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The impact of innovation dimension and marketing intelligence on the performance of small and medium enterprises in Ghana

Abstract. With small and medium-sized enterprises being vital contributors to economic growth, understanding the factors influencing their performance is crucial. The purpose of the study was to empower Ghanaian small and medium-sized enterprises with the knowledge and tools needed to effectively leverage innovation and marketing intelligence, driving sustainable growth and competitiveness in the evolving business landscape. Utilising a quantitative approach, 200 respondents were surveyed using random sampling. The study utilised dynamic capabilities to substantiate and explain the social phenomena analysed using the statistical package for Social Sciences and Structural Equation Modelling techniques. The results indicate that small and medium-sized enterprises stand to benefit from enhancing marketing, product, organisational, and process innovation to bolster their performance in the competitive landscape. Despite the acknowledged importance of innovation in small and medium-sized enterprises, empirical studies focusing on specific dimensions and their impact on performance are limited. This study fills this gap by identifying and analysing the relationships between innovation dimensions, market intelligence, and small and medium-sized enterprises performance. By providing actionable insights derived from empirical analysis, the research offers valuable guidance for small and medium-sized enterprises stakeholders, aiding strategic decision-making and competitiveness enhancement. Moreover, the study contributes to theoretical development by enriching understanding of how innovation and marketing intelligence drive small and medium-sized enterprises performance. The practical implications of the findings are significant, offering small and medium-sized enterprises a roadmap for leveraging innovation and market intelligence to thrive in dynamic

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business environments. Overall, this study enhances scholarly knowledge of the factors influencing small and medium-sized enterprises performance and provides practical guidance for small and medium-sized enterprises operators, policymakers, and other stakeholders invested in the success of small and medium-sized enterprises in Ghana

Keywords: product; process innovations; organisation; economic growth

INTRODUCTION

The study highlights the critical link between innovation dimensions and the performance of small and medium-sized enterprises (SMEs) in Ghana, with a particular focus on the mediating role of marketing intelligence. In today's dynamic business environment, innovation is a key driver of competitiveness and growth for SMEs and plays a crucial role in increasing productivity, market responsiveness, and overall performance. Although the importance of innovation to SME success is widely recognised, there remains a significant gap in understanding how different dimensions of innovation impact business outcomes, particularly in the Ghanaian SME context.

According to R. Torres *et al.* (2018), understanding the role of decision making in intelligence systems is crucial to improving enterprise performance. They identify a mediator between intelligence systems and performance and emphasise value creation. Q. Wu *et al.* (2023) focus on dynamic capabilities, especially for SMEs in rapidly changing environments, where marketing intelligence guides adaptive marketing efforts. Dynamic capabilities involve resource renewal, distinct from resource picking, enabling continual adaptation to environmental changes. Dynamic capabilities, particularly in marketing intelligence, illuminate SMEs' value creation through strategic actions in response to market dynamics. Research by A.L. Koffi *et al.* (2021) underscores the essential role of innovation in enhancing organisational, marketing, and managerial entrepreneurship, emphasising the need for SMEs to adopt innovative marketing strategies to remain competitive and improve performance. Additionally, empirical evidence confirms the association between innovation and SME performance, with product-service innovation particularly highlighted for its positive impact on performance.

M. Kuhlmann *et al.* (2023) emphasise the importance of innovativeness and intelligence in overcoming environmental uncertainties and achieving success. Innovativeness involves proactive and strategic action, enabling enterprises to adapt to changes and influence their operating environment. To withstand market turbulence, enterprises must nurture innovativeness and exploit market information. Superior market intelligence gathering techniques are crucial for enterprises to analyse, respond to, and alter the market accordingly. Studies by H. Mbaidin (2024) suggest that innovative enterprises prioritise exploring new products and market opportunities, often requiring substantial effort and expenditures, especially for small- and medium-sized enterprises with limited financial and human capital. Market intelligence is often used in decision-making processes to compensate for resource constraints. Enterprise innovativeness promotes creative behaviours,

active scanning, information exchange, and increased information flows. Learning and changes facilitated through market information processing are essential for enterprises to become more innovative and adapt to dynamic market conditions. Market intelligence is crucial for enterprises to convert information into actionable insights, as demonstrated by S. Sabahi & M.M. Parast (2023). It aids in market creation, segmentation, investment decisions, and competitive advantage. In emerging economies like Malaysia and India, customer intelligence acquisition is crucial. Formal information processes enhance adaptability to uncertainties, especially in marketing (Maghsoudi & Nezafati, 2023).

