



Entrepreneurial Proactiveness and SMEs' Competitive Advantage: Moderating Role of Market Information

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Abstract

Small and Medium Scale Enterprises (SMEs) struggle to maintain sustainable competitive advantage in developing economies despite their significant contribution to economic development, this may premise on the entrepreneurial orientation in use. This study examined the influence of entrepreneurial pro-activeness on competitive advantage of SMEs; moderating effect of market information. Survey research design was adopted for the study, data were collected from SMEs owners/managers using structured questionnaire. Multi-stage sampling technique was applied to select respondents across major cities in Osun State, a total of 304 valid responses were retrieved of 343 distributed questionnaires. The results revealed that entrepreneurial pro-activeness has significant positive influence on market information ($t=23.892$, $p=0.000<0.05$) and competitive advantage ($t=11.217$, $p=0.000<0.05$). The analysis further confirms that the influence of pro-activeness on competitive advantage becomes stronger when SMEs utilize higher levels of market information. The study contributes to body of knowledge establishing significance of pro-activeness in SMEs competitive advantage. The study implies that SME managers and owners must institutionalize data-driven decision-making to enable strategic outcomes. Despite the significance of entrepreneurial pro-activeness, its impact is significantly strengthened when guided by timely and reliable market intelligence. The study thereby recommends that managers invest in market research tools, data analytics capabilities, and knowledge-sharing systems to support informed and agile decision-making. Government agencies and support institutions should facilitate SMEs' access to digital platforms, capacity-building programs, and real-time market information systems to boost their competitiveness in dynamic business environments.

Keywords: Entrepreneurial Pro-activeness, SMEs, Competitive Advantage, Market Information, Structural Equation Model.

1.0 Introduction

Small and Medium Scale Enterprises (SMEs) have been widely acknowledged as the cornerstone of economic growth, poverty reduction, innovation, and employment generation, particularly in developing economies (OECD, 2021). In Nigeria, SMEs contribute significantly to the gross domestic product (GDP) and provide substantial employment opportunities (SMEDAN, 2022). Despite these contributions, many SMEs struggle to maintain a sustainable competitive advantage due to intense competition, limited resources, and dynamic market conditions (Nuhu et al., 2022). Consequently, there is a growing emphasis on entrepreneurial strategies that can help SMEs remain competitive and resilient in fluctuating market environments.

One critical dimension of entrepreneurial orientation that has received considerable scholarly attention in this regard is entrepreneurial pro-activeness, which refers to the forward-looking, opportunity-seeking behavior that enables firms to anticipate future demands, initiate change, and act ahead of competitors (Lumpkin & Dess, 1996; Rauch et al., 2009). Proactive firms tend to lead industry trends, introduce innovative products or services, and shape market dynamics to their advantage (Wiklund & Shepherd, 2005). This strategic posture not only positions firms to exploit emerging opportunities but also shields them from potential threats in the competitive landscape. However, the ability of proactive firms to translate into competitive advantage is contingent upon several external and internal factors.

Market information encompasses critical data about customer preferences, competitor strategies, market trends, technological advancements, and regulatory shifts (Shafique et al., 2023). Access to comprehensive and real-time market information enables SMEs to make informed strategic decisions, minimize uncertainties, and adapt their proactive initiatives to market realities (Sulaiman & Al Mamun, 2023). In environments characterized by rapid changes and information asymmetry such as those in many developing countries, market information serves as a vital resource that can enhance or impede the success of entrepreneurial strategies (Al-Hakimi & Borade, 2020). Wang, et al., (2020) emphasized that entrepreneurial learning, facilitated through market information, enables firms to build dynamic capabilities that support continuous innovation and strategic renewal. Despite the growing recognition of the importance of market information in entrepreneurial strategy, there is still a paucity of research that specifically investigates the interplay between market information, entrepreneurial pro-activeness, and competitive advantage within the context of SMEs in developing countries like Nigeria. Existing studies (Adebayo & Olamide, 2021; Nwosu & Eze, 2022; Oyewale et al., 2023) in Nigeria have predominantly focused on the direct effects of entrepreneurial orientation on performance, with insufficient empirical exploration of how market information can shape or strengthen these relationships.

