Agile Strategy Management and Organizational Competitiveness of SMEs: The Role of Technology Adoption in Southwest Nigeria

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Abstract

This paper presents the direct effect of Agile Strategy Management (ASM) on the competitiveness of SMEs in Nigeria, using digital marketing, online payment, and automation as mediator variables. A stratified random sample that determines 378 SMEs was used to obtain the required number of responses (365), and this number was calculated and adjusted by Cochran (1977) formula to obtain the valid responses of 365 SMEs. The empirical data indicate that ASM has a favourable and substantive impact on SME competitiveness, and responsiveness, speed of decision-making, and proactive resource allocation in dynamic markets are significant. Digital marketing is the most influential mediator that enhances this relationship due to the introduction of technology. It also helps to save on the costs of operation, increase market coverage, and enhance operational efficiency due to online payment systems and automation. Practically, the results indicate a desire to combine agile management with specific investments in technology in SMEs and to impact policymakers and support agencies to play their roles in training, the presence of digital tools, and the creation of e-commerce infrastructure. All in all, the research demonstrates that the agility and technology adoption mix enable SMEs to stay competitive and attain sustainable growth in the volatile economic environment.

Keywords: Agile Strategy Management, Organizational Competitiveness, Technology Adoption, Digital Marketing, SMEs

1. Introduction

The modern business world is highly volatile, and organizations across sectors are often at a disadvantage when adapting to market forces, technological upheavals, and evolving customer needs. Maina (2022) notes that the competitive environment has become increasingly swift and unpredictable owing to digital disruption, diminishing product life cycles, shifting customer tastes, and intensified rivalry among existing firms and new entrants. In turn, organizations are moving away from fixed, long-range strategic planning and adopting agile strategy management, an approach that enables rapid sensing of environmental changes, short-cycle decision-making, multitasked implementation, cross-functional teamwork, and continuous learning (Lorenz et al., 2020). Kibichi (2023) notes that agile strategy management (ASM) has become one of the strategic approaches that focus on flexibility, responsiveness, and iterative decision-making to ensure sustained competitiveness. Businesses, particularly small and medium-sized enterprises (SMEs) around the world, are using agile principles to overcome uncertainty, seize opportunities, and remain relevant in highly volatile markets. Empirical evidence from developed nations shows that companies that follow agile approaches are better positioned to respond to disruptive innovations, changing consumer preferences, and competitive pressures (Kibichi, 2023; Hoseini, 2023; Horvey et al., 2023).

The use of technology is essential to the agile adoption of a strategy. Digital tools, such as digital marketing, mobile payments, and automation, have enabled SMEs to transform operations quickly, improve interactions with customers (Asiyanbola et al., 2025), and distribute resources efficiently. The need to adapt technological solutions as one of the strategies SMEs must use to stay agile and competitive has been heightened by the Fourth Industrial Revolution (4IR) (Ndung'u & Mutinda, 2022). Agile strategy management is rising in prominence in emerging economies, where globalization and technological change are altering competitive landscapes (Nuseri and Aljumah, 2020). Nevertheless, structural barriers, such as limited access to finance, infrastructure shortages, and low techno-diffusion, can hinder SMEs in such settings (Oluyinka et al., 2013). SMEs in Nigeria, and more so in the Southwest region, where major commercial centers such as Lagos, Ogun, and Oyo are located, play a critical role in economic growth, job creation, and innovation. However, they operate in a fluctuating macroeconomic environment marked by currency fluctuations, regulatory changes, and infrastructure bottlenecks. Within this context, integrating technology into agile strategic

practices presents a possible avenue through which SMEs can improve competitiveness (Sajuyigbe et al., 2024). Wibowo et al. (2020) state that market reach, operational efficiency, and customer responsiveness can be enhanced through the adoption of technologies, which in turn complements the agility-driven business model (Fadeyi et al., 2025). However, a significant number of SMEs in Southwest Nigeria continue to face challenges in deploying the right technologies because of high costs, a lack of skills, and insufficient digital connectivity (Sajuyigbe et al., 2021). The interaction between agile strategy management and technology adoption is, then, critical to understanding the issues in improving the performance, resilience, and sustainable development of SMEs in the region.

