

A Causal Model on the Performance of SMEs as a Function of Learning Orientation, Innovation Capability, and Organizational Agility in Region XI

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Abstract

This research seeks to establish a causal model for successful SME performance in Davao Region based on three determinants: learning orientation, innovation capabilities, and organizational agility. A stratified random sample of 255 business owners and managers in the Davao region was drawn from the larger population to determine both the degree of the impact of these three independent variables on the dependent variable, SME performance. A descriptive correlational research design and a structural equation model were used to analyze the data. Statistical analytic techniques such as mean, regression analysis, and structural equation modelling were applied to determine the levels, influence, and overall best fit of the independent variables toward the dependent variable. The results of the study revealed that respondents represent a very high level of learning orientation and high levels of innovation capability, organizational agility, and SME performance. The results also showed that innovation capability has the greatest statistical influence on SME performance. Further analyses demonstrated that while learning orientation and organizational agility exhibit positive relationships with SME performance, they are not statistically significant predictors. The modified higher-order construct model was identified as the best fit, confirming that the combined impact of learning orientation, innovation capability, and organizational agility explains SME performance. Therefore, the significance of this research is that it provides empirical evidence that should assist SME owners, managers, and other policy-makers in formulating innovation-driven strategies that can enhance SME performance and improve the competitiveness of SMEs in the Davao region.

Keywords: business administration, learning orientation, innovation capability, organizational agility, performance, causal model, Philippines

SDG Indicator: #9 (Industry, Innovation and Infrastructure)

INTRODUCTION

Small and medium-sized enterprises (SMEs) have been considered vital to the economy as they fuel growth, create jobs, and promote innovation; thus, SMEs account for a large share of both economically developed and developing countries (European Commission, 2020). Yet, SMEs continue to face many

challenges that negatively impact their ability to perform effectively and sustain themselves in the long run. An example is the need for better access to finances, thus hindering SMEs from being able to invest in technology, expand their operations, and compete with larger corporations (World Bank Group, 2018). Due to insufficient collateral or a lack of a credit history, preventing them from obtaining loans will make it very difficult for SMEs to operate their business at their current level or expand. Additionally, this financial challenge causes other operational difficulties that could lessen the ability of SMEs to compete in a rapidly changing global/market environment.

In addition to financial restrictions, SMEs struggle with attracting and retaining talented employees, which directly impacts their operational efficiencies and delivering services. Small and medium enterprise owners are at a competitive disadvantage to large corporations by not having sufficient financial resources to pay workers higher wages, offer benefit packages, and/or provide well-defined promotional opportunities (National Small Business Association, 2019). Therefore, they are unable to recruit and retain talented employees, which affects productivity, innovation, and customer satisfaction, all of which are factors that determine an SME's overall business performance. Finally, SMEs must also contend with a vast amount of regulatory and compliance regulations, especially in businesses that have complex legal requirements (Kofman, 2023). If an SME lacks the financial means or the organizational expertise in their business with respect to regulations, then they will often find it challenging to comply with tax obligations, labor laws, and industry-specific compliance obligations, potentially exposing themselves to the possibility of legal action and/or financial penalties.

Understanding the aspects that influenced the performance of SMEs is critical for ensuring the long-term success of SMEs due to these challenges. The literature identifies three main variables that impact SMEs' performance significantly. Learning orientation, innovation capability, and organizational agility are the three major variables affecting the performance of SMEs (De Clercq et al., 2013). Learning orientation pertains to how much a firm can learn about how to acquire, process, and utilize new knowledge to assist the firm in adapting to an ever-changing market (De Clercq et al., 2013). Innovation capability provides a competitive advantage for SMEs by developing new products, processes, and business models that improve the SME's position in the marketplace (Mostafiz et al., 2021). Lastly, organizational agility helps SMEs quickly respond to disruptive events, take advantage of new opportunities, and remain resilient in an unpredictable economic climate (Musa & Enggarsyah, 2024).

Analyzing the effects of all 3 of these variables will provide SME business owners, policymakers, and other stakeholders with valuable knowledge and insight on how they may be leveraged to improve an SME's performance. A more in-depth understanding of how learning orientation, innovation capability, and organizational agility interact to create business success can inform the decisions of SME owners, shape public policy interventions, and help build SME capabilities to support their growth. Given the preparation of SMEs and their owners for the more complex and competitive environment in which they operate, there is a need to develop evidence-based strategies to help them build their adaptability, innovation potential, and overall operational efficiency. The objective of this research was to conduct an extensive examination of these elements to provide empirical evidence that complements the ongoing discussion about the development and sustainability of SMEs.

Abdulai (2022) identified learning orientation as one of the significant factors that affect an organization's ability to acquire and use knowledge to improve its productivity. A learning orientation reflects an organization's commitment to ongoing learning and knowledge sharing, as well as its adaptability in changing business conditions (Saukkonen, 2020). SMEs, which typically face limitations

regarding resources and competitive pressures, can benefit greatly from developing a strong culture of learning, enabling them to recognize new opportunities, improve decision-making, and adapt to changes in their markets (Makhloufi et al., 2021). As described by Ibidunni et al. (2023), the main components of a learning orientation include commitment to learning, shared vision, open-mindedness, and intra-organizational knowledge sharing.

Firms' ongoing commitment to learning allows them put priority on developing skills on an ongoing basis as well as obtaining new information. Through the development of a shared vision, each employee is working toward the same learning goals along with the company. The openness of employees to new ideas allows them to be flexible, adaptable, and willing to try new ideas, while intra-firm sharing of knowledge enhances collaborative learning among employees and the ability to transfer best practices or lessons learned from one department/area to another. Therefore, when a firm has solid commitments to these four declarations, it will build an environment that they can be more innovative and achieve long-term competitiveness.

Open-mindedness promotes flexibility and receiving innovative ideas, while intra-organizational knowledge sharing encourages collaborative learning among departments and the sharing of best practices. Each of these elements supports the organization's ability to innovate and remain competitive in the market for an extended period.

Many researchers have shown a correlation between the learning orientation of an organization and its performance, particularly among SMEs (Nnko, Ismail & John, 2024). Studies on small and medium-sized manufacturing companies indicate that those with a higher degree of learning orientation achieve better outcomes in areas such as adaptability, innovation, and customer awareness than those without such orientation. In addition, Solomon, Allen, and Wangombe (2024) show that service industries can also achieve greater growth rates and operating efficiencies through a developed learning orientation. However, Wilson and Liguori (2023) argue that learning orientation is not sufficient on its own for achieving superior performance and must be combined with an innovation-driven strategy. Contradictory findings illustrate the need for additional research to review how learning orientation interacts with additional performance-enhancing factors, including innovation capability.

Innovation capability refers to an organization's ability to continuously create and implement new ideas, products, services, or processes that create value. It includes elements such as knowledge management systems and technological resources, along with effective leadership practices and organizational cultures that promote innovation and change (Olaleye, Lekunze & Sekhampu, 2024).