The mediating role of marketing intelligence on innovation and enterprise performance has garnered considerable attention in the literature. Marketing intelligence, defined as the systematic gathering, analysis, and dissemination of information related to market dynamics and consumer behaviour, serves as a critical resource for enterprises seeking to innovate and enhance their marketing strategies (Helm *et al.*, 2020). Scholars have highlighted the importance of marketing intelligence in facilitating the identification of market opportunities, monitoring competitor actions, and understanding consumer preferences, thereby enabling enterprises to develop more effective innovation strategies (Ranjan & Foropon, 2021). Moreover, marketing intelligence acts as a catalyst for innovation by providing insights into emerging trends and customer needs, which can inform product development and marketing initiatives (Chintalapati & Pandey, 2022). As such, marketing intelligence plays a pivotal role in shaping enterprise' innovation processes and ultimately influencing their marketing performance outcomes.

Many researchers have focused their attention on the areas of marketing intelligence. Several attempts after the development of market intelligence construct have been put in place in the operationalisation of market intelligence construct. According to S.F. Ahmad *et al.* (2023), organisations cannot benefit from the information gathered unless it is utilised in the decision-making process. Small businesses prioritise marketing decisions over financial and human resource decisions. As a result, small businesses invested more time than their larger counterparts in gathering marketing intelligence.

This study seeks to fill the gap in the literature by examining the complex relationship between innovation dimensions, marketing intelligence, and SME performance in Ghana. By adopting a quantitative research approach and leveraging empirical data, the study aimed to analyse the direct and indirect effects of innovation dimensions on SME performance, mediated by marketing intelligence.

MATERIALS AND METHODS

The conceptual framework of this study evaluated the relationship between innovation dimensions, marketing intelligence and SME performance, as shown in Figure 1. The study used primary data from SMEs in Greater Kumasi. During the survey period (January 2, 2024 to February 3, 2024), 330 questionnaires were distributed to managers of various manufacturing SMEs and 240

respondents answered an online survey. After validating the responses, 200 questionnaires were selected for additional analysis, of which 40 were found to be inadequate. To ensure that each sector is adequately represented, 200 manufacturing SMEs were proportionally and randomly selected to be included in the sample. The study used structured questionnaires to collect information from owners and managers of SMEs.

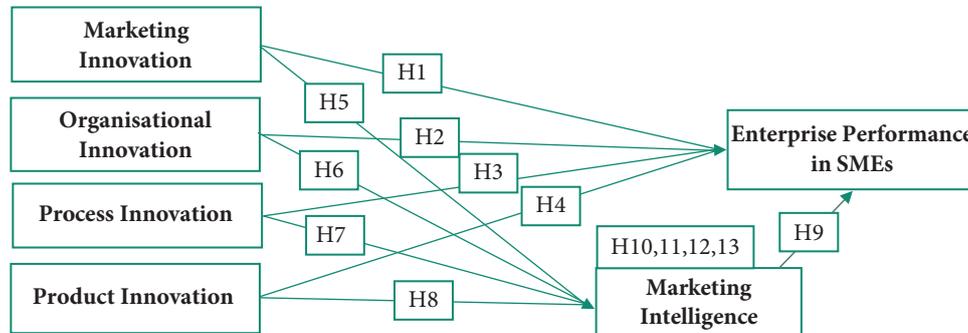


Figure 1. Research framework

Source: developed by the authors

The survey was conducted in compliance with ethical standards. All research participants provided informed consent before data collection. The consent form outlined the purpose of the research and provided assurances that all information collected would be treated confidentially and used only for scientific research. In addition, all participants agreed to have their answers published in the public domain. Questionnaires were distributed to the managers and owners of manufacturing SMEs. The questionnaire drew upon prior research conducted in a similar context

to inform its development. Specifically, five items from the study by S.F. Wamba *et al.* (2017) were incorporated to assess marketing intelligence. Additionally, fifteen items sourced from M. Pancić *et al.* (2023) were utilised to gauge the four distinct dimensions of innovation: process, product, organisational, and marketing. To measure enterprise performance, four items were adapted from J.R. Hanaysha (2020). Each item in the questionnaire was assessed using a Likert scale, ranging from “strongly disagree” to “strongly agree” and can be seen in the Table 1.

