higher levels of performance than it would without absorbing new knowledge, a conceptual model was developed. Four hypotheses were tested through a structural equation model (SEM) on a sample obtained from 343 SME owners/managers.

First, the findings confirmed that knowledge acquisition significantly influences the economic sustainability of SMEs. This means knowledge acquisition is a pre-requisite of the economic sustainability process of SMEs and acquiring knowledge/information from outside the organization is the first step to the economic sustainability of the organization. This finding is in line with the outcome of the work of Papa et al. (2018), which was done among 129 Italian firms operating in different sectors. They found that there exists a

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significant relationship between knowledge acquisition and the innovative performance of organizations. The study by Liao (2018) also confirmed that knowledge acquisition positively promoted environmental innovation and acts as a mediator between regulative pressure, normative pressure, and environmental innovation. Worthy of note are the works of Ferraris *et al.* (2017), Ferreras-méndez *et al*. (2016), and Cherif (2020) which stressed the importance of knowledge acquisition as a key component of economic growth and development of organizations.

The findings of Hypothesis 2 revealed that there is a positive and significant connectedness between knowledge assimilation and economic sustainability. This translates that this hypothesis is being accepted. This confirms the work of Fletcher and Prashantham (2012), who stressed the role of internationalization of knowledge assimilation in realizing the organizational growth of SMEs. The work of Xie *et al.* (2018) among 379 high-tech companies in China found a positive and significant relationship between knowledge assimilation and innovation performance, which they viewed as being necessary for organizations to develop competitive advantage in both the short and long run.

Knowledge transformation was also found to have a positive and significant influence on the economic sustainability of SMEs, as seen in Hypothesis 3. This was again confirmed by Xie *et al.* (2018). Barinu and Akpan (2022) also discovered that engaging in knowledge transformation activities in the organization directly or indirectly and using both human and computer technology will enhance organizational performance.

The result of Hypothesis 4 shows a positive and significant relationship between knowledge exploitation and the economic sustainability of SMEs. This finding agrees with the outcome of Nurcholis and Cahyono's (2019) study of 201 SMEs in Indonesia. Their study reveals that knowledge exploitation significantly affects organizational flexibility. This also agrees with the work of Fartash *et al.* (2019), which posits that technology acquisition and exploitation have a significantly positive influence on both organizational innovation and performance.

Extant literature has long recognized absorptive capabilities as a key requirement in driving innovation, enhanced performance, growth, competitive advantage, etc. in business organizations, especially in SMEs. Going by this study of 343 SMEs in Plateau State, Nigeria, a significant relationship between the four dimensions of absorptive capabilities and the economic sustainability of SMEs was discovered. This study confirms that an organization's absorptive capabilities have a significant impact on the organization's economic sustainability. Thus, organizations particularly SMEs should pay attention to their absorptive capabilities, which are a major player in determining their growth, innovation, performance, competitive advantage, etc.

6. Implications

This study looks at the absorptive capabilities of small and medium-scale enterprises from the point of view of its four dimensions on the role it plays in economic sustainability. Its findings show that the ability of an organization to absorb new knowledge increases its economic sustainability.

Hence, obtaining information for the benefit of the organization should be a top priority for owners/managers of SMEs. Sourcing and taking advantage of knowledge from outside sources available will not only ensure the survival of the firm, it will ensure innovation, growth, and success of the firm and also give it a competitive advantage (Xie *et al.*, 2018). This information/knowledge could be learned from universities and other research institutions, NGOs, government establishments, customers, competitors, and other stakeholders.

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7. Conclusion

We look at the role of the dimensions of absorptive capabilities on the economic sustainability of SMEs. While most literature on absorptive capabilities focused on the subject as a single entity, for example, Olaleye *et al.* (2020), Kaur and Mehta (2017), Al-Ghazali & Al-Janabi (2021), and a few others like Camisón and Forés (2010), Machado *et al.* (2019), and Setia and Patel (2013) looked at the specific process; and the very little study looked at the individual dimension of acquisition, assimilation, transformation, and exploitation. This study dissected absorptive capabilities and examined the role of each dimension on the attainment of economic sustainability of SMEs, thus contributing to the current debate on absorptive capabilities. Even though much work has been done on the subject of organizational sustainability, for example, Zawawi and Wahab (2019), Čiarnienė *et al.* (2021), and Osagie and Ohue (2019), studies on economic sustainability as a single construct, which is a subset of organizational sustainability are very limited. Therefore, this study opens up a new vista in academics by examining and contributing to the economic sustainability literature.

In conclusion, this study contributes to the multidimensional understanding and knowledge importance in organizations by theoretically, conceptually, and empirically identifying how absorptive capacity dimensions affect the economic sustainability of SMEs.

8. Limitations and Direction for Future Research

The study is restricted to SMEs in the seventeen local government areas of Plateau State, Nigeria. Further study could be carried out on SMEs in all the thirty-six states of Nigeria. Also, a cross-sectional approach was employed in conducting this study; a longitudinal approach could be used in future studies covering a period of at least two (2) years. Finally, examining the role of absorptive capabilities dimensions on economic sustainability may not be sufficient in making sense of this phenomenon; exploring other factors that contribute to the growth of SMEs that are not part of this research can be explored.

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