This gap in the literature exposed fundamental deficiency, as the inability of SMEs to leverage market information alongside proactive strategies may continue to hinder their competitiveness, growth, and survival in increasingly volatile markets. Therefore, this study seeks to address this gap by investigating the moderating effect of market information on the relationship between entrepreneurial pro-activeness and competitive advantage among SMEs in Osun state, Nigeria using a quantitative cross-sectional survey design method. By doing so, the research seeks to offer practical insights for SME owners, policymakers, and support organizations on the importance of developing robust market intelligence mechanisms to enhance the competitiveness of SMEs through proactive strategies.

2.0. Literature Review

Entrepreneurial Pro-activeness

Pro-activeness refers to the ability to think ahead, anticipate, initiate change, or take the first step rather than adopting a reactive or defensive posture (Onyenma & Hamilton, 2020). It describes an ongoing perspective in which businesses actively seek to anticipate and capitalize on opportunities to develop and introduce new products while making adjustments to existing strategies and tactics. Pro-activeness also involves the ability to detect future market trends, secure first-mover advantages in the short term, and shape the direction of the market environment in the long term (Lyon et al., 2000; Lumpkin & Dess, 2005; Hughes & Morgan, 2007). Strong proactive behavior enables SMEs to anticipate market needs and foresee competitors' demands (Eggers et al., 2013). Entrepreneurial pro-activeness is a key dimension

of Entrepreneurial Orientation (EO), defined as the capacity of firms to anticipate and act on future demands and opportunities ahead of competitors (Lumpkin & Dess, 1996). Unlike mere responsiveness, pro-activeness reflects an organization's disposition to lead rather than follow market trends, often through initiating product development, market exploration, and strategic positioning in anticipation of customer needs (Wiklund & Shepherd, 2005).

Market Information

Market information refers to data, insights, and intelligence that organizations gather about their operating environment, particularly concerning customers, competitors, industry trends, and regulatory frameworks (Shafique et al., 2023). It provides firms with a deeper understanding of external variables that can impact strategic decisions and performance outcomes (Sulaiman & Al Mamun, 2023). For SMEs, market information is a valuable resource that compensates for their often limited financial and technological resources. Access to reliable market information enables SMEs to reduce environmental uncertainty, make informed decisions, and tailor their proactive initiatives to market realities (Al-Hakimi & Borade, 2020). When firms integrate such intelligence into their strategic frameworks, they enhance their capacity to adapt proactively to changes, innovate effectively, and maintain competitive relevance in dynamic markets (Wang et al., 2020).

Competitive Advantage

Competitive advantage is the process where a firm is able to achieve and sustain profit that exceeds what its competitors are achieving (Christian, 2020). An organisation is able to gain a competitive advantage over its competitors by understanding its market and customers (Shodunke et al. 2020). It is a situation whereby an organisation is able to deliver the same benefits as competitors but at a lower cost, delivers benefits that exceed those of its competitors' and creates superior value for its customers (Porter 2010). The Resource-Based View (RBV) suggests that competitive advantage arises from the effective utilization of valuable, rare, inimitable, and non-substitutable resources, which in this context includes entrepreneurial capabilities and market information (Barney, 1991). By creating value for consumers, as part of a business strategy, SMEs can achieve long-term viability. Put differently, a firm's competitive advantage serves as a platform for developing a long-term growth strategy and thus relates to creating value for consumers (Jones, Kato & Weinberg 2003). Positional superiority is achieved through providing higher customer value or attaining lower relative costs in the market (Gitau & Kosgei 2016). Also, a Competitive advantage is the ability gained through attributes and resources to perform at a higher level than others in the same industry or market (Al-Swidi & Mahmood 2011). Wang (2014) asserts that an organisation is able to obtain a competitive advantage by developing or acquiring a set of attributes that will help it to outperform its competitors.

Moderating Role of Market Information

While pro-activeness is crucial, its impact on competitive advantage is significantly influenced by how well a firm understands and interprets its market environment (Rashidirad et al., 2023). In this regard, market information serves as a moderator, enhancing or diminishing the strength of the relationship between entrepreneurial pro-activeness and competitive advantage. When SMEs have access to comprehensive and timely market information, their proactive strategies are more likely to be accurately targeted and effectively implemented. For example, a proactive SME equipped with customer insights and competitor intelligence can better predict market needs, innovate accordingly, and respond swiftly to competitive threats (Shafique et al., 2023). Conversely, without adequate market information, even proactive firms may pursue initiatives

that are misaligned with customer expectations or market conditions, leading to resource wastage and strategic missteps (Nuhu et al., 2022). Several empirical studies affirm this moderating role. Nuhu et al. (2022) demonstrated that market information significantly enhances the impact of entrepreneurial orientation on SMEs' performance in Nigeria. Similarly, Al-Hakimi and Borade (2020) found that firms with strong market orientation, an aspect deeply rooted in market information achieve better innovation outcomes, which in turn translate to competitive advantage.