A primary component of innovation capability is how well an organization can use resourcing and processes to turn ideas into successful results. This requires making appropriate investments in research and development (R&D), utilizing new technologies, and encouraging teamwork both internally and externally (Jain, Triandis & Weick, 2010). Organizations with high levels of innovation capability are often better able to adapt and compete in fast-paced market environments. A key aspect of innovation capability is the ability to effectively manage resources and processes to transform ideas into successful outcomes. This includes investing in research and development (R&D), adopting emerging technologies, and fostering collaboration both within and outside the organization (Jain, Triandis & Weick, 2010). Organizations with strong innovation capability often demonstrate higher adaptability and competitiveness in rapidly changing markets.

Furthermore, the capacity to innovate in organizations is extremely related to the absorptive capacity of the organization. Absorptive capacity refers to the ability of an organization to absorb invaluable

external knowledge in terms of identifying, assimilating and using the knowledge for profitable business use (Ávila, 2022). Organizations, which tend to embrace the practices of learning, experimenting, and sharing knowledge with others, are more likely to be able to produce innovative results over the long term.

Leadership is critical in enhancing innovation capability through the advancement of a vision that supports creativity, risk-taking, and continuous improvement. Furthermore, an organization's culture can be supportive of these initiatives by creating an environment that fosters open communication, team collaboration, and flexibility, which can further enhance innovation capabilities (Sadegh Sharifirad & Ataei, 2012).

In current competitive environments, organizations' innovation capabilities are not limited to developing new technologies; they encompass the use of innovative business models, improved customer service experiences, and improved operational performance.

At the broadest level, two principal dimensions comprise innovation capability: technological orientation and innovative strategies (Haryani, Gupta, Parisal, Takshilla, 2017). Technological orientation, as defined by Lau & Lo (2019), reflects the extent to which a firm has a propensity toward obtaining and using a significant amount of technological knowledge for these new products and processes, which produces increased performance for that firm. Innovative strategies, on the other hand, are described as the firm's development and implementation of new business models, products, and processes, which create value, provide superior performance, and create differentiation and competitive advantage for the firm (Deszczyński, 2021). Thus, the two dimensions of innovation capability significantly contribute to an organization's ability to maintain a sustainable competitive advantage.

Numerous empirical studies indicate that there is a positive correlation between innovation capability and SME performance (Ferreira, Cardim, & Branco, 2018). SMEs that purposely implement product and process innovations experience increases in profits, operationally efficient operations, and strong market positions. Research by Ferreira et al. (2018) shows that small and medium-sized enterprises with a high level of innovation have reported positive increases in revenues and improvements in their organizations' financial position. However, there are differences between industries in the extent to which innovation capability leads to performance benefits; therefore, it is necessary to conduct further investigations into industry-specific innovation strategies. Finally, although innovation produces benefits for SMEs' growth, those benefits do not necessarily materialize without a supportive culture, sufficient financial resources, and adequate support from senior leadership.

Companies can improve their ability to become agile by quickly preparing to respond when faced with various changes within their environment, which may affect how they do business or operate. Agility allows small and medium-sized businesses, especially those that have limited resources compared to larger organizations, to remain competitive and continue growing. Agile businesses can take advantage of new opportunities, change the way they do things in response to disruptions in their market or industry, or adjust how they make strategic decisions in accordance with changing consumer behaviors (Kumkale, 2022; Omowole et al., 2024). Ultimately, Pinho (2023) believes that being agile is an imperative component of being resilient and will continue to make the business competitive in the long run.

The five dimensions of organizational agility are culture of innovation, tolerance of ambiguity, change management, market response and analysis, and structural fluidity (Mashudu, 2022). Creating a culture of innovation provides employees with the support they need to come up with new and innovative ways

of doing things. Tolerance for ambiguity allows employees to be comfortable making decisions with incomplete information, especially when faced with risky situations. Change Management allows the business to transition through changing market conditions without significant disruption. Being responsive and able to analyze the market will assist the business in collecting and analyzing information, which will help the business make better strategic decisions. Structural fluidity enables the business to be able to realign its resources and processes in accordance with various changes occurring in the external environment.

There have been several studies that have linked organizational agility with the performance of SMEs, especially within rapidly changing business environments. For example, Beuren et al. (2022) found that SMEs with a high level of agility performed better than those with a low level of agility with respect to customer satisfaction and efficiency of operations. Additionally, agile SMEs are more agile during periods of economic downturn, as they can quickly respond to changes by adjusting their business model or shifting their strategic focus in order to minimize the impact of financial consequences. However, agility alone may not result in long-term success and should be viewed as a component that needs to be combined with a learning orientation and innovative capabilities to achieve maximum impact on the performance of the organization.

The dependent variable SME analyses and typically evaluated by three key indicators: market performance, operational performance, and human resource performance. Recent research conducted between 2022-2024 discusses how multi-dimensional market performance impacts SME performance through different complex systems and mechanisms rather than through just simple value. One important mechanism found to reduce informational asymmetries between firms and their investors is market performance. Additionally, strong market or company performance improves investors' confidence in a company and reduces the cost of capital for companies. Nguyen, Alkaraan, Abdelqader, Khassawneh, & Darwish (2025) examined Vietnamese companies and found that a material increase in foreign ownership leads to a commensurate increase in firm value, and firm performance and future financial performance for larger, liquid firms are enhanced substantially by foreign investors' participation in Vietnamese companies. Emerging companies now have access to capital more efficiently and financially than previously, through financing friction; thus, firms can make decisions about investment and growth that would be constrained without a strong market (Nguyen & Hoang, 2023, Journal of Emerging Economies)

In addition to financing, market performance also impacts SMEs' internal resource allocation as well as strategic decision-making. For instance, Chinese and Korean manufacturers have been found to respond to positive signals regarding their market performance by changing their level of investment in advertising and R&D. Li et al, (2024) found that the addition of strong advertising would lead to a stronger brand equity and improved market position in highly competitive industries while continuing to enhance the benefits associated with strong company or market performance. Likewise, according to Park and Kim (2022), investing in R&D has helped demonstrate how innovation and marketing complement each other in capturing market expectations and gaining a competitive advantage (Park & Kim, 2022).

Market performance also affects the way firms behave through capital structure decisions and their competitive strategies. The market timing hypothesis suggests that SMEs take advantage of opportunities by making adjustments to their equity and debt financing to reflect changes in their stock price, issuing equity when they have a good valuation to grow the company, and reducing leverage when

the valuation decreases (Wang, Guo, Wang, Li, Gu, Timofte, & Zhang, 2023). Furthermore, studies done on the COVID-19 pandemic have indicated that firms in competitive industries in China expended greater amounts of innovation under good market conditions, which provided the firms with greater resilience and adaptability (Wang et al., 2023). The results from these studies indicate that market performance is not only reflective of the value of a firm but also actively drives strategic investments, financing, and competitive behavior of the firm, thereby creating a feedback loop between market signals and outcomes for SMEs.