Table 1. Example of the questionnaire

Please indicate the extent to which you agree with the following statements using the assigned, likely scale ratings of 1-7, where: 1 = strongly disagree, 7 = strongly agree		1	2	3	4	5	6	7
Factor 1: Marketing Innovation								
MI 1	Our enterprise renews the product promotion techniques employed for the promotion of the current and/or new products							
MI 2	Our enterprise renews the distribution channels without changing the logistics processes related to the delivery of the product							
MI 3	Our enterprise renews the product pricing techniques employed for the pricing of the current and/or new products							
MI 4	Our enterprise renews the design of the current and/or new products through changes such as in appearance, packaging, shape, and volume without changing their basic technical and functional features							
Factor 2: Product Innovation								
PI 1	Our enterprise develops new products with technical specifications and functionalities totally differing from the current ones							
PI 2	Our enterprise develops novelty for current products leading to improved ease of use for customers and to improved customer satisfaction							
PI 3	Our enterprise develops new products with components and materials totally differing from the current ones							
PI 4	Our enterprise develops manufacturing cost in components and materials of current products							
Factor 3: Organisational Innovation								
OI 1	Our enterprise renews the organisational structure to facilitate teamwork							
OI 2	Our enterprise renews the production and quality management systems							

Table 1. Continued

Please indicate the extent to which you agree with the following statements using the assigned, likely scale ratings of 1-7, where: 1 = strongly disagree, 7 = strongly agree								
OI 3	Our enterprise renews the organisational structure to facilitate coordination between different functions such as marketing and manufacturing							
OI 4	Our enterprise renews the routines, procedures and processes employed to execute enterprise activities in innovative manner							
Factor 4: Process Innovation							1	2
PRI 1	Our enterprise determines and eliminate non value adding activities in delivery related processes						3	4
PRI 2	Our enterprise decreases variable cost and/or increasing delivery speed in delivery related logistics processes						5	6
PRI 3	Our enterprise increases output quality in manufacturing processes, techniques, machinery and software						7	
PRI 4	Our enterprise decreases variable cost components in manufacturing processes, techniques, machinery and software							
Factor 5: Marketing Intelligence							1	2
MIN 1	The enterprise has the ability to learn quickly about changes in regulations of its markets						3	4
MIN 2	The enterprise has the ability to learn quickly about changes in customers' preferences						5	6
MIN 3	The enterprise has the ability to learn quickly about changes in competitors' strategies						7	
MIN 4	The enterprise has the ability to learn quickly about changes in distribution channels							
MIN 5	The enterprise has the ability to quickly learn about changes in demand and tastes in its markets							
Factor 6: Enterprise Performance							1	2
EP 1	My enterprise is stronger growth in sales revenue						3	4
EP 2	My enterprise has a greater market share						5	6
EP 3	My enterprise is more profitable						7	
EP 4	Our enterprise has improved its overall product quality							

Source: developed by the authors

In this study, inferential statistics was provided by Smart-PLS, which used statistical analysis as the research method. Because Smart-PLS can be used on any data scale, requires few assumptions, and tests the relationship without a strong theoretical basis, it is a very useful statistical tool (Avkiran, 2018). Structural models and measurement models are evaluated simultaneously in the Smart-PLS analysis. Based on the model measurements, convergent validity (loading factor and average variance), discriminant validity, and internal consistency reliability (composite reliability) were assessed. Comparing Smart-PLS with alternative methods results in more robust structural model estimation, especially in cases where assumptions are broken. The sample size does not have to be very large, which is another advantage.

The theoretical model was tested using structural equation modelling (SEM), employing the two-stage approach recommended by J.C. Anderson & D.W. Gerbing (1988) to accurately represent each construct's reliability in separate stages, thereby preventing interference between the measurement and structural models. A reliability test was conducted to ensure consistent measurement of the intended latent constructs, with Cronbach's alpha used to evaluate reliability. The outcomes surpassed the satisfactory level of >0.70, indicating a high level of reliability for the instruments used (Nunnally, 1978).

In Ghana, small and medium-sized enterprises (SMEs) are classified based on criteria such as the number of employees and asset base (Offei et al., 2019). The National Board for Small Scale Industries (n.d.) defines small

enterprises as those with fewer than nine workers and assets valued at less than GHS 10 million, while the Ghana Statistical Service categorises small enterprises as having less than ten employees (Kraakah et al., 2015). The Ministry of Trade and Industry (n.d.) provides further classification, defining micro enterprises as those employing up to five individuals, small enterprises as having 6-29 employees, and medium enterprises as employing 30-99 employees, with corresponding asset values. SMEs in Ghana, predominantly situated in the informal sector, encompass various associations like the Ghana Private Road Transport Union and Hairdressers Association, serving as significant sources of labour and income. This study focuses on SMEs within the service sector, adhering to the Ministry of Trade and Industry's classification.