Figure 1.

Conceptual Framework

The conceptual framework shows that entrepreneurial pro-activeness enhances SMEs' competitive advantage by enabling firms to anticipate and exploit emerging opportunities ahead of competitors. However, the strength of this relationship depends on the availability and use of market information. Market information encompasses data on customers, competitors, and market trends, it is therefore expected to moderate the relationship between the independent and dependent variables by guiding proactive actions toward more effective and sustainable outcomes. This is grounded in the Resource-Based View and Dynamic Capabilities Theory, the framework suggests that SMEs achieve superior competitiveness when proactive entrepreneurial behavior is complemented by timely and reliable market intelligence.

Resource-Based View (RBV)

This study is anchored on Resource-Based View (RBV), developed by Barney (1991), the theory asserts that firms achieve sustainable competitive advantage when they possess and effectively utilize resources that are valuable, rare, inimitable, and non-substitutable. RBV emphasizes that internal capabilities and resources are critical to superior firm performance and market competitiveness. In the context of SMEs, entrepreneurial pro-activeness is conceptualized as an intangible resource that enables firms to identify and exploit opportunities ahead of competitors (Wiklund & Shepherd, 2005). However, RBV also implies that pro-activeness alone may not yield competitive advantage if not combined with complementary resources such as market information. Access to market information enhances the value of pro-activeness by aligning proactive efforts with market demands, customer preferences, and competitive conditions (Rashidirad et al., 2023). Thus, market information can be seen as a dynamic resource that enhances the utility of proactive entrepreneurial behaviors, reinforcing the RBV's argument that the synergy between various strategic resources drives sustained competitive advantage.

Dynamic Capabilities Theory

The Dynamic Capabilities Theory, proposed by Teece et al., (1997), extends the RBV by emphasizing the need for firms to integrate, build, and reconfigure internal and external competencies to respond to rapidly changing environments. This theory is especially relevant for SMEs operating in dynamic markets where competitive conditions, customer needs, and technologies evolve quickly. Entrepreneurial pro-activeness reflects a dynamic capability that enables firms to anticipate changes, innovate, and reposition themselves strategically (Wang et al., 2020). However, the effectiveness of this capability is contingent on the firm's ability to sense and seize opportunities, which is largely facilitated by access to market information. Market information equips SMEs with the intelligence necessary to adapt their strategies, reconfigure resources, and align proactive efforts with market trends and regulatory shifts (Shafique et al., 2023). In this light, dynamic capabilities theory suggests that the interaction between proactive behavior and market information enhances a firm's agility and adaptability, leading to competitive advantage in uncertain environments.

Empirical Review

Empirical literature have consistently explored the entrepreneurial orientation and their impact on performance and competitive advantage of SMEs. Rauch et al., (2009) conducted a meta-analysis of studies on entrepreneurial orientation across various countries and industrial sectors, examining how its dimensions influence firm outcomes. Their findings revealed that entrepreneurial pro-activeness consistently and positively affects business performance, regardless of contextual differences, highlighting its universal importance in driving firm success. Similarly, Wiklund and Shepherd (2005), in their empirical study of Swedish SMEs, employed survey and regression analysis to establish that proactive firms are more likely to identify emerging opportunities, innovate, and secure early market advantages. Despite these contributions, most prior studies have been conducted in developed economies, leaving an empirical gap in understanding how market information moderates the relationship between entrepreneurial pro-activeness and competitive advantage among SMEs in developing contexts such as Nigeria.

In Nigeria, Nuhu et al., (2022), examined the relationship between entrepreneurial orientation and SME performance using survey data from selected small and medium enterprises across different sectors. Employing regression analysis, their findings revealed that entrepreneurial pro-activeness significantly influence competitive advantage, particularly in dynamic and resource-constrained markets. They further observed that SMEs that act ahead of competitors by launching new products or entering new markets achieve higher customer satisfaction and profitability. On the other hand, Wang et al., (2020), in their cross national quantitative study of manufacturing firms in China, revealed that pro-activeness alone may not ensure sustainable competitive advantage unless supported by market intelligence and dynamic capabilities that align proactive initiatives with market demands. These findings collectively suggest that while pro-activeness is crucial for SME success, limited attention has been given to the moderating role of market information especially within Nigeria's volatile and information-scarce business environment constituting a clear empirical gap for further investigation

Empirical research delves into significance of market information on SMEs' competitive positioning. Shafique, et al., (2023) conducted their study among SMEs in Pakistan to examine the influence of market intelligence on firms' dynamic capabilities and competitive advantage. Using a quantitative research design with data collected through structured questionnaires, the study employed structural equation modeling (SEM) to analyze relationships among variables.