Operational performance, especially production efficiency, is also a major contributor to the ability of a firm to gain and keep market share. By being efficient in its production processes, a manufacturing firm can provide faster delivery of products, lower unit costs, and better meet the demands of its customers. Manufacturing Companies that implemented lean manufacturing and automation of their production lines saw a 12-18 percent increase in their market shares in highly competitive manufacturing sectors, such as automotive and electronics. Those same improvements enabled manufacturing companies to respond to orders more quickly, reduce lead times, and provide competitive pricing, all essential to establishing a greater foothold in the global and regional markets.

The profitability of the firm is closely affected by the successful management of the company's operational processes. For example, reducing production downtime, minimizing scrap, and improving supply chain logistics can all contribute to significantly increasing the company's profit margins. Capital expenditures were often large, making ROI a critical metric for evaluating firm performance in the manufacturing industry. Operational improvement initiatives focused on smart factories, the integration of the Internet of Things (IoT), and Artificial Intelligence (AI)-driven quality control systems were found to be instrumental to maximizing ROI. Bedolla, McKinsey, Ware, Santander, Arnold, and Luo (2024) indicated that manufacturers who implemented Industry 4.0 technologies realized 18 percent more ROI in their first year as a result of improved productivity and decreased waste. Implementing these technologies allows companies to make data-based decisions, to adjust their processes in real time, and to allocate resources more efficiently. By doing so, companies investing in equipment, technology, and labor can quickly and significantly generate higher returns from their investments.

Research has consistently revealed that satisfaction of employees is much more than simply a feel-good statistic; rather, it is a critical factor in the performance of human resource capital in the organization. Research shows that happy employees take much less sick leave and are generally more productive than those who are unhappy at work. Gallup's research suggests that there is a strong correlation between the levels of satisfaction employees experience and their ability to be productive and engaged based on their intrinsic motivation to do so. A 2024 study conducted on Gen-Z employees in Indonesia indicated that when employees feel valued and supported in their roles, they tend to be more engaged with their employer's vision, values, and goals and demonstrate higher levels of motivation to perform at their best. Similarly, engaged employees express greater loyalty to the organization, showing greater commitment to their employer's goals and values, thus increasing their productivity level and willingness to advocate for their employer. Gallup found that employees who received frequent communication about the organization's goals from management were more likely to demonstrate a greater alignment with their company's goals and remain employed longer than those not provided with such communication. Further, organizations that support the work-life balance of their employees are likely to see an increase in employee commitment and loyalty compared to their peers who do not provide such support.

Finally, a recent study in the Spanish banking industry demonstrated that providing employees with access to family-friendly policies and practices had a statistically significant positive impact on their overall well-being and job performance. The literature on learning orientation, innovation capability, and organizational agility has demonstrated a strong positive correlation with SME performance through numerous studies. Harrison (2021) showed that learning orientation has a positive impact on SME innovation capability and thus contributes to the organizational agility of SMEs. In the same way, Dikici (2024) found that a culture of continuous improvement resulting from learning orientation also increases the ability of a firm to adapt to market changes. Both sets of findings also indicate that SMEs with a learning orientation will be more capable of using their innovation and agility as competitive advantages.

The interaction of these three constructs is cyclical in nature; that is, learning orientation leads to innovation, which contributes to agility, which ultimately enhances SME performance. (Harrison, 2021) found that SMEs with a strong learning orientation were more likely to develop innovative capability. According to Mata, Moleiro, Martins and Inácio (2024), SMEs that focused on developing a culture of continuous learning also developed greater capacity for innovation, enabling them to be agile and adapt to rapidly changing and uncertain market conditions. This also provides opportunities for SMEs to exploit newly emerging markets and reduce their risks, thereby achieving long-term growth. The extent of influence that these factors have on SME performance depends on the industry context, size of the firm, and level of managerial competence.

By integrating the three variables, it can be concluded that learning orientation, innovation capability, and organizational agility are critical to enhancing firm performance. Mata, Moleiro Martins & Inacio (2024) argued that SMEs that prioritized continuous learning developed a stronger capacity for innovation, which enabled them to remain agile in turbulent markets. Each of the three constructs individually contributes to the success of a business, whereas the combined benefit of these three constructs creates synergies that enable a business to be more adaptable, efficient, and competitive in the marketplace.

The complex and uncertain nature of today's business environment encourages small-to-medium-sized enterprises (SMEs) to embrace an integrated approach that includes continuous learning to promote innovation and agility within organizations, leading to long-term sustainability and growth. Empirical research should focus on the differences in relationships found throughout multiple industries, as well as their respective economic and social settings, to obtain more comprehensive evidence regarding their practical implications and benefit companies operating in those environments.

Three specific types of studies can be synthesized into one comprehensive study. The first type of study looks at how learning orientation, innovation capability, and organizational agility each contribute to enhancing firm performance. These three factors not only contribute independently toward achieving the goals of any given business, but they also create a superior advantage when combined together, thus creating an organization that is adaptive, efficient, and competitive within its marketplace. Additionally, as a result of the rapid development of technology-related innovations, SMEs must utilize a holistic approach to developing a culture that embraces continual learning, encourages a culture of innovation, develops a learning-oriented culture that fosters agility through continuous improvement, and provides assistance with building, developing, and sustaining a high-performing workforce within the organization to achieve long-term success. Further research should focus on verifying the validity of

these relationships among differing industries and worldwide economic environments, as well as providing more detail on how to apply these concepts specifically.

The performance of small and medium-sized enterprises has long been a priority among policymakers, executives in SMEs, and numerous academic researchers; SMEs have produced job creation and innovative products for the last two decades, creating wealth, and continue to provide support for the North American economy. Additionally, Mindanao is an area where a substantial portion of the economy consists of small and medium businesses; many of these businesses are expected to experience strong growth; however, many of these enterprises may not survive unless they can identify the primary factors/indicators that drive business success. Despite this potential, Mindanao continues to be an area of chronic underdevelopment and an area of enormous economic opportunity, providing evidence of significant limitations in terms of access to capital and human resources; furthermore, the state of the regional economy is highly vulnerable to rapid external changes such as COVID-19. The majority of small businesses in Mindanao faced operational and infrastructure issues, limiting their ability to achieve long-term success and sustainability; therefore, it is imperative to identify and examine the determinants of successful SME performance, particularly in volatile business settings, such as those that exist within the Mindanao business community.

This study seeks to determine the best causal model that explains the performance of SMEs as a function of learning orientation, innovation capability, and organizational agility in shaping SME performance in the Davao Region. Specifically, it aims to: (1) assess the level of learning orientation among SMEs based on their commitment to learning, shared vision, open-mindedness, and intra-organizational knowledge sharing; (2) evaluate the degree of organizational agility in terms of culture of innovation, tolerance of ambiguity, change management, market response and analysis, and structural fluidity; (3) determine the level of innovation capability across two dimensions technological orientation and innovation strategies; (4) evaluate the level of Firm Performance through their market performance, operational Performance, and human resource performance; (5) analyze the relationship between learning orientation, organizational agility, innovation capability, and firm performance; and (6) develop a structural equation model (SEM) that characterizes the interplay of these factors and their influence on business performance. By establishing these relationships, the study intends to offer empirical insights that help SMEs strengthen their adaptability, efficiency, and competitive advantage.