The process of strategic agility has been found to be closely related to the organisational competitiveness of developed and emerging economies in numerous studies (Chinakidzwa and Phiri, 2020; Sajuyigbe et al., 2021; Cenamor et al., 2019). However, these findings are applicable, but most recent studies are done on large-scale firms or on industry-specific environments, and the small and medium-sized business enterprises (SMEs) have received little community attention. Moreover, few studies have focused specifically on the impact of Agile Strategy Management (ASM) on the performance of SMEs, especially in the developing countries (Bocken et al., 2022; Blstakova et al., 2020). This points to the existence of a major gap in the existing body of knowledge, as not much is known on how ASM practises influence SME competitiveness in Nigeria, where distinctive bottlenecks are limited resources, skills, and infrastructure restricting the capacity to adapt to business environments. Particularly, there has been no effective study to assess the relationships between ASM and technological adoption as a competitiveness factor among the Nigerian SMEs. The gap in the research is filled by employing empirical research to investigate the impacts of ASM practises on the performance and sustainable development of SMEs in Southwest Nigeria.

This research will add to the growth and development of the SMEs by assessing how the incorporation of technology in agile strategic management can act as a driving force to competitiveness. It empowers the empirical data about the mechanisms upon which digital implementation supports market penetration, resource effectiveness, and customer sensitivity, in preference of agility-based company models. The results provide significant obstacles such as the prohibitive price of adoption, skills gap, and insufficient digital infrastructure and give viable solutions to eradicate these challenges. Having defined the relationship between agile strategic management and technology adoption, the study will provide the framework under

which SMEs in Southwest Nigeria can leverage on to enhance performance, resilience and sustainable development amid a more complex business environment.

2. Theoretical Framework

These theories have been used separately by other researchers to study the correlation between agile strategy management practices and organisational competitiveness in developed and emerging economies (Martinez-Caro et al., 2020; Nuseir and Aljumah, 2020a; Nuseir and Aljumah, 2020b). These are the Dynamic Capabilities Theory, Resource-Based View (RBV), Complexity Theory, Contingency Theory, Strategic Fit Theory, and Blue Ocean Strategy, as well as the Knowledge-Based View (KBV). Nevertheless, not many studies have investigated the ways to apply these theories simultaneously to investigate the relationship between agile strategy management, technology adoption, and SME competitiveness. This paper fills this gap through a combination of three complementary theories, namely Dynamic Capabilities Theory, Resource-Based View (RBV) and Strategic Fit Theory.

Dynamic Capabilities Theory describes the process of organisations perceiving opportunities and threats and using them to leverage them and restructure their resources to handle unstable environments (Okundaye et al., 2019). This is crucial in managing agile strategies, since it illustrates how SMEs can be competitive, by quickly changing strategies based on changes in the market. Digital marketing, mobile payments, and automation technologies used in Nigeria are feasible solutions to applying these agile changes and, consequently, allowing SMEs to be more responsive to market changes, more innovative, and more resilient (Ong et al., 2020). The next assumption Peter et al. (2023) proposed is that the application of digital marketing tools is especially relevant in a dynamic environment. Resource-Based View assumes that the sources of sustainable competitive advantage are valuable, rare, and inimitable as well as non-substitutable resources and capabilities (VRIN). Agile strategy management is used at the SME level to enable the rapid mobilisation and reallocation of resources to respond to changing market demands (Saura et al., 2020). All of these capabilities are further developed by the introduction of technologies, which makes them more efficient, differentiated, and responsive (Sharma et al., 2022). This approach will make sure that individual capabilities are relevant and powerful and that they will lead to being competitive in a turbulent environment (Sivakumar et al., 2020).

The Strategic Fit Theory assumes that competitiveness is attained when the internal resources of a company match the needs in the external market (Tarazona-Montoya et al., 2020). Agility would allow Nigerian SMEs to respond to new strategic changes in a timely manner, whereas the use of technology offers a solution to address the changes in customer needs and trends in the industry. It can make organisations more responsive, efficient, and competitively advantageous even when the conditions are unstable (Tungande et al., 2020).

The combination of these three theoretical lenses provides a comprehensive framework for agile strategy, management, and technology adoption, which helps SMEs gain a competitive edge in Nigeria's dynamic business environment, as elaborated in this paper. These theories can be combined to include internal capabilities (RBV), adaptive processes (Dynamic Capabilities), and strategic alignment (Strategic Fit), where SMEs may become innovative, resilient, and successful in volatile and unpredictable markets, which is the case in the emerging economy of Nigeria (Okundaye et al., 2019; Saura et al., 2020; Sharma et al., 2022).