Their findings revealed that market intelligence significantly enhances SMEs' dynamic capabilities, enabling them to achieve a competitive advantage through innovation and responsiveness to market trends. The study established that firms that systematically collect and utilize customer data, competitor insights, and market trends tend to be more adaptive and innovative. However, the study did not explore whether the moderating or mediating effects of entrepreneurial orientation could further strengthen the link between market intelligence and competitive advantage representing a key empirical gap. Rashidirad et al., (2023) examined the role of market information in Iranian SMEs, focusing on its influence on the relationship between entrepreneurial orientation and firm performance. The researchers adopted a quantitative approach and utilized survey data analyzed using partial least squares structural equation modeling (PLS-SEM). Their findings showed that market information positively influences the relationship between entrepreneurial orientation and firm performance, demonstrating that firms that incorporate real-time market data into their strategic decisions are better able to navigate competitive pressures and sustain performance advantages. Nonetheless, the study did not consider the contextual factors such as environmental turbulence or technological change that might moderate this relationship thus identifying a contextual and methodological gap for future research.

In India, Al-Hakimi and Borade (2020) carried out a study to investigate the moderating role of market-oriented strategies on the relationship between entrepreneurial orientation and firm innovation among SMEs. The study used a survey based quantitative method and applied multiple regression analysis to test the proposed relationships. The findings indicated that market-oriented strategies significantly moderate the relationship between entrepreneurial orientation and firm innovation, which in turn improves competitive advantage. They further argued that SMEs that integrate market intelligence into their proactive and innovative efforts are more likely to thrive in volatile markets. However, the study was limited by its focus on manufacturing SMEs, leaving an empirical gap regarding the applicability of these findings to service oriented SMEs or other developing economies. Additionally, Sulaiman and Al Mamun (2023), through a cross-sectional quantitative study conducted among SMEs in Malaysia, emphasized that market information enhances decision making quality and ensures that proactive strategies are aligned with current market realities, thereby reducing the risk of strategic misalignment. Their findings reinforce the role of market intelligence as a strategic enabler for performance and innovation. Nonetheless, the study did not investigate how market information interacts with specific dimensions of entrepreneurial orientation, leaving an empirical gap for further research into the mechanisms through which market information shapes competitive outcomes.

.3.0. Methodology

This study employed descriptive survey research design because it allows collection of large amount of data from a sizeable population among owners, managers and customers of small-sized restaurants in Osun state. The targeted population of this research comprise registered small and medium scale enterprises in osun state. Using Krejcie & Morgan (1970) sampling table the sample size of this research stood at 343 since it may be pretty difficult to reach entire 3,007 registered SMEs in Osun state. In view of this a multi-stage sampling method was adopted for this research. The state was divided into seven major cities which are: Osogbo, Ile-Ife, Ilesa, Ede, Iwo, Oyun and Ikire, all these seven major cities were covered for this research as 49 SMEs' owners/managers were selected purposively from each city to attend to the research instrument to make a total sample size of 343. These cities were selected because they constitute the major hub for commerce, industry and culture in Osun State. The adopted sampling technique is suitable for this research because not all the local governments of the

state has required registered SMEs located in them but it was discovered that SMEs in the state are concentrated in the major cities of the state.

In accordance with the design of this research, it adopted a primary source of data, a well-structured questionnaire was designed to get data from owners/managers of small and medium scale enterprises in Osun state. Part A contained respondents' demographic information. Part B contained questions on constructs of entrepreneurial pro-activeness, market information, and competitive advantage respectively. Questionnaire was designed using five points likert scale format where each respondent to indicate his/her level of agreement with the statement relating to the variables. Three hundred and four (304) questionnaires were retrieved of the three hundred and forty-three (343) distributed. Data collected for the study were analyzed using descriptive statistics and frequency distribution for the demographic information of respondent on SPSS version 20, while Partial Least Square Structural Equation Model (SEM) was used to examine the moderating effect of market information on entrepreneurial pro-activeness and competitive advantage of small and medium scale enterprises. This is due to its capacity to handle complex, theory driven models involving multiple latent constructs. SEM effectively accounts for measurement errors, validates the reliability of constructs through confirmatory factor analysis, and enables simultaneous testing of direct, indirect, and moderating effects within a single framework. This approach enhances the precision and explanatory power of the model, offering a robust assessment of how entrepreneurial pro-activeness translates into competitive advantage under varying levels of market information.