The theoretical background of the study is based on dynamic capabilities theory (Matikiti, 2024), which asserts that organizations that are able to learn from their experiences continuously, innovate, and are agile are better able to react to rapidly changing market conditions and maintain long-term success. Businesses that aspire to this view must cultivate dynamic capabilities such as acquiring new knowledge, the ability to develop new technologies, and the ability to be flexible in their strategies to improve their operational efficiency and be able to be resilient in the face of change. Dynamic capabilities theory is more than just a theoretical concept; it is the way that successful organizations execute their strategies day in and day out in order to remain competitive in today's business environment (Gborogbosi & Chikwe, 2025). Learning orientation serves as the engine that drives the development of dynamic capabilities. Learning orientation provides firms with a competitive advantage, especially when combined with agility (Cavusgil & Deligonul, 2025). Learning orientation can be exhibited by developing curiosity in a business, sharing knowledge between different teams, applying new knowledge in the form of improving processes and innovating, improving flexibility, and being more adaptive to external events of change. In environments where the business landscape is

unpredictable, like Rivers State, SMEs are able to survive by being quick learners who adapt well; however, SMEs that do that are able to continue to move further ahead of other competitors in an unpredictable environment (Gborogbosi & Chikwe, 2025). The ultimate purpose of implementing learning-oriented systems and creating skills is for the purpose of not just to keep up with the fast-paced environment due to multiple events occurring, but also to thrive amongst the chaos of an unpredictable environment. Examples of the components of the process are learning and adapting. Dynamic capabilities theory is an attempt to integrate both learning orientation and agility into one definition. Dynamic capabilities theory creates the need to identify opportunities when they are presented in order to take advantage of them and use all available resources and tools to maintain the company in the business environment or, ideally, in an optimum position (Cavusgil & Deligonul, 2025).

This research also incorporated some aspects of organizational learning theory, which emphasizes the importance of continuing education, training, and adapting in a chaotic environment (Irfan et al. 2022). By combining and examining both aspects of theoretical constructs of learning and adaptability in relation to small and medium-sized businesses, it is hoped that this research will provide a better understanding of how these businesses can enhance their resources and capabilities to enable them to create long-term value growth.

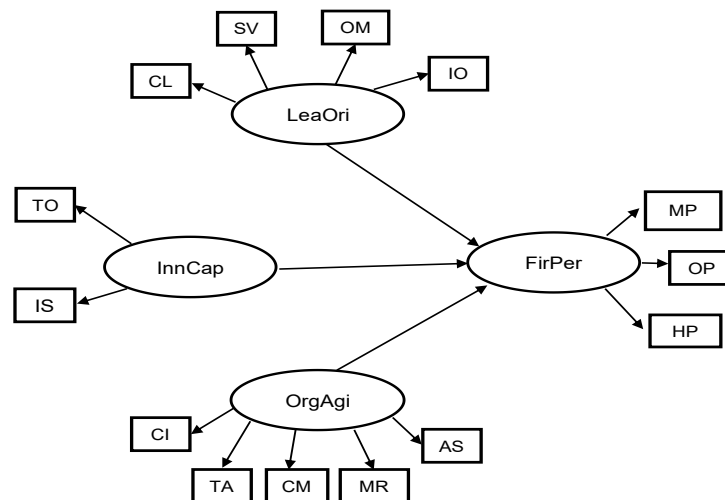
Figure 1's conceptual framework highlights the relationship between a company's level of learning and its flexibility to innovate, and how they work together to improve a company's overall financial success. The framework is based on Dynamic Capabilities Theory (Pitelis & Wang, 2023) & Organizational Learning Theory (Rachmad, 2022). It shows that companies can maintain a competitive advantage by acquiring new knowledge, continually innovating through experimentation and iteration, and adapting their business to meet changing market conditions. Therefore, the goal of this study is to develop a model for SMEs in Davao Region based on their learning orientation (culture), agility (flexibility), and ability to innovate (capability). The framework is established using a number of solid theoretical frameworks (Organizational Learning Theory, Resource-Based View (RBV) of the firm, & Dynamic Capabilities Theory), which posit that a firm's capabilities will provide that firm with a source of competitive advantage, and will, therefore, have a direct and positive impact on firm-specific outcomes. The proposed model positions learning orientation as a foundational organizational capability that enhances both organizational agility and innovation capability, which in turn drive SME performance. The framework also allows for the examination of direct and indirect effects among the variables using Structural Equation Modeling (SEM).

In this study, performance is defined as an SME's market-based performance, operational-based performance, and HR-based performance, and will be driven by the other three independent variables. The learning orientation is comprised of the commitment to learn, a shared vision of the company's mission, an open-minded culture, and the sharing of knowledge across organizational units. This base allows the SMEs to develop and use new knowledge for recognizing new opportunities and developing/implementing new strategies.

The innovation capability is central to an SME's performance through the creation of new products, processes, or business models (Joe, 1995). Firms that focus on continuous innovation have a competitive advantage over their competitors because they can produce goods or services more efficiently than their competitors and are able to meet the changing demands of consumers in shorter time periods. Therefore, it is hypothesized that the greater the SME's learning orientation is, the greater the SME's level of innovative activity (through new products, processes, and new systems) will be, which will lead to

ongoing growth and adaptability. The SME's organizational agility (culture of innovation, tolerance for ambiguity, change management, market response, and structural fluidity) enables it to quickly respond to the changing environment of the marketplace (Helfat, 2007). Agility is both the result of the company's learning orientation as well as having a positive effect on an SME's performance, demonstrating the importance of being flexible in order to achieve long-term success.

By integrating learning orientation, innovation capability, and organizational agility, the model provides a holistic approach to understanding firm performance. The Dynamic Capabilities Theory stipulates that SMEs must invest time in building these capabilities to foresee potential challenges, take advantage of new opportunities, and continue to grow (Teece, 2007). This empirical research was conducted to test these relationships, providing considerable insights to SME owners, government agencies involved in policy making, and individual practitioners working within the industry. Through the creation of a learning culture, support for innovation, and the ability to remain agile in uncertain conditions, businesses can achieve resilience and develop a high-performing business environment not only within the Davao Region but throughout the world.



Legend:
 LeaOri – Learning Orientation
 CL – Commitment to Learning
 SV – Shared Vision
 OM – Open Mindedness
 IO – Intra-Organizational Knowledge Sharing
 InnCap – Innovation Capability
 TO – Technological Orientation
 IS – Innovative Strategies
 OrgAgi – Organizational Agility
 CI – Culture of Innovation
 TA – Tolerance of Ambiguity
 CM – Change Management
 MR – Market Response
 AS – Analysis and Structural Fluidity
 FirPer – Firm Performance
 MP – Market performance
 OP – Operational performance
 HP – Human Resource performance

Figure 1: Conceptual Framework of the Study

The importance of this research extends to multiple stakeholders, including SME owners and managers, policymakers, industry practitioners, and researchers. The results of the study will provide SME owners/managers with actionable insights regarding the main factors affecting the performance of their company. Therefore, they will have opportunities to increase their focus on strategic planning, develop their capacity to learn through innovation, and create growth in their organizations. Policymakers, such as those employed by the Department of Trade (DTI) and local economic development offices (LED), will have an opportunity to use the research findings to improve decision-making about policy changes, funding programmes, and regulations that support SME competitiveness. This research will contribute to the body of knowledge pertaining to the performance of SMEs, and in particular, it will provide an

empirical model for understanding how learning orientation, the ability to innovate, and organizational agility interact with one another.