2.1 Empirical Review

Observable data from industries in different regions will always confirm the association between Agile Strategy Management (ASM) practices and the best organisational results. Dias and Tenera (2023) relate agile strategic planning to the success of an organization, whereas AlQershi et al. (2022) demonstrate that ASM leads to competitiveness. Arokodare and Falana (2021) emphasize that ASM can help experience experimentation and continuous improvement, and Lorenz et al. (2020) mention that it contributes to operational efficiency. Research in other settings also supports such results. In Indonesia, Abdin et al. (2022) relate agile strategy with better performance, and Albayraktaroglu (2023) with business model innovation in SMEs. Agile approaches, such as portfolio management, are listed by Atkinson et al. (2022), Balzano and Bortoluzzi (2024), and Dias and Tenera (2023) as sources of competitiveness. Moreso, Hoseini et al. (2023) indicate the same findings of agile marketing competence in the insurance industry, backed by Kibichi (2023). Maina (2022) associated strategic agility with competitive advantage in Kenya, whereas Akinlo (2023) identifies the strategic agility of the company as the one that allows it to respond swiftly to changes in the market. Sharma et al. (2020), Saura et al. (2020), and Ali (2017) identify a positive relationship between agile strategy and SME performance. Sivakumar et al. (2020) also note that an agile strategy is one of the central variables of organisational success. Based on the empirical evidence provided above, the study's hypothesis is as follows:

H1: Agile strategy management is significantly positively correlated with the organisational competitiveness of SMEs.

2.2 Technology adoption as a mediator

In the former, numerous theories have been used separately to uncover the correlation between agile strategy management practices and organisational competitiveness in both mature and emerging economies (Martinez-Caro et al., 2020; Nuseir and Aljumah, 2020a, 2020b). They are the Dynamic Capabilities Theory, Resource-Based View (RBV), Complexity Theory, Contingency Theory, Strategic Fit Theory, Blue Ocean Strategy, and Knowledge-Based View (KBV). Nevertheless, few studies have been conducted to understand the convergence of these theories and address the correlation between agile strategy management, adoption of technology, and the competitiveness of SMEs. This paper fills in this gap; it combines three supplementary perspectives, namely Dynamic Capabilities Theory, Resource-Based View (RBV), and Strategic Fit Theory.

Dynamic Capabilities Theory dwells on the perceptions of threats and opportunities by organisations, their exploitation, and means of restructuring their resources to adjust to new environments (Okundaye et al., 2019). This is vital to agile strategy management since it describes how agile organisations can be competent in responding to market changes through quick strategic changes. Agile changes, such as digital marketing systems, mobile payments, and automation in Nigeria, can suggest feasible solutions that can make SMEs more adaptable to market shifts and be more innovative and resilient (Ong et al., 2020). The other assumption that was made, as stated by Peter et al. (2023), is that utilising digital marketing tools is very applicable in an environment that is constantly changing. Resource-Based View presupposes that sustainable competitive advantage is developed by valuable, rare, inimitable, and non-substitutable resources and capabilities (VRIN). Agile strategy management allows mobilising and redirecting these resources in response to new market needs at the SME level within a short period of time (Saura et al., 2020), and it makes them more efficient, differentiated, and responsive in the presence of technology (Sharma et al., 2022). This will make sure that the rare capabilities will be used and functional, and it will help to maintain the competitiveness in the turbulent environments (Sivakumar et al., 2020).

Prior researchers have used different theories individually to investigate connections between agile strategy management practices versus organisational competitiveness in

both developed and emerging economies (Martinez-Caro et al., 2020; Nuseir & Aljumah, 2020a; Nuseir & Aljumah, 2020b). They are the Dynamic Capabilities Theory, Resource-Based View (RBV), Complexity Theory, Contingency Theory, Strategic Fit Theory, Blue Ocean Strategy, and Knowledge-Based View (KBV). However, few studies have been used to analyse how such theories can be integrated to explore the connection between agile strategy management, technology adoption, and SME competitiveness. This paper will bridge the gap by including three complementary theories, which include Dynamic Capabilities Theory, the Resource-Based View (RBV), and Strategic Fit Theory.