4.0. Results and Discussion

Demographic Information

The results generated from the analyses of this study were presented as follows:

Demographic Information

Table 1: Demographic information of respondents

Education status		
SSCE	87	28.6
OND/NCE	55	18.0
BSc/HND	134	44.0
Masters	28	9.2
Total	304	100.0
Business Type		
Trade	187	61.5
Manufacturing	37	12.1
Service	80	26.3
Total	304	100.0

Author's research survey, 2025

Table 1 shows the demographic characteristics of the respondents; the education status of respondents, 28.6% were SSCE holders, 18.0% were OND/NCE holders, 44.0% holds BSc/HND while 9.2% of the respondent were Masters holder, this gave a good distribution of

education status among respondents showing that larger percentage of the respondents were graduates. Type of business carried out by respondents revealed that 61.5% is trading, 12.1% for manufacturing while 26.3% for service oriented SME, by this we deduce that the larger percentage of the respondent engage in trading followed by service.

Measurement Model Evaluation

In this study, model measurement was assessed employing Smart Partial Least Squares (SmartPLS) version 4. Key reliability indicators such as factor loadings, Cronbach's Alpha, Composite Reliability (Rho_a), and Composite Reliability (Rho_c) were examined to determine whether each item adequately reflected the underlying construct. These metrics help establish whether the observed indicators in the model significantly share variance with their respective latent variables. As shown in Fig. 2 the minimum acceptable level of loading was 0.5 and the loadings from the analysis were more than 0.5. This is considered acceptable since the AVE values are acceptable. To assess convergent validity, Average Variance Extracted (AVE) values were computed for each construct. AVE quantifies the proportion of variance captured by a construct relative to the variance attributed to measurement error. For convergent validity to be deemed satisfactory, AVE values must be equal to or greater than 0.5.

Convergent Validity and Composite Reliability

Table 2 below represents the results of validity and reliability of the construct variables

Table 2. Construct reliability and validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)	Decision
Entrepreneurial Pro-activeness	0.881	0.890	0.903	0.541	Reliable and valid
Market Information	0.847	0.858	0.897	0.685	Reliable and valid
Competitive Advantage	0.814	0.819	0.878	0.643	Reliable and valid

Source: Researcher survey, 2025 (SMART PLS 4)

In Table 2, all measurement items recorded factor loadings exceeded the commonly accepted minimum threshold of 0.7. This indicates that the observed indicators in the structural model share substantial variance with their associated latent constructs. Additionally, the AVE values for all constructs surpassed the 0.5 benchmark, thereby confirming that the constructs demonstrate adequate convergent validity. These findings collectively suggest that the measurement items do not exhibit any concerns related to validity or reliability.

Discriminant Validity Assessment

Discriminant validity was evaluated in this study employing three methods: the Fornell–Larcker criterion, cross-loadings analysis, and the Heterotrait–Monotrait (HTMT) ratio. According to the Fornell–Larcker approach, the square root of each construct's AVE should exceed its correlations with other constructs, thereby confirming discriminant validity (Fornell & Larcker, 1981). Furthermore, the cross-loadings of each item should be greater on its respective construct than on others. HTMT values should remain below the threshold of 1.0, as recommended by Klin (2011), to further affirm discriminant validity.

The square roots of the Average Variance Extracted (AVE) for the constructs are represented in Table 3.

Table 3. Fornell-Larcker Criterion

Construct	1	2	3
Competitive Advantage	0.802		
Market Information	0.765	0.828	
Entrepreneurial Pro-activeness	0.797	0.743	0.664

Source: Researcher survey, 2025 (SMART PLS 4)

The off-diagonal values in Table 3 represent the correlations between different constructs. Discriminant validity is established when the square root of each construct's AVE, shown along the diagonal, exceeds the corresponding inter-construct correlations. The results indicate that all diagonal values are greater than the associated correlations, confirming that the constructs satisfy the requirements for discriminant validity.