RESULTS AND DISCUSSION

The results show that out of the 200 (100%) respondents, 84 respondents, i.e. 42%, were male and 116 respondents, i.e. 58%, were female. This shows that the majority of respondents were female. The results also showed that 36 (18%) respondents were up to 30 years old, 109 (54.5%) were between 31 and 40 years old, 42 (21%) respondents were between 41 and 50 years old, and 13 (6.5%) respondents were 51 years and older. The majority of respondents were between 31 and 40 years old, while very few were 51 years old and older. Regarding the educational level of the respondents, it can be seen that those with MSLC/JHS as their highest level of education were 18 years old, which corresponds to 9%.

The SHS education level was 20 (10%). Of the respondents with diplomas, 69 (34.5%) were Undergraduates, 89 (44.5%) were Graduates, and 4 (2%) were Postgraduates. In addition, retail has the most respondents, amounting to 45 (22.5%), manufacturing – 12 (6%), education – 20 (10%), media – 18 (9%), services – 27 (13.5%), imports and exports – 9 (4.5%), supermarkets – 30 (15%), cars – 10 (5%), printing – 11 (5.5%), and others – 18 (9%). Additionally, the results showed that 48 (24% of respondents) have been with the company for less than a year, 51 (25.5%) have been with the company for 1 to 3 years, and 90 (45%) have been with the company between 4- and 6-years years with the company, and 11 (5.5%) have been with the company for more than 6 years. This shows that most of them have been with the company for 4 to 6 years. It can also be deduced that 114 respondents (57), the highest number, are owners of the company; 72 respondents (36) said they were managers; and 14 respondents (7%) held other positions within the company. In addition, 58 respondents with a share of 29% confirmed that it was a family business; However, 142 (71%) stated that it was not a family business. The number of employees in the different companies in the table shows that 165 respondents, representing 82.5%, have less than five (5) employees; 33 respondents, with a share of 16.5%, have 6-29 employees; only 2 respondents with a share of 1% have 30-99 employees; and there were no respondents who reported having a hundred or more employees.

The average variance extracted (>0.50) and composite reliability (CR) values (>0.80) demonstrated satisfactory internal consistency of the constructs and convergent validity, indicating agreement among multiple items measuring a single concept. Detailed information regarding reliability, factor loadings, and average variance extracted from the constructs can be found in Table 2. To assess the measurement model's construct validity and distinguish between constructs derived from redundant items, discriminant validity was employed. Discriminant validity is established when items within a construct correlate more strongly with each other than with items from other constructs. This criterion suggests that the square root of the average variance extracted (AVE) should exceed the correlation between the construct and other constructs (Fornell & Larcker, 1981). The study adhered to this criterion, as all constructs demonstrated discriminant validity, with each construct's AVE surpassing the squared correlation with other constructs, as detailed in Table 3. The correlation matrix between constructs corroborates these findings.

Additionally, cross-loadings revealed that items predominantly loaded higher on their respective constructs rather than on other constructs, with loadings above 0.60 (Table 4). All elements had robust loadings above 0.60, substantiating their retention. The overall effect is shown in Table 5. The results of the hypothesis tests regarding the relationships between these components are explained in Tables 6 and 7, and in Figure 2.

Table 2. Validity and reliability results

Research constructs	Cronbach's alpha	Rho _A	CR	AVE	Loadings
Enterprise Performance	0.980	0.980	0.985	0.943	
EP 1					0.967
EP 2					0.977
EP 3					0.981
EP 4					0.959
Marketing Innovation	0.994	0.994	0.996	0.983	
MI 1					0.994
MI 2					0.992
MI 3					0.992
MI 4					0.988
Marketing Intelligence	0.977	0.982	0.982	0.918	
MIN 1					0.985
MIN 2					0.984
MIN 3					0.989
MIN 4					0.983
MIN 5					0.841
Organisational Innovation	0.945	1.014	0.964	0.899	
OI 1					0.885
OI 2					0.983
OI 3					0.972
Process Innovation	0.871	0.896	0.912	0.722	
PRI 1					0.870
PRI 2					0.793
PRI 3					0.799
PRI 4					0.929
Product Innovation	0.982	0.982	0.987	0.949	

Table 2. Continued

Research constructs	Cronbach's alpha	Rho _A	CR	AVE	Loadings
PI 1					0.969
PI 2					0.979
PI 3					0.985
PI 4					0.964