Dynamic Capabilities Theory is about the opportunities and threats that the organisation is thought to have and how they are used and the capacity of the organisation to reorganise resources in accordance with the changing environments (Okundaye et al., 2019). This is critical to agile strategy management, as it outlines how SMEs can compete in that they can adopt strategies quickly to market changes. Such nimble transitions can be executed based on feasible solutions that can be easily effected in Nigeria, and these include the execution of technologies like digital marketing, mobile payments, and automation. These solutions are able to render the SMEs more adaptive to the market changes, promote innovations, and create resilience (Ong et al., 2020). The other assumption that Peter et al. (2023) indicated is that the implementation of digital marketing tools is very topical in the changing, dynamic environment. Resource-Based View presupposes the view of sustainable competitive advantage that begins with valuable, rare, inimitable, and non-substitutable resources and capabilities (VRIN). Agile strategy management facilitates rapid mobilisation and redistribution of these resources, supported at the SME level to meet the evolving market demands (Saura et al., 2020). The use of technology further improves the resources and makes them efficient, differentiated, and responsive (Sharma et al., 2022). These steps will ensure that distinctive competencies will be useful and potent, hence continuing to remain competitive in the changing settings (Sivakumar et al., 2020).

The Strategic Fit Theory is based on the idea that competitiveness occurs when a firm's internal capabilities meet the requirements of the external market (Tarazona-Montoya et al., 2020). Agility could help Nigerian SMEs to respond to emerging changes in their strategies in a timely manner, and adoption of technology could offer them the means of responding to dynamic customer needs and industry trends. This kind of alignment

promotes responsiveness, the use of resources, and competitive advantage, even under shifting conditions (Tungande et al., 2020).

The paper presents an in-depth framework of how the agile strategy management and adoption of technologies enhance competitiveness of SMEs in the active business environment in Nigeria through a combination of three theoretical lenses. These theories collectively provide the internal competences (RBV), adaptive (Dynamic Capabilities) and strategic alignment (Strategic Fit) that allow the SMEs to innovate, become resilient and survive in volatile and uncertain markets, including the emerging economy of Nigeria (Okundaye et al., 2019; Saura et al., 2020; Sharma et al., 2022).

H2: Digital marketing is a mediating variable in agile strategy management and organisational competitiveness of SMEs.

H3: Online payment systems mediate the relationship between agile strategy management and SMEs' organisational competitiveness.

H4: Automation mediates the relationship between agile strategy management and SMEs' organisational competitiveness.