Table 4. Heterotrait-monotrait ratio (HTMT)

Entrepreneurial Pro-activeness ↔ Competitive Advantage	0.936
Market Information ↔ Competitive Advantage	0.911
Market Information ↔ Entrepreneurial Pro-activeness	0.846

Source: Researcher survey, 2025 (SMART PLS 4)

The HTMT values were assessed to examine discriminant validity. Table 4 presents the HTMT values between 0.846 and 0.936. The values between EP and CA shows 0.936; MI and CA shows 0.911, also MI and EP shows 0.846. The results indicate that all values are below the threshold of 1.0, thereby confirming that the constructs meet the criteria for discriminant validity.

Table 5. Indicator Items Cross Loading

S/N	ITEMS	CA	MI	EP	VIF
1	Our business offers superior value compared to competitors.	0.872	0.676	0.680	2.307
2	We have a loyal customer base due to our innovative practices.	0.751	0.617	0.561	1.689
3	Our products/services are better than those of competitors.	0.800	0.596	0.706	2.027
4	We enjoy repeat business due to our distinct market advantage.	0.780	0.557	0.608	1.782
5	We are usually the first to introduce new products or services in our market.	0.616	0.502	0.731	2.356
6	Our firm leads market entry into new sectors.	0.412	0.386	0.472	1.504
7	We are known for pioneering new business models in our industry.	0.704	0.651	0.751	2.256
8	We take initiative ahead of competitors to capture new market opportunities.	0.671	0.434	0.610	1.832
9	We have access to real-time customer feedback and insights.	0.653	0.850	0.593	2.197
10	Our firm monitors competitors' strategies closely.	0.594	0.839	0.591	2.207
11	We analyze regulatory and environmental changes regularly.	0.727	0.856	0.715	2.019
12	We use market information to make proactive strategic decisions.	0.537	0.763	0.541	1.674
13	We forecast future market trends accurately.	0.518	0.434	0.780	2.599
14	We regularly conduct market trend analysis to stay ahead.	0.236	0.444	0.513	1.729
15	Long-term planning based on foresight guides our operations.	0.564	0.517	0.695	1.857
16	Our enterprise is prepared for expected changes in market conditions.	0.547	0.453	0.745	2.373
17	Our business identifies emerging opportunities ahead of competitors.	0.441	0.463	0.548	1.800

18	We regularly scan for potential market gaps before they become obvious.	0.419	0.405	0.655	2.218
19	We act quickly on opportunities others have not yet recognized.	0.492	0.622	0.728	1.942
20	Anticipating changes in customer needs is a key part of our strategy.	0.635	0.471	0.656	2.090

Source: Researcher survey, 2025 (SMART PLS 4)

The table shows the cross loading items of the analysis. To check for potential multicollinearity issues, Variance Inflation Factor (VIF) values were examined. The analysis showed that multicollinearity was not a concern, as the VIF values for all variables fell within the recommended threshold range of 2 to 5. Based on these results, the model demonstrated acceptable levels of reliability, validity, and structural soundness. With these conditions satisfied, the research hypotheses established within the proposed model framework were subsequently tested.

Path Analysis

In order to examine the relationship between entrepreneurial pro-activeness, market information and competitive advantage, a multivariate analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM). This approach was employed to test the study's hypotheses. The outcomes of the structural model estimation, including items loading and R-squared values, are presented in Figure 2.