By providing an understanding of how SMEs can navigate uncertainty and improve their competitive position, this research has both direct and indirect implications for regional economic development, poverty reduction efforts, and the long-term sustainability of businesses in Mindanao and elsewhere. The study is of great significance on a global scale as it supports the overall purpose(s) of UN Sustainable Development Goals (UN-SDGs) such as: SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation and Infrastructure) and SDG 17 (Partnership for the Goals) and highlights the need for SMEs to develop their learning orientation, innovation capacity, and organizational agility to support sustainable economic growth and develop resilient, competitive enterprises that can adapt to changing market conditions. SMEs are a key contributor to employment creation and alleviating poverty, as well as being a source of economic security in both developed and developing countries.

Therefore, by developing their capabilities for innovation and adaptability, SMEs can support sustainable and inclusive industrialization by improving productivity and supporting entrepreneurship. In addition, this study provides empirical evidence that can assist governments, development agencies, and international organizations in creating programs and policies to assist SMEs in surviving interruptions in their economic environment and to assist them in preparing for the uncertainty of the global economy. The results of this study will help further regional development and increase social inclusion for Mindanao; globally, this study will reinforce the importance of agile, innovation-focused SMEs in achieving sustainable development, economic resilience, and inclusive growth in accordance with the UN-SDG agenda.

METHODS

This chapter provides summaries of research participants, materials, instruments, methods of obtaining data, and how data were statistically analyzed. The methodology components will ensure that an evidence-based, credible foundation upon which the SME performance factors are able to be understood in relation to the Davao region is established.

Research Respondents

The research study was conducted across the five provinces of the Davao Region, covering small and medium enterprises (SMEs) from various industries. A structured survey was administered to business owners and managers to gather data on the current state of their businesses, focusing on the four primary variables: learning orientation, innovation capability, organizational agility, and SME performance, along with their specific indicators. The study employed stratified random sampling to ensure that only SMEs meeting the inclusion criteria were selected. The selected respondents were the business owners or managers who have been in operation for at least two years, as they were presumed to have sufficient experience to provide meaningful insights into SME performance.

The sample size was determined using Cochran's formula, particularly when dealing with large populations. Since the total SME population of Manufacturing Companies in the Davao Region is 675 (as per data from the Business Permit and Licensing Office (BPLO)).

As a result, at least 245 SMEs were selected to ensure that the sample produces a statistically valid result and is representative of the entire population across the five provinces in the Davao Region. In applied quantitative studies using SEM, the commonly accepted level for sufficient stability of parameter

estimates, statistical power, and reliable model fit evaluation in research is approximately 200 respondents. In empirical research and methodological guidelines, it states that a minimum sample size of at least 200 respondents achieves methodological criteria for structural model estimates, while the precision of estimates can improve further with larger sample sizes, which means that larger samples increase the likelihood for results to be generalizable (Celik & Yesilyurt, 2013). The evidence presented by these sources indicates that having 200 or more respondents is generally adequate for support of SEM analysis of SEM, and particularly moderate complexity models. Taken together, these sources suggest that a sample size of 200 or more respondents was generally considered sufficient for SEM, particularly for models of moderate complexity. Researchers often use power analysis techniques or heuristic guidelines to justify sample size decisions, balancing model complexity, the number of indicators per construct, and practical constraints. Adhering to these guidelines aligns with best practices in SEM research and supports robust, stable, and interpretable quantitative findings, ensuring that parameter estimates, standard errors, and model fit indices are reliable across applied research contexts (Moshagen & Bader 2024).

The inclusion criteria for this study required SMEs to be registered with the Department of Trade and Industry (DTI) and the Business Permit and Licensing Office (BPLO) within the 5 municipalities of Davao Region, have been operational for at least two years, and have either business owners or managers as respondents, since they are the primary decision-makers. SMEs from any industry sector covered in the DTI classification were eligible to participate. The exclusion criteria disqualified SMEs that operate informally without proper registration, businesses that have been in operation for less than two years, subsidiaries of large corporations or multinational firms, and respondents who decline participation or lack sufficient knowledge about their firm's operations. Additionally, withdrawal criteria allowed participants to opt out at any stage, exclude SMEs that permanently closed or underwent major restructuring during the research period, and eliminate responses that were incomplete, inconsistent, or unreliable, ensuring the integrity of the collected data.

Materials and Instrument

This study utilized validated measurement scales from previous research to assess the four primary variables: learning orientation, innovation capability, organizational agility, and firm performance. Each variable was measured using a five-point Likert scale, where 5 = Strongly Agree and 1 = Strongly Disagree.

The descriptive scaling for Learning Orientation, Innovation Capability, Organizational Agility, and SME Performance is shown below:

Scale	Range of Means	Descriptive Level	Interpretation
5	4.20 – 5.00	Very High	The item statement always manifested.
4	3.40 – 4.19	High	The item statement is often manifested.
3	2.60 – 3.39	Moderate	The item statement is sometimes manifested.
2	1.80 – 2.59	Low	The item statement is seldom manifested.
1	1.00 – 1.79	Very Low	The item statement is never manifested.

The researchers used a rigorous validation process on the research instrument to ensure that all of the construct(s) included, as well as the content of the instrument, meet the objective of the research study. The research instrument was modified from the existing research that was related to the subject area and adapted to the Region XI context of small and medium-sized enterprises. Establishing content validity of the research instrument was accomplished by a panel of examiners comprised of subject matter experts in business administration, research, and statistics. These examiners validated the content of the instrument by examining the instrument based on clarity of directions and items, presentation of the items, organization of the items, suitability of the items, adequacy of the items within each category or indicator, how well the instrument met its objective, objectivity, and rating scale for items as well as rating scale for the evaluation.

The experts provided comments and suggestions for improvement, including rewording ambiguous items, eliminating redundant items, and modifying the overall structure of the research instrument based on their assessments. The suggestions offered by the panel of examiners were included in the final revisions of the research instrument. Determination of the level of validity was based on the average rating the examiners assigned to validate the research instrument based on the criteria on which the examiner were to validate the research instrument. The panel of examiners indicated that there was excellent content validity for the research instrument such that the researchers were able to use it for collecting data for the purposes of the research study.

The researchers also conducted pilot testing prior to conducting the study to determine the reliability and usability of the research instrument. The pilot test subjects had similar characteristics to the intended target population but were not included in the final sample of research subjects for the study.