2.3 Conceptual Framework

Figure 1: Conceptual Model

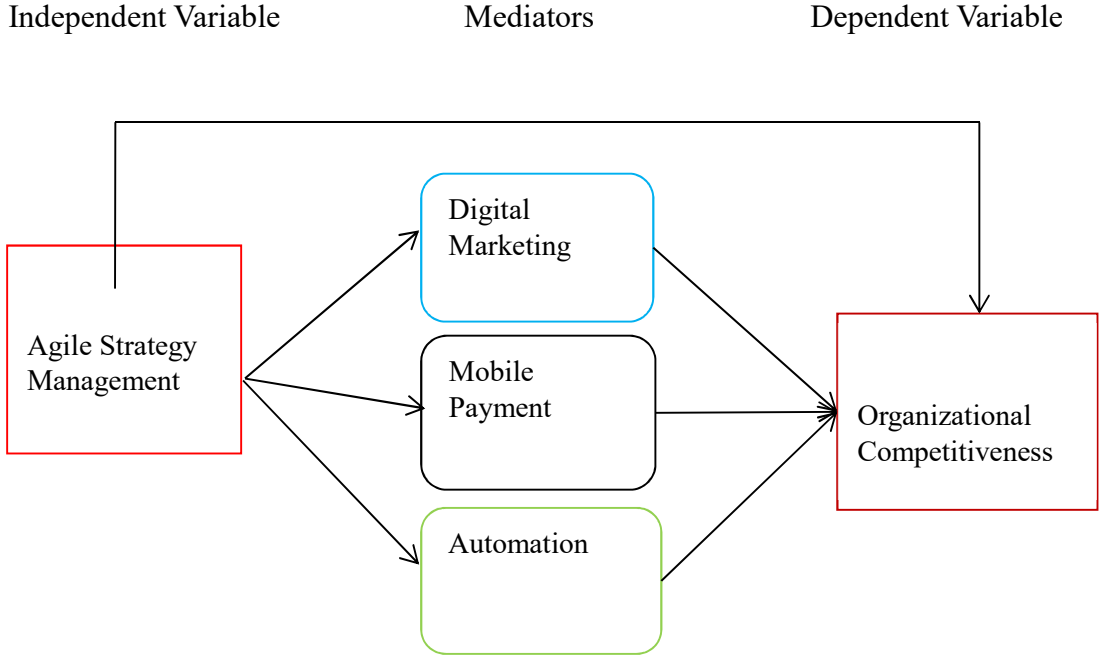


Figure 1 presents a conceptual model indicating the relationship between Agile Strategy Management (ASM) and organisational competitiveness in SMEs, in which the use of technology (digital marketing, online payments, and automation) is a mediating variable. This framework indicates the channels through which ASM is promoting competitiveness either directly or indirectly through such technological enablers. This model is rooted in the assumption that the effective introduction of ASM is capable of supporting the competitive positioning of SMEs to a very great extent. Digital marketing helps SMEs to break geographical limits on promotion, tailor deployments to data analytics, change campaigns rapidly to customer feedback in real time, and have a higher impact on brand awareness, customer acquisition, and customer retention. Online payment options are less frictional in the transaction process, allow real-time payments, and are easily integrated with the sales system, thus giving more prominence to customer convenience and trust. Automation accelerates the process, simplifies tasks, including inventory management, invoicing, and customer support, reduces errors, speeds up service, and liberates resources to create innovations and strategic initiatives. In this regard, the framework demonstrates that ASM directly positively influences the competitiveness of SMEs and that technology adoption in terms of digital marketing, online payments, and automation is indirect and significantly affects the sustained competitive advantage of SMEs.

Methodology

The study is a quantitative and cross-sectional survey research design that aims to determine the direct association of agile strategy management (ASM) and organisational competitiveness of the Nigerian SMEs and the moderating effect of technology adoption (digital marketing, online payments and automation). The survey approach proves appropriate due to the possibility of gathering standardised data with large sample sizes, and statistical procedures can be employed to reject or accept the hypotheses of the research (Creswell & Creswell, 2018).

The population of the study is registered SMEs that are based in the geopolitical area of South-West Nigeria and have a population of six states, including Lagos, Oyo, Osun, Ogun, Ondo, and Ekiti. It was selected as it is one of the largest economic centres in Nigeria, and there are many SMEs working in the manufacturing industry, wholesale trade, retail trade, hospitality, and services.

The stratified random sampling was applied to achieve proportionality of SMEs in the different sectors. Cochran (1977) has provided a formula to calculate the sample size of large populations, and the formula was adjusted to consider non-response. It was the best of all based on this calculation, that there were about 378 SMEs being targeted in the study, which was believed to have sufficient statistical power in testing the hypothesis. At that, 378 questionnaires were mailed to sampled SMEs. Among these, 365 were successfully retrieved, and the results gave a 97% rate of retrieval. The high rate of follow-up can be explained by active follow-up, the explanation of the study given to the participants, and the application of various contact channels, which, in combination with each other, led to the high willingness to participate among the respondents and the low rate of data loss.

A research design questionnaire was the primary data-collection instrument in the study. The questionnaire included validated scales: Agile Strategy Management Scale (ASM), Digital Marketing Scale (DM), Online Payment Scale (ONP), Automation Scale (AMT), and Organisational Competitiveness Scale (ORC). These scales were adapted from the works of Doan et al. (2025), Faizati (2023), Adeoye and Fields (2022), Zahirah (2024), Hanai and Pallangyo (2020), and Shaw and Gupta (2015). Participants' responses were measured using a 5-point Likert scale, ranging from Strongly Agree (1) to Strongly Disagree (5).