Source: developed by the authors

Table 3. Discriminant validity

	EP	MI	MIN	OI	PRI	PI
Enterprise Performance	0.971					
Marketing Innovation	0.089	0.991				
Marketing Intelligence	0.157	0.942	0.958			
Organisational Innovation	0.167	0.062	0.099	0.948		
Process Innovation	0.078	0.927	0.884	0.022	0.850	
Product Innovation	0.960	0.143	0.215	0.135	0.135	0.974

Source: developed by the authors

Table 4. Cross-loadings

	EP	MI	MIN	OI	PRI	PI
EP 1	0.967	0.080	0.148	0.168	0.064	0.932
EP 2	0.977	0.080	0.147	0.176	0.076	0.938
EP 3	0.981	0.094	0.154	0.170	0.081	0.940
EP 4	0.959	0.091	0.162	0.136	0.083	0.918
MI 1	0.083	0.994	0.936	0.069	0.922	0.137
MI 2	0.095	0.992	0.932	0.070	0.923	0.148
MI 3	0.075	0.992	0.934	0.046	0.921	0.129
MI 4	0.100	0.988	0.935	0.061	0.912	0.155
MIN 1	0.111	0.944	0.985	0.077	0.882	0.168
MIN 2	0.120	0.941	0.984	0.090	0.887	0.177
MIN 3	0.108	0.945	0.989	0.085	0.886	0.165
MIN 4	0.132	0.935	0.983	0.100	0.866	0.189
MIN 5	0.310	0.729	0.841	0.132	0.700	0.360
OI 1	0.111	0.017	0.055	0.885	-0.024	0.080
OI 2	0.150	0.077	0.109	0.983	0.034	0.119
OI 3	0.196	0.067	0.106	0.972	0.035	0.164
PI 1	0.931	0.134	0.204	0.137	0.118	0.969
PI 2	0.939	0.132	0.203	0.140	0.128	0.979
PI 3	0.946	0.149	0.212	0.130	0.137	0.985
PI 4	0.925	0.145	0.220	0.118	0.141	0.964
PRI 1	0.144	0.783	0.754	0.019	0.870	0.188
PRI 2	0.034	0.672	0.660	0.039	0.793	0.078
PRI 3	0.002	0.690	0.638	-0.026	0.799	0.050
PRI 4	0.071	0.964	0.912	0.035	0.929	0.126

Source: developed by the authors

Table 5. Total effects

	EP	MI	MIN	OI	PRI	PI
Enterprise Performance						
Marketing Innovation	-0.023		0.852			
Marketing Intelligence	-0.048					
Organisational Innovation	0.040		0.035			
Process Innovation	-0.031		0.083			
Product Innovation	0.962		0.077			

Source: developed by the authors

Table 6. Structural analysis

Study's hypothesis	Hypothesis	Path coefficients	t-Statistics	p-Values	Supported/Rejected
MI -> EP	H1	0.018	0.279	0.780	Rejected
OI -> EP	H2	0.041	2.230	0.026	Supported
PRI -> EP	H3	-0.027	0.456	0.649	Rejected
PI -> EP	H4	0.966	51.943	0.000	Supported
MI -> MIN	H5	0.852	14.435	0.000	Supported
OI -> MIN	H6	0.035	1.311	0.190	Rejected
PRI -> MIN	H7	0.083	2.033	0.043	Supported
PI -> MIN	H8	0.077	2.331	0.020	Supported
MIN -> EP	H9	-0.048	0.861	0.390	Rejected

Source: developed by the authors

Table 7. Indirect effects

Study's hypothesis	Hypothesis	Path coefficients	t-Statistics	p-Values	Supported/Rejected
MI -> MIN -> EP	H10	-0.041	0.847	0.397	Rejected
OI -> MIN -> EP	H11	-0.002	0.754	0.451	Rejected
PRI -> MIN -> EP	H12	-0.004	0.719	0.472	Rejected
PI -> MIN -> EP	H13	-0.004	0.817	0.414	Rejected