The purpose of conducting pilot testing was to ensure that the instrument would produce data that could be quantified and reported consistently. Reliability analyses using Cronbach's Alpha were conducted on the instrument using the data collected during pilot testing to assess the internal consistency of the research instrument items. To be considered reliable for conducting the study, the research instrument must have produced a Cronbach's Alpha coefficient of 0.70 or higher.

Research Design and Procedure

This study employed a descriptive-correlational research design to examine the relationships between learning orientation, firm innovativeness, organizational agility, and SME performance. A descriptive-correlational design is appropriate for measuring the existence and direction of relationships among variables, without manipulating them (Vidal & Ginuba, 2022).

Additionally, structural equation modeling (SEM) was employed to analyze the relationships that existed between observed and unobserved variables within the structure of the study's research question. In this case, SEM integrates factor analysis and multiple regression in that it allows researchers to study multiple dependent relationships at the same time. This integration is particularly useful for distinguishing between the use of endogenous (dependent) and exogenous (independent) variables, as both definitions are important to understanding the relationships between organizational strategies and performance in SMEs (Belloni, Hansen & Newey, 2022). Applying SEM to this study enables researchers to discover patterns, test theoretical models, and evaluate indirect effects, thus providing a comprehensive framework for assessing the adaptability and sustainability of an SME.

The SEM framework defines the relationship between unobservable constructs (e.g., learning orientation, innovation capability, organizational agility) and observable variables using the measurable

outcome of measures. By using SEM, researchers can assess the extent to which the unobservable constructs affect the measurable outcomes (Taleb, Hashim & Zakaria, 2023). SEM is a commonly used statistical technique in the social sciences to correlate theoretical constructs with observed behaviors. Thus, it is an effective research method for investigating businesses. SEM, like the use of test items to measure intelligence rather than the use of some other means of measuring intelligence, is a method to evaluate business competencies through structured survey instruments. The study sought to provide empirical validation of theoretical assumptions by applying a methodological approach so that it could be valuable in developing Small and Medium Enterprises (SMEs) in the Davao Region.

Prior to conducting data collection, an ethical clearance from the University of Mindanao's (UM) Ethics Review Committee (UMERC) was obtained to ensure that this study adhered to established ethical research standards, including the elements of confidentiality, voluntary participation, and informed consent. Following the receipt of the ethical approval, a formal request from the Dean of UM's Professional Schools for endorsement of the study was made, granting access to respondents. Data collection was performed in coordination with the Business Permit and Licensing Office (BPLO) to obtain a listing of all Small and Medium Manufacturing Enterprises located in the five Davao Region provinces, then the target respondents were identified and formal invitations were sent to SME owners and managers, detailing the study's purpose, procedures, and data privacy assurance. Each respondent was required to sign an informed consent before participating. A survey instrument containing structured questionnaires measuring learning orientation, innovation capability, organizational agility, and SME performance was distributed to all businesses that agreed to participate through face-to-face visits to each individual business.

After data collection, responses were screened for completeness and accuracy, ensuring that all necessary data points were recorded. Any incomplete or inconsistent responses removed from the dataset if deemed unusable. The cleaned dataset underwent statistical analysis using Structural Equation Modeling (SEM) to examine the relationships among the key variables. Correlation and regression assessed the strength and significance of associations between learning orientation, innovativeness, organizational agility, and SME performance. The final interpretation of results was compared with existing literature, highlighting trends, consistencies, and discrepancies with previous findings. A comprehensive report was then prepared, discussing key insights, theoretical implications, and practical recommendations for SME development in the Davao Region.

The identification of the best-fit model was based on several statistical criteria and goodness-of-fit indices commonly used in Structural Equation Modeling (SEM). These parameters were utilized to determine the extent to which the hypothesized model adequately represented the observed data. The following criteria were considered in evaluating the best fit model: The Measurement Model on the validity and reliability, Structural Model with Mediation and a Higher Construct Model, Dynamic Capability.

This study adhered to strict ethical guidelines to ensure validity, confidentiality, and voluntary participation. Before data collection, the researcher obtained ethical clearance from the University of Mindanao Research Ethics Committee (UMREC) to validate the questionnaire's accuracy, relevance, and compliance with ethical research standards. This validation process ensures that the instrument was free from bias, misleading questions, or potential harm to participants. Informed consent was obtained through signed agreements, which were carefully explained to respondents, outlining the purpose, procedure, and scope of the study, as well as their rights to withdraw at any stage without consequences.

To uphold data privacy and confidentiality, respondents had the option to participate anonymously, and any personally identifiable information was strictly protected.

In ensuring academic integrity and ethical compliance, the study employed tools such as Grammarly for language enhancement and plagiarism detection software to maintain originality and clarity. The research committee and an expert panel oversaw the study, ensuring that all ethical standards, data protection protocols, and methodological requirements were met. This continuous monitoring ensured that the research aligns with the highest ethical standards, particularly in handling data security, respondent confidentiality, and research transparency. The researcher also ensured that all sources were properly cited, intellectual property rights were respected, and findings were reported objectively, free from manipulation or bias. Through these measures, the study maintained credibility, academic integrity, and ethical rigor in contributing valuable insights to SME performance research (UMERC-2025-378).

RESULT AND DISCUSSION

This chapter presents the analysis, interpretation, and discussion of data collected during the study, and is presented in the same order as the research objectives and associated hypotheses. To conduct statistical analyses of the relationships between the variables and to assess the significance of the research findings, various statistical analysis techniques were utilized. The quantitative research findings generated from the respondents were illustrated in tables and figures for clarity of presentation. The results also have implications for both the applicable theories relevant to learning orientation, innovation capability, and organizational agility, and for the previous studies conducted in relation to SME performance. It is important to have a clear, concise, and correct interpretation of the results in order to provide meaningful insight into the causal relationship of the variables and to develop the best-fit model to explain SME performance in Region XI. The analysis reveals both practical and theoretical implications of the research outcomes for SME organizations; policymakers and for researchers designing future studies.

Learning Orientation of SMEs

Table 1 shows the level of learning orientation. The overall mean score for learning orientation was 4.46, with a standard deviation of 0.49, which is described as very high. This implies that firm is fully committed to continuous learning and knowledge application. The four indicators are disclosed as follows: commitment to learning achieved a mean rating of 4.60 with a standard deviation of 0.54; shared vision obtained a mean rating of 4.59 with a standard deviation of 0.75; open-mindedness obtained a mean rating of 4.26 with a standard deviation of 0.71; and intra-organizational knowledge sharing obtained a mean rating of 4.38 with a standard deviation of 0.60. Commitment to learning got the highest mean with a descriptive level of very high, while open-mindedness got the lowest mean, yet still with a descriptive level of very high.