The research instrument had good content and construct validity. The content validity was also achieved through either matching the questionnaire items with previously validated scales created by renowned researchers or ensuring the matching of the items to the purpose and research setting (e.g., Davenport and Short, 1990; Tallon & Pinsonneault, 2011; Chaffey & Ellis-Chadwick, 2019; Zhou, 2013; Bharadwaj, 2000; Li et al., 2006). The relevance, readability, and appropriateness of the items in the questionnaire to measure the constructs Agile Strategy Management, Digital Marketing, Online Payment, Automation, and Organisational Competitiveness were confirmed through a critical analysis. The Exploratory Factor Analysis (EFA) was also used to determine construct validity in that the items were grouped correctly in the dimensions in which they were supposed to be. The EFA also assessed whether the variables (questionnaire items) found were clustered as anticipated under the previously determined underlying constructs Agile Strategy Management, Digital Marketing, Online Payment, Automation, and Organisational Competitiveness (see Table 1).

Table 1: Exploratory Factor Analysis for Testing Validity of the Constructs

Agile Strategy Management (ASM)	1	2	3	4	5
Our business quickly adjusts strategies in response to market changes.	.829				
We regularly review and update strategic objectives to match environmental shifts.	.816				
Decision-making in our organization is flexible and adaptable.	.821				
We actively experiment with new business approaches when needed.	.814				
Our management reallocates resources promptly to exploit emerging opportunities.	.811				
Digital Marketing (DM)					
We use social media platforms effectively to engage with target customers.		.809			
Online advertising campaigns have improved our market reach.		.812			
Our digital marketing efforts have attracted new customers.		.822			
We use data analytics to monitor and optimize our online marketing strategies.		.795			
Digital marketing has enhanced our brand visibility in the marketplace.		.817			
Online Payment (ONP)					
Our customers have access to secure and reliable online payment options.			.803		
The availability of online payments has improved our sales performance.			.832		
Online payment systems have reduced delays in receiving payments.			.827		

Customers find our online payment channels convenient and easy to use.			.812		
Automation (ATM)					
We use automated systems to manage routine operational tasks.				.818	
Automation has minimized human errors in our business processes.				.817	
Productivity and efficiency have improved through automation.				.831	
We have invested in technology to automate tasks like inventory and sales tracking.				.799	
Automation has led to significant cost savings for our business.				.822	
Organizational Competitiveness					
We deliver higher-quality products or services than our competitors.					.815
Our response time to customer needs is faster than that of our competitors.					.820
We have increased our market share over the last two years.					.821
Our prices are competitive while maintaining profitability.					.810
We continuously improve operations to sustain competitive advantage.					.801
KMO = 0.891 Bartlett's Test of Sphericity (X^2) = 1384.091, 0.000. Total Variance Explained = 82.11%					

According to Table 1, factor loadings greater than 70 show that each construct is represented by a strong item. Cronbach alpha coefficients of all Constructs are above 0.70, which confirms internal consistency reliability once again. The value of KMO = 0.891 is a good indication of sufficient sampling adequacy (Kaiser, 1974). The Test of Sphericity by Bartlett was significant: kh2 (9) = 1,384.091, p =.001, which means that the data were allowed to undergo the factor

analysis. The total variance explained is 82.11 and is higher than the 60 percent cutoff applied typically in the social science research.

3.2 Ethical Considerations

The ethical clearance was given by the institutional review board. Informed consent to participate was given by all the respondents, and the participation was voluntary. There was strict anonymity and confidentiality and the data were utilised in scholarly research in regard to ethical research.

4. Results and Discussion

Path Analysis as part of Structural Equation Modelling (PA-SEM) was used to analyse the collected data and determine the hypothesised relationships among the study variables. The model paths were compared, and the results of the analysis were presented with regard to the statistical significance and strength of the relationships observed.

Table 2: Results of the Structural Equation Model with Organizational Competitiveness of SMEs

Explanatory Variable	Response Variables	Beta-value	Z	p-value
ASM	ORC	.798	12.97	.00**
	_cons	.987	15.50	.00**

Note. ** p < .05, β = coefficient value, Z = computed z-value, ASM = **Agile Strategy Management, ORC = Organizational Performance of SMEs**