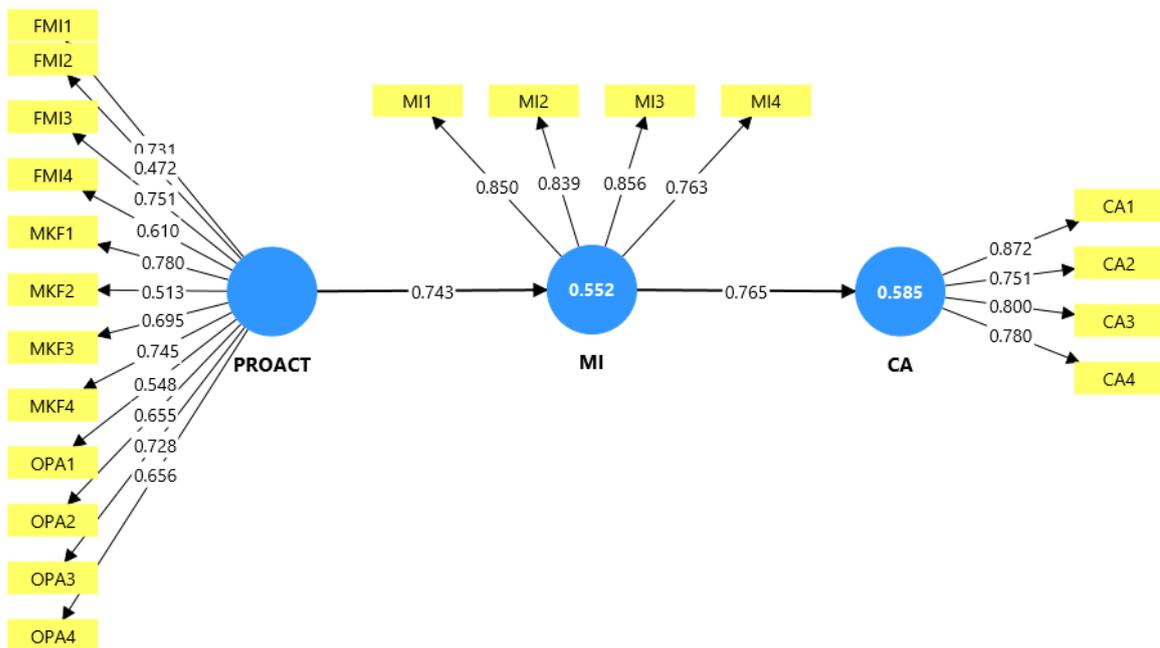


Figure 2.

The R-squared values represent the proportion of variance in the dependent (endogenous) variables that can be explained by the independent (exogenous) variables. This measure is useful for evaluating the overall model fit and assessing the predictive capability of variables within the formative model. As shown in Figure 2, the first-order construct variables explain a substantial amount of variance in their corresponding second-order construct, with Market Information a R² value of 0.552. Furthermore, the second-order constructs effectively predict the endogenous variable, Competitive Advantage, which has an R² value of 0.585. These findings indicate that the model demonstrates a strong fit with the data.

Hypotheses Testing

This study carried out a bootstrapping technique on PLS-SEM in order to express the t-statistics of the structural estimates, determine the significance of the relationships among the constructs and to test the hypothesized relationships.

Table 6. Hypotheses Testing

	Sample (Beta)	Sample mean (M)	Standard deviation (STDEV)	t-statistics (O/STDEV)	P- values	Decision
Entrepreneurial Pro-activeness -> Competitive Advantage	0.568	0.573	0.051	11.217	0.000	Supported
Entrepreneurial Pro-activeness -> Market Information	0.743	0.747	0.031	23.892	0.000	Supported
Market Information -> Competitive Advantage	0.765	0.765	0.040	19.088	0.000	Supported
Entrepreneurial Pro-activeness -> Market Information -> Competitive Advantage	0.567	0.573	0.051	11.217	0.000	Supported

Source: Researcher survey, 2025 (SMART PLS 4)

Table 6 presents the outcomes of the hypothesis testing. The results of the PLS-SEM analysis reveal that entrepreneurial pro-activeness (EP) significantly influences market information and competitive advantage (CA) of SMEs. The path coefficient for Entrepreneurial pro-activeness to Market Information was positive and significant ($t = 23.892$, $p < 0.000$), indicating that SMEs with higher levels of entrepreneurial pro-activeness are more likely to gain and sustain competitive advantage. Furthermore, the analysis confirms the moderating effect of market information (MI) on the relationship between EP and CA. The interaction term ($EP \times MI \rightarrow CA$) was positive and significant ($t = 11.217$, $p = 0.000$), suggesting that the influence of pro-activeness on competitive advantage becomes stronger when SMEs utilize higher levels of market information. This implies that access to and use of market information such as customer data, competitor analysis, and regulatory trends enhances the effectiveness of proactive initiatives in boosting SME competitive advantage.

The model explains 53% of the variance in competitive advantage ($R^2 = 0.585$), which is considered substantial in behavioral research (Hair et al., 2019). This shows that entrepreneurial pro-activeness, together with the moderating role of market information, accounts for a meaningful portion of SMEs' competitive advantage. For this reason therefore, hypotheses H1, H2, and H3 are hereby rejected thereby accepting alternative hypotheses. These findings demonstrate a strong relationship between entrepreneurial pro-activeness, market information and competitive advantage of small and medium scale enterprises. This supports the conceptual framework outlined in Figure 1 and carries important implications for small and medium scale business management. Specifically, it suggests that for small and medium scale enterprises to outperform competitors, the significance entrepreneurial pro-activeness cannot be overemphasized.