Table 1. Level of Learning Orientation

Indicator	SD	Mean	Descriptive level
<i>Commitment to Learning</i>	0.54	4.60	Very High
<i>Shared Vision</i>	0.75	4.59	Very High
<i>Open Mindedness</i>	0.71	4.26	Very High
<i>Intra-Organizational Knowledge Sharing</i>	0.60	4.38	Very High

Overall	0.49	4.46	Very High
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The very high level of learning orientation among SMEs indicates that these firms strongly value continuous learning, shared vision, open-mindedness, and intra-organizational knowledge sharing as crucial elements of their organizational culture. These findings are aligned with the research of Abdulai (2022), who argued that an organization’s ability to acquire, assimilate and utilize knowledge can be fundamentally improved through developing a Learning Orientation. Similarly, Makhloufi (2021) documented that organizations with a Learning Orientation exhibit strong levels of openness to new ideas and proactive knowledge acquisition, leading to increased strategic agility and competitive advantage. In addition, Nnko (2024) stated that businesses with a strong culture of learning have demonstrated greater adaptability and improved business performance outcomes than those without this cultural characteristic, indicating that learning-oriented organizations are essential to long-term business sustainability.

Innovation Capability of SMEs

Table 2 shows the level of innovation capability. The overall mean score for innovation capability was 4.14, with a standard deviation of 0.53, which is described as high. This implies that firm actively engages in innovation, but with some limitations. The two indicators are disclosed as follows: technological orientation achieved a mean rating of 4.09 with a standard deviation of 0.59, while innovative strategies obtained a mean rating of 4.18 with a standard deviation of 0.58. Innovative strategies got the highest mean with a descriptive level of high, whereas technological orientation got the lowest mean, yet still with a descriptive level of high.

Table 2. Level of Innovation Capability

Indicator	SD	Mean	Descriptive level
<i>Technological Orientation</i>	0.59	4.09	High
<i>Innovative Strategies</i>	0.58	4.18	High
Overall	0.53	4.14	High

A strong level of innovation capability among SMEs suggests that firms are proactive at pursuing technological orientation and at implementing innovative strategies as a means of increasing their competitiveness and value generation. This finding is supported by Olaleye et al. (2024), who found that innovation capabilities allow organizations to turn ideas into products, processes, and services to achieve improved performance. In addition, Lau and Lo (2019) believe that technological orientation will improve an organization's ability to leverage advanced knowledge in the context of product and process innovation, resulting in improved firm performance. Deszczyński, in 2021, points out that innovative strategies create differentiation and sustainable competitive advantage. Therefore, it is critical for firms to have innovation capabilities to achieve superior performance.

Organizational Agility of SMEs

Table 3 shows the level of organizational agility. The overall mean score for organizational agility was 4.05, with a standard deviation of 0.47, which is described as high. This implies firm demonstrates

above-average agility and responsiveness. The five indicators are disclosed as follows: culture of innovation achieved a mean rating of 4.03 with a standard deviation of 0.50; tolerance of ambiguity obtained a mean rating of 3.90 with a standard deviation of 0.58; change management obtained a mean rating of 3.67 with a standard deviation of 0.67; market response obtained a mean rating of 4.42 with a standard deviation of 0.61; and analysis and structural fluidity obtained a mean rating of 4.23 with a standard deviation of 0.63. Market response got the highest mean with a descriptive level of very high, while change management got the lowest mean, described as high.

Table 3. Level of Organizational Agility

Indicator	SD	Mean	Descriptive level
<i>Culture of Innovation</i>	0.50	4.03	High
<i>Tolerance of Ambiguity</i>	0.58	3.90	High
<i>Change Management</i>	0.67	3.67	High
<i>Market Response</i>	0.61	4.42	Very High
<i>Analysis and Structural Fluidity</i>	0.63	4.23	Very High
Overall	0.47	4.05	High

Overall, SMEs are very agile due to their ability to adapt to constantly changing market conditions, as evidenced by their strong culture of innovation, high tolerance for ambiguity, effective change management processes, and organizational fluidity. Kumkale (2022) reported that agility allows firms to quickly respond to changes in the market environment and allows for sustainable growth in dynamic markets. Jaafar et al. (2026) reported that the dimensions of organizational resilience and competitiveness, such as innovation culture, market responsiveness, and organizational fluidity are important for improving the competitiveness of organizations. Omowole et al. (2024) found that agile SMEs can effectively take advantage of emerging opportunities and mitigate the associated risks. This highlights the importance of organizational agility in achieving superior performance.

Performance of SMEs

Table 4 shows the level of performance of SMEs. The overall mean score for SME performance was 3.97, with a standard deviation of 0.62, which is described as high. This implies that SMEs generally demonstrate a strong level of performance across key areas. The three indicators are disclosed as follows: market performance achieved a mean rating of 3.83 with a standard deviation of 0.70; operational performance obtained a mean rating of 3.82 with a standard deviation of 0.76; and human resource performance obtained a mean rating of 4.25 with a standard deviation of 0.66. Human resource performance got the highest mean with a descriptive level of very high, while operational performance got the lowest mean, described as high.

Table 4. Level of Performance of SMEs

Indicator	SD	Mean	Descriptive level
<i>Market performance</i>	0.70	3.83	High
<i>Operational performance</i>	0.76	3.82	High
<i>Human resource performance</i>	0.66	4.25	Very High
Overall	0.62	3.97	High

Overall, strong SME performance indicates that SMEs are effectively delivering results in the three critical performance areas of market, operations, and human resources. This supports Nguyen et al. (2025), reporting that market performance supports strategic decision-making and is essential for business growth. In addition, Luthans and Youssef (2004) found that performance in human resources, specifically with employee satisfaction and engagement, is a significant driver of commitment to the organization and thus is essential to the organization’s performance in a holistic sense.

Influence of Learning Orientation, Innovation Capability and Organizational Agility to Performance of SMEs

Table 5 presents the significant influence of learning orientation, innovation capability, and organizational agility on the performance of SMEs. The overall model is statistically significant ($F = 28.21, p < .001$), explaining 25.2% of the variance in SME performance ($R^2 = 0.252$). Innovation capability has a significant positive influence on performance ($\beta = 0.375, t = 3.905, p < .001$), indicating that higher innovation capability leads to better SME performance. In contrast, learning orientation ($\beta = 0.104, p = 0.217$) does not show a significant effect, while organizational agility ($\beta = 0.204, p = 0.052$) demonstrates a marginal but not statistically significant influence at the 0.05 level.

Table 5. Significant Influence of Learning Orientation, Innovation Capability and Organizational Agility to Performance of SMEs

Performance Exogenous Variables	B	SE	t-value	p-value	
(Intercept)		1.129	0.343	3.295	0.001
<i>Learning Orientation</i>		0.104	0.084	1.237	0.217
<i>Innovation Capability</i>		0.375	0.096	3.905	<.001
<i>Organizational Agility</i>		0.204	0.104	1.951	0.052
R ²		0.252			
F-value		28.21			
P-value		< .001			

Learning orientation’s positive but statistically insignificant effect on SME performance does suggest that although continuous learning, knowledge sharing, and openness to ideas may enhance strategic adaptability, the impact may not be direct or conditional upon other organizational variables. This concurs with Wilson & Liguori, E (2023), who indicated that learning orientation does not assure superior performance without supporting innovation-driven strategies; and Abdulai (2022), who noted that the benefit of learning orientation is to increase the firm’s ability to develop knowledge and how to use that knowledge, and it resides with the integration of practical initiatives. Additionally, Makhloufi et al (2021) reported that learning orientation helped develop adaptability; however, the enhancement of performance would only take place with the incorporation of innovation and agile practices.