Agile Strategy Management (ASM) positively and significantly influences Organisational Competitiveness (ORC) (b = 0.798, Z = 12.97, p < .05) as indicated in Table 2. This means that a single unit shift in ASM is linked with a 0.798-unit shift in ORC, other things held constant. The critical value of 1.96 at the 95 percent confidence level is substantially lower than the Z-value (12.97), implying a strong relationship. The constant value (cons = 0.987, Z = 15.50, p = .05) represents the level of competitiveness in the absence of ASM. These findings suggest that SMEs with an agile strategic management position (flexibility, speed, and active resource reallocation) are more likely to retain and strengthen their competitive position in a turbulent market. The large path coefficient is consistent with strategic management theory (Doz & Kosonen, 2010), which posits that agility is the source of sustained competitive advantage in a dynamic environment. This result is supported by empirical studies such as Dias

and Tenera (2023), their study discovered that ASM is positively associated with SME competitiveness; Mohammad (2022) observed that ASM fosters competitiveness; Arokodare and Falana (2021) found out that it enhances experimentation and continuous improvement; Lorenz et al. (2020) concluded that it improves operational efficiency; and Abdin et al. (2022) also noted that agile strategy is advantageous to general performance.

As a result, managers of SMEs are advised to integrate agile concepts into their strategic planning and operational processes to respond promptly to market changes and emerging opportunities. Accordingly, H1 is supported.

Table 3: Mediating role of Technology Adoption on the relationship between ASM and Organizational Competitiveness of SMEs

Relationship between variable	Estimates	S.E	t-value	p-value	Hypothesis	Remark
Indirect Model						
ASM →DM→ORC	.809	.209	13.98	.000**	H_2	Partially confirmed
ASM →ONP→ORC	.698	.199	11.52	.000**	H_3	Partially confirmed
ASM →AMT→ORC	.519	.188	7.81	.000**	H_4	Partially confirmed

Note: ASM = Agile Strategy Management, ORC = Organizational Performance of SMEs, DM = Digital marketing, ONP = Online payment, ATM = Automation

Table 3 shows the mediating effect of technology adoption in explaining how Agile Strategy Management (ASM) increases the organisational competitiveness (ORC) of Southwest Nigeria-based SMEs. The findings reveal that digital marketing is an important mediator between ASM and ORC ($b = 0.809$, $t = 13.98$, $p < 0.05$). This means that SMEs who embrace an agile approach to strategy are in a position to transfer such agility into better competitiveness via good digital marketing actions like online promotion, customer interaction and enhanced market penetration. It can be related to the research by Wibowo et al. (2020), who suggested that the implementation of technology contributes to the enhancement of market coverage and customer sensitivity, and Peter et al. (2023), who proposed that the use of digital marketing technologies is quite topical in the rapidly changing business world It also agrees with Ndung'u

and Mutinda (2022), who claimed that technologies related to the 4IR help to improve flexibility and competitiveness. So, the paper confirms that the digital marketing process is a strong one and strategic agility is a factor that makes SME competitive.

Similarly, the results show that online payment systems are significant as a mediator of the relationship between ASM and ORC ($b = 0.698$, $t = 11.52$, $p < 0.05$). This means online payment systems have the potential to make agile SMEs more competitive due to the ease of the transaction process, the convenience of the system to customers, and the development of customer trust. This observation coincides with Ong et al. (2020) and Sharma et al. (2022), who have found that the use of technology positively impacts organisational capabilities, operational effectiveness, and the performance of firms. It also confirms that the application of digital payment systems assists SMEs to monitor customer needs and demands in the market at a faster rate, thus increasing their competitiveness.

Moreover, as it is indicated in the table 3, the connexion between ASM and ORC is mediated by automation ($b = 0.519$, $t = 7.81$, $p < 0.05$). This means that automation is an element of competitiveness of SME in the sense that it increases efficiency, reduces cost of operations, and minimises errors made by human beings. This finding is in line with that of Saura et al. (2020), who mentioned that agility improves the performance of firms through the quick mobilisation of organisational resources, and Sharma et al. (2022), who said that technology improves processes and competitive positioning of firms. This result is consistent with the Dynamic Capabilities approach that states that technology can help firms to quickly reform their operations and stay afloat in the unstable situations (Okundaye et al., 2019).