Source: developed by the authors

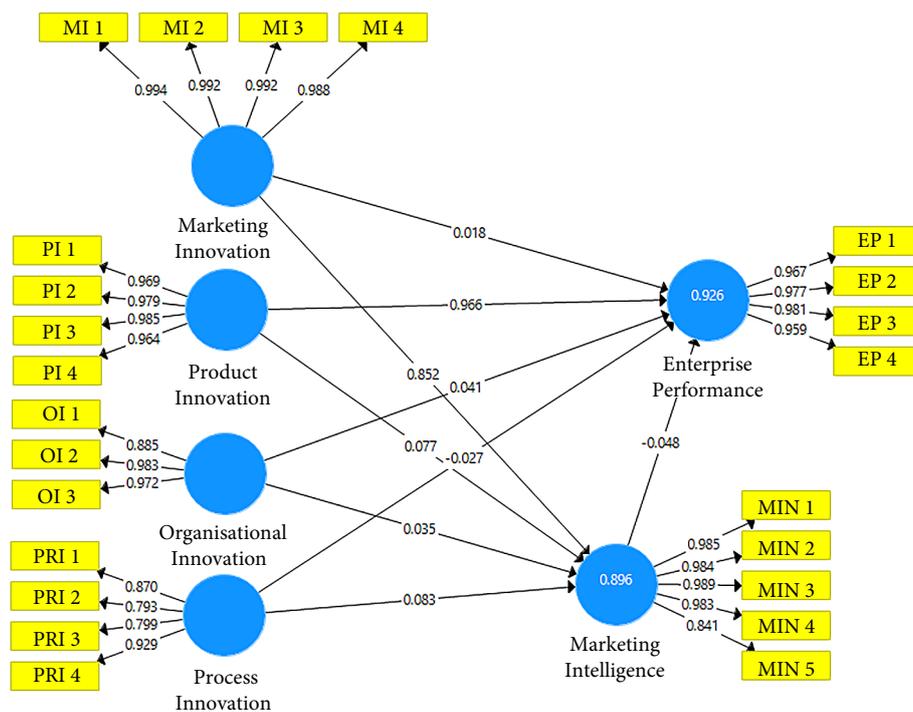


Figure 2. Structural model

Source: developed by the authors

The study assesses the relationship between the dimensions of innovation orientation and performance of SMEs. This leads to four hypotheses: (H1) Marketing innovation is positively and significantly related to the performance of SMEs, (H2) Organisational innovation is positively and significantly related to the business performance of SMEs, (H3) Process innovation is positively and significantly related to Zu. For this purpose, the criteria “Business performance of SMEs” and (H4) “Product innovation is positively

and significantly related to the business performance of SMEs” were formulated. The results of the structural model showed that marketing innovation ($\beta = 0.018$, $t = 0.279$, $p = 0.780$), organisational innovation ($\beta = 0.041$, $t = 2.230$, $p = 0.026$), process innovation ($\beta = -0.027$, $t = 0.456$, $p = 0.649$), and product innovation ($\beta = 0.966$, $t = 51.943$, $p = 0.000$) each played a significant role in determining enterprise performance. The results suggest that improvements in marketing, organisation, processes and product

innovation would lead to increased performance. This was the reason for the positive and significant relationship between the four constructs and performance. Thus, H1 and H3 have a negative relationship, while H2 and H4 were supported. The positive relationship between the above constructs is the recognition of their importance for SMEs, even though the relationship between marketing and process innovation and enterprise performance was insignificant and the relationship between organisational and product innovation and enterprise performance was significant. The type and structure of SMEs may have had an influence on the results. Because promoting innovation requires the entire organisation. Therefore, when the organisational structures of SMEs prevent their members from communicating and collaborating effectively, this can lead to process and product innovation. Although the result is significant, it is satisfactory as it confirms the positive relationship found in the literature. The study is timely and significant as it expands SMEs' understanding of how implementing dimensions of innovation orientation can improve their performance, which is crucial given the fierce competition that SMEs face. SMEs must support the four innovation activities, even though there is a strong correlation between the constructs and performance. This is because P. De Giovanni & A. Cariola (2021) and S. Hanif *et al.* (2023) showed how process innovation increase a company's competitiveness, profits and performance by reducing waste. According to the researchers, implementing process innovation is a necessary endeavour because they help companies to increase productivity, remain competitive, and produce high-quality goods. L. Qiu *et al.* (2020) also found that dynamic companies can benefit from being first to meet customer needs through product innovation. J. Andersén (2021) argued that companies can use product innovation to gain a competitive advantage. This is because product innovation can improve product quality, which increases a company's performance and competitive advantage.