Discussion

The study examined the relationship between entrepreneurial pro-activeness and competitive advantage of SMEs; moderating effect of market information. The result of the research revealed that there is positive significant relationship between entrepreneurial pro-activeness and competitive advantage of SMEs. This result is in consonance with the research conducted by Nuhu et al., (2022), where they examined the relationship between entrepreneurial orientation and SME performance, their study confirmed that pro-activeness significantly contributes to competitive advantage, particularly in dynamic and resource-constrained

markets. They further observed that SMEs that act ahead of competitors by launching new products or entering new markets achieve higher customer satisfaction and profitability. On the other hand, research conducted by Wang et al., (2020), also supports the result of this research, they concluded their study by cautioning that pro-activeness alone may not guarantee competitive advantage unless firms possess complementary capabilities like market intelligence and dynamic capabilities to align initiatives with market demands

Result of the analysis also proved that market information has positive significant influence on competitive advantage of SMEs. This means that for competitive advantage to align with market requirements the significant of market information cannot be overemphasized. This result aligns with that of Shafique et al., (2023), whose study on Pakistani SMEs showed that firms that systematically collect and utilize customer data, competitor insights, and market trends are more adaptive and innovative, enabling them to achieve competitive advantage through innovation and responsiveness to market trends. Similarly, result from research by Rashidirad et al., (2023), corroborates this result as established that market information positively influences the relationship between entrepreneurial orientation and firm performance. They argued that firms that incorporate real-time market data into their strategic decisions are better able to navigate competitive pressures and sustain performance advantages.

Furthermore, result of the analysis established that market information positively moderates the relationship between entrepreneurial pro-activeness and competitive advantage of SMEs. This result is in agreement with result from research by Al-Hakimi and Borade (2020), in a study conducted in India, they found that market-oriented strategies moderated the relationship between entrepreneurial orientation and firm innovation, which in turn improved competitive advantage. They argued that SMEs that embed market intelligence in their proactive and innovative efforts are more likely to succeed in volatile markets. Additionally, research by Sulaiman and Al Mamun (2023), also confirmed this result where they emphasized that market information not only enhances decision-making quality but also ensures that proactive strategies are aligned with current market realities, reducing the risk of strategic misalignment.

Proactive firm that must get it right should leverage on market information which provides customers intelligence, competitors' intelligence, market trends analysis, and regulatory intelligence in order to rightly align to market needs and direction in the proactive efforts to ensure continuous existence and relevance in the competitive and volatile market. Any firm that fails to give credence to market information in operations may end up operating in misalignment with what the market requires, to market in a market, the understanding of such market is sacrosanct to enjoy endless competitive advantage.

Conclusion

The primary objective of this study was to examine the moderating effect of market information on the relationship between entrepreneurial pro-activeness and competitive advantage among small and medium-sized enterprises (SMEs) in Osun State, Nigeria. Employing a quantitative research design and analyzing data through Structural Equation Modeling (SEM), the study provided empirical evidence that entrepreneurial pro-activeness significantly enhances SMEs' competitive advantage. More importantly, the results demonstrated that market information positively moderates this relationship, suggesting that proactive firms that effectively acquire, interpret, and apply market information/intelligence are more likely to outperform competitors. The findings reinforce the Resource-Based View (RBV), which posits that firms achieve superior performance through the possession and deployment of unique, valuable, and inimitable resources. In this context, entrepreneurial pro-activeness and market information

jointly function as strategic organizational capabilities that enable SMEs to anticipate market trends, act ahead of competitors, and secure sustainable competitive positions. Proactive firms that embed information-driven strategies are better positioned to achieve customer loyalty, expand market share, and ensure long-term growth.

By implication, the study underscores the imperative for SME managers and owners to institutionalize data-driven decision-making processes. While entrepreneurial pro-activeness remains vital, its effectiveness is maximized when supported by timely and reliable market intelligence. Managers should therefore invest in market research tools, data analytics capabilities, and knowledge-sharing systems that foster informed strategic actions. Moreover, government agencies and support institutions should facilitate access to digital platforms, training programs, and real-time market information systems to strengthen SMEs' competitiveness within dynamic markets. Despite its contributions, this study is constrained by its geographical focus on Osun State and the exclusive reliance on quantitative analysis using SEM. Future researcher may consider comparative analyses across multiple regions or sectors and incorporate mixed-method approaches to capture contextual and behavioral dimensions that may further elucidate the interaction between entrepreneurial pro-activeness, market information, and competitive advantage.

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