In general, Table 3 supports the idea that the positive effect of ASM can be transmitted to organisational competitiveness through the significant use of technology, which aligns with other previous research that highlighted that agility and technology have a mutual positive influence on organisational performance and competitiveness (Wibowo et al., 2020; Ndung'u & Mutinda, 2022; Sharma et al., 2022). Digital marketing has the greatest impact among the mediators, followed by the online payment system and automation. The partially confirmed statements suggest that ASM continues to play a direct role in competitiveness, whereas technology adoption accounts for a substantial portion of the relationship. Therefore, H2, H3, and H4 are accepted, and it has been verified that technology adoption is the mediating factor

instrumental in the relationship between agile strategic management and SME competitiveness in Southwest Nigeria.

5. **Conclusion**

This study was interested in evaluating the direct relationship between Agile Strategy Management (ASM) and the organisational competitiveness of SMEs and testing the moderating roles of digital marketing, online payments and automation. These results show that adaptability, fast decision-making and proactive allocation of resources have positive and statistically significant effects on SME's competitiveness in dynamically changing business environments, which highlights the significance of these elements. In addition, the findings support the inference that technology adoption is an important factor in strengthening the association between ASM and competitiveness. The digital marketing channel has been the best channel as it gives a wider coverage to markets, more customer engagement, and awareness of the brand. This was then succeeded by online payment systems introduction, which are essential in improving transaction efficiency and convenience of obtaining sales among customers. Automation also had a great impact and aided with the efficient functioning, error reduction and cost reduction.

5.2 Theoretical Implications

The theoretical significance of the research is the combination of the Dynamic Capabilities Theory, the Resource-Based View (RBV), and the Strategic Fit Theory to examine the combined effect of agile strategy management and technology adoption on SME competitiveness in the unpredictable markets. The Dynamic Capabilities Theory is devoted to the capacity of SMEs to change rapidly; the RBV one is devoted to the use of valuable and rare resources; and the Strategic Fit Theory one is devoted to the correspondence of internal capabilities and external requirements. All these perspectives added up to a comprehensive sketch that defines how agility and technology adoption are sustaining forces that generate sustained competitive advantage in the dynamic business environment in Nigeria.

5.3 Practical Implications

In practise, this research has significant implications on the SME owners, business enterprise middle managers, policymakers, and business support commissions. To begin with, the high

positive correlation between Agile Strategy Management (ASM) and need of the organisation to be competitive highlights the rationale to why SMEs need to adopt agility, i.e. fast decision making, effective utilisation of resources and market scanning. Such an elasticity allows SMEs to change in response to the market changes and tap into new opportunities. Second, the mediating conditions of digital marketing, online payments, and automation are verified, which means that the adoption of technology is not a possibility but a prerequisite to changing strategic agility in quantifiable business results. Therefore, SME operators will need to spend more on digital marketing to achieve market penetration, create brand awareness, and increase customer touchpoints; in online payment solutions to support operations and accelerate consumer and user experience; and in automation solutions to remove operational waste, lower costs, and improve service delivery. Third, SME development agencies and policymakers should develop support programs that encourage the use of agile strategic thinking and the adoption of technologies. Such initiatives can include subsidised adoption of online tools, agile management development, and incentives to invest in e-commerce infrastructure.

Finally, evidence suggests that a combination of agility and certain forms of technological adoption may help SMEs remain competitive, even under unpredictable economic conditions. If both aspects are used by managers simultaneously, the likelihood is high that long-term market relevance and sustainable growth will be realised..

5.4 Limitations and recommendations on future research.

This study has limitations, as any empirical study. First, it is geographically uneven; hence, its results cannot be extrapolated to other economic and cultural environments, such as Nigeria. In addition to that, the cross-sectional research design does not permit the establishment of the causal links between Agile Strategy Management, technology adoption, and competitiveness. The use of self-reported information also implies the risk of the response bias, and even though the stratified sampling was used to guarantee the representation of the sectors proportionally, some industry-specific dynamics can not be perceived. Also, the three mediating variables included in the analysis were digital marketing, online payment and automation that may be not the only strategic or technological variables affecting competitiveness.

It should be considered that future research should consider the geographical coverage of the study to include various geographical areas, as well as the application of longitudinal research designs to capture change over time and objective performance indices, and perception-based

outcomes to increase validity. The other mediators or moderators, which can be further analysed are innovation capability, supply chain integration and organisational culture and the analyses should be sector specific in order to come up with industry specific knowledge. Discussing the avenues will help in the academic literature on the interaction of agile strategy and technology adoption that can assist in developing sustainable competitiveness to SMEs.

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