Furthermore, the study assesses the relationship between the dimensions of innovation orientation and marketing intelligence of SMEs. This leads to four hypotheses: (H5) Marketing innovation is positively and significantly related to the marketing intelligence of SMEs, (H6) Organisational innovation is negatively and insignificantly related to the marketing intelligence of SMEs, (H7) Process innovation is positively and significant relationship with for this purpose, marketing intelligence of SMEs, and (H8) product innovation was formulated, which is positively and significantly related to marketing intelligence of SMEs. The results of the structural model showed that marketing innovation ($\beta = 0.852$, $t = 14.435$, $p = 0.000$), organisational innovation ($\beta = 0.035$, $t = 1.311$, $p = 0.190$), process innovation ($\beta = 0.083$, $t = 2.033$, $p = 0.043$), and product innovation ($\beta = 0.077$, $t = 2.331$, $p = 0.020$) each played an important role in determining marketing intelligence. The results suggest that although product innovation is not positively correlated with marketing intelligence, marketing, organisational, and process innovation activities do have an impact

on marketing intelligence. This means that SMEs should increase the level of marketing intelligence in their product innovation. According to this study, corporate innovation has a significant and positive impact on market intelligence practices, both in terms of procurement and use of market intelligence. The results provided further evidence in favour of the relevant literature (Jaradat *et al.*, 2024). Although enterprises with higher levels of innovativeness may acquire more market information, they may not always use it to the same extent. This is because there is a stronger correlation between corporate innovation and the acquisition of market information than between the ability of companies to innovate and the use of market information. Furthermore, a positive and significant relationship between the acquisition and use of market information was discovered, which correlates with the study by G. Dash *et al.* (2021).

In addition, the study investigates the relationship between marketing intelligence and business performance of SMEs. The results show that marketing intelligence has a positive and significant relationship with the business performance of SMEs (H9). The results of the structural model showed that marketing intelligence ($\beta = -0.048$, $t = 0.861$, $p = 0.390$) does not play a significant role in determining the business performance of SMEs. The results contradict previous research by A. Khaddam *et al.* (2023), indicating a positive and significant relationship between market intelligence practices and enterprise performance, both in terms of customer perspective and market performance.

Ultimately, the study analysed the mediating effect of marketing intelligence on the dimensions of innovation and business performance of SMEs. The mediation test suggests that marketing information does not mediate the relationship between innovation dimensions and enterprise performance. The results of the structural model showed that marketing innovation ($\beta = -0.041$, $t = 0.847$, $p = 0.397$), organisational innovation ($\beta = -0.002$, $t = 0.754$, $p = 0.451$), process innovation ($\beta = -0.004$, $t = 0.719$, $p = 0.472$), and product innovation ($\beta = -0.004$, $t = 0.817$, $p = 0.414$). This indicates that marketing intelligence is not a partial mediator in the relationship between innovation dimensions and performance, nor can it be an alternative to increasing enterprise performance. Therefore, H10, 11, 12 and 13 were rejected in this study. The outcome variables are consistent with some existing literature in the field of innovation and marketing. While innovation is generally considered important in driving various outcomes, the specific relationships between different types of innovation and specific constructs can vary based on the context and industry. For instance, F.D. Yadete *et al.* (2023) explored the impact of marketing innovation on brand satisfaction in the technology sector, and the results indicated a non-significant relationship. Similarly, N.K. Mai *et al.* (2022) investigated the influence of organisational innovation on customer loyalty in the retail industry, also finding a non-significant effect. These studies provide additional support for the non-significant relationships between different types of innovation and the outcome variables.

Despite the lack of direct mediation, marketing intelligence remains crucial in facilitating innovation processes within SMEs. It provides valuable insights into market trends, competitor strategies, and consumer behaviour, aiding enterprises in identifying unmet needs and assessing market demand. Although not directly mediating enterprise performance, marketing intelligence helps enterprises track innovation performance, gather customer feedback, and adapt strategies accordingly. Previous empirical studies have highlighted the positive relationship between marketing intelligence and innovation performance, emphasising its role in supporting knowledge transfer, decision-making, and strategic planning. Thus, while marketing intelligence may not directly influence enterprise performance through innovation, its impact on innovation processes remains vital for SMEs striving to stay competitive in dynamic market environments.

CONCLUSIONS

This study highlights the critical role of innovation in shaping the performance of SMEs, particularly in the manufacturing sector in Ghana. The results highlight the positive influence of marketing, organisational, process, and product innovation on company performance and underline the importance of promoting a culture of innovation in SMEs. While marketing, organisational, and product innovation were found to significantly increase enterprise performance, the relationship between process innovation and enterprise performance was less pronounced, suggesting the need to further examine the nuanced dynamics of innovation in different organisational contexts. These insights provide valuable guidance for SMEs seeking to strengthen their competitive position and adapt to changing market demands by strategically integrating innovation into their business strategies.

In addition, this study sheds light on the connection between innovation orientation and marketing intelligence in SMEs. While marketing, organisational and process innovation were found to positively influence marketing intelligence, the relationship between product innovation and marketing intelligence was not statistically significant. This highlights the importance of integrating innovation activities into marketing strategies to improve marketing intelligence practices in SMEs. However, the study did not find support for the mediating role of marketing intelligence in the relationship between innovation dimensions and

enterprise performance, suggesting the presence of other influencing factors. These results provide valuable insights for SMEs that want to improve their innovation practices and marketing intelligence capabilities, ultimately contributing to their sustainable growth and competitiveness in the market.

The study emphasises the importance of innovation in management practices for SME managers, especially in developing countries like Ghana. It suggests that managers should prioritise innovation across marketing, organisational, process, and product dimensions. This involves investing resources, optimising processes, and introducing new marketing strategies. The study also suggests that policymakers and industry stakeholders should support SMEs in their innovation efforts by providing finance, resources, and supportive frameworks. This fosters an enabling ecosystem for economic growth and sustainable development.

The study suggests several recommendations to improve the performance of SMEs. These include prioritising innovation, establishing accessible funding mechanisms, and creating platforms to raise awareness about the importance of innovation. These measures will enable SMEs to invest in new technologies, acquire innovative equipment, and capitalise on emerging opportunities. Governments should also provide financial support to SMEs, empowering them to compete effectively in the global marketplace. These recommendations underscore the critical role of innovation in driving SME performance.

The study explored the relationship between innovation and SME performance in Ghana, focusing on SMEs in Kumasi. However, its constraints include a limited generalisability to all businesses in Ghana. Future research should include a diverse sample and consider additional variables like market dynamics, regulatory environment, and socio-economic conditions. The study also failed to distinguish small manufacturing companies from medium-sized ones, requiring further research to collect more detailed data and explore disaggregation. These suggestions can improve understanding of innovation and SME performance in Ghana, enabling more effective strategies for SMEs' growth and sustainability.

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CONFLICT OF INTEREST

None.

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Вплив інноваційного виміру та маркетингової аналітики на діяльність малих та середніх підприємств у Гані

Анотація. Оскільки малі та середні підприємства відіграють важливу роль в економічному зростанні, розуміння факторів, що впливають на їхню діяльність, має вирішальне значення. Метою дослідження було надати ганським малим і середнім підприємствам знання та інструменти, необхідні для ефективного використання інновацій та маркетингової аналітики, що сприятиме сталому зростанню та конкурентоспроможності в умовах мінливого бізнес-ландшафту. Використовуючи кількісний підхід, методом випадкової вибірки було опитано 200 респондентів. Дослідження використовувало динамічні можливості для обґрунтування та пояснення соціальних явищ, проаналізованих за допомогою статистичного пакету для соціальних наук та методів моделювання структурних рівнянь. Результати дослідження свідчать про те, що малі та середні підприємства виграють від впровадження маркетингових, продуктових, організаційних та технологічних інновацій для підвищення своєї ефективності в конкурентному середовищі. Незважаючи на загально визнану важливість інновацій для малих та середніх підприємств, емпіричні дослідження, що фокусуються на конкретних аспектах та їхньому впливі на результати діяльності, є обмеженими. Це дослідження заповнює цю прогалину, визначаючи та аналізуючи взаємозв'язки між інноваційними аспектами, ринковою аналітикою та результатами діяльності малих і середніх підприємств. Надаючи практичні висновки, отримані на основі емпіричного аналізу, дослідження пропонує цінні рекомендації для зацікавлених сторін малих та середніх підприємств, допомагаючи їм у прийнятті стратегічних рішень та підвищенні конкурентоспроможності. Крім того, дослідження робить внесок у теоретичний розвиток, поглиблюючи розуміння того, як інновації та маркетингова аналітика впливають на ефективність діяльності малих і середніх підприємств. Практичне значення отриманих результатів є значним, пропонуючи малим та середнім підприємствам дорожню карту для використання інновацій та маркетингової аналітики для процвітання в динамічному бізнес-середовищі. Загалом, це дослідження поглиблює наукові знання про фактори, що впливають на діяльність малих і середніх підприємств, і надає практичні рекомендації для операторів малих і середніх підприємств, політиків та інших зацікавлених сторін, які інвестують в успіх малих і середніх підприємств в Гані

Ключові слова: продукція; процесні інновації; організація; економічне зростання