SME performance is strongly and significantly impacted by innovation capability. Innovation capability, defined as the conversion of ideas into valuable products and/or processes, directly enhances firm competitiveness through the creation of innovative strategies and through technological orientation. Olaleye et al. (2024) support this with their assertion that innovation converts ideas into valuable

products and/or processes, thus improving the competitiveness of firms. Lau and Lo (2019) further demonstrate this point with respect to technological orientation because technological orientation allows for greater effectiveness in applying knowledge towards innovation, which improves operational performance. Deszczyński (2021) provides further support for this finding by noting that innovative strategies create differentiation and sustainable competitive advantage, supporting the evidence that innovation capability is an important driver of SME performance.

Organizational agility influences SME performance positively and approaches statistical significance, suggesting that flexibility, market responsiveness, and structural adaptability enhance total firm outcomes; this agrees with Kumkale (2022), who states that agility enables firms to quickly respond to changes in the marketplace, thereby sustaining growth. Jaafar et al., (2026) demonstrated that a culture of innovation, tolerating ambiguity, and being structurally fluid are all vital elements of resilience and competitive advantage. Additionally, according to Omowole et al. (2024), SMEs exhibiting agility are more capable of taking advantage of new opportunities as well as mitigating risks associated with those new opportunities, thus supporting the importance of agility on improving firm performance.

Best Fit Model of Performance

The table summarizes the model evaluation results across the three generated models in the study: Model 1 (Measurement), Model 2 (Structural), and Model 3 (Higher-Order Construct or HOC Best-Fit). The best-fit model was identified based on the criterion that reliability, validity, explanatory power, and predictive relevance indices must consistently meet acceptable thresholds. The analysis employed Structural Equation Modeling using Partial Least Squares (SEM-PLS), a variance-based multivariate technique appropriate for predictive modeling, complex relationships, and higher-order construct assessment. SEM-PLS was selected because it is robust for exploratory research, can accommodate smaller sample sizes, and does not require strict normality assumptions.

For reliability, Cronbach’s alpha and Composite Reliability (CR) values greater than 0.70 indicate internal consistency, and all three models satisfied this requirement. For convergent validity, the Average Variance Extracted (AVE) should exceed 0.50; although Models 1 and 2 showed mixed results, Model 3 improved the specification through the higher-order construct. Discriminant validity assessed using HTMT required confidence intervals below 1.0, and this concern was resolved in Model 3. In terms of explanatory power, Model 3 obtained the highest R² value (0.189) for firm performance, with all Q² values greater than zero, indicating predictive relevance. Moreover, Model 3 demonstrated a strong and significant path coefficient ($\beta = 0.635, p < 0.001$). Based on these results, Model 3 consistently met the evaluation criteria and was therefore identified as the best-fitting model. The findings further suggest that the use of the higher-order construct in the SEM-PLS framework enhanced the overall model structure by reducing multicollinearity among dimensions and providing a more parsimonious yet theoretically meaningful representation of the latent variables.

Table 6. Summary of Goodness Fit Measures of the Three Generated Models

Model	Cronbach’s α	CR	AVE	HTMT	R ²	Q ² _predict	Key Finding
1	✓All>0.70	✓All>0.70	Mixed (2/4>0.50)	All CI<1.0	0.138-0.171	>0(all)	Measurement validity
2	✓All>0.70	✓All>0.70	Mixed	All	0.138-	>0(all)	Mediation

			(2/4>0.50)	CI<1.0	0.171		tested
3	✓All>0.70	✓All>0.70	✓HOC:0.189 R ²	Resolved by HOC	0.189	>0(all)	HOC β=0.635***

This evaluation of the model shows that reliable and valid measures must be utilized to measure how well small and medium-sized enterprises can be measured and how they can affect their performance. Abdulai, According to (2022), measuring consistently and reliably is necessary to assess learning-oriented practices in businesses. According to Makhloufi et al. (2021), convergent and discriminant validity measure whether constructs accurately reflect the intended dimensions of the constructs being examined by researchers; this measuring protocol is essential to examine organizational behavior's complex nature. Olaleye et al. (2024) highlighted the necessity of strong modeling of both innovation and agility capabilities to predict SME performance and emphasized the value of integrating these constructs into holistic frameworks of organizational research.

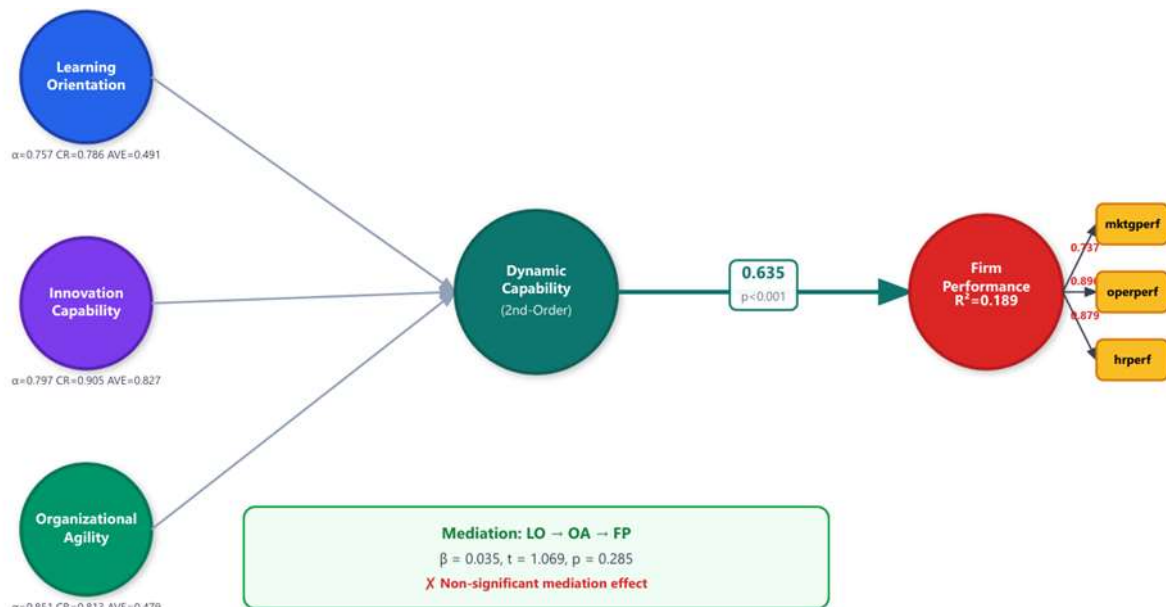


Figure 2. The Interrelationship of Learning Orientation, Innovation Capability and Organizational Agility Towards Performance of SMEs

Figure 2 illustrates that the second-order Dynamic Capability construct, composed of Learning Orientation, Innovation Capability, and Organizational Agility, has a strong and significant positive effect on SME performance ($\beta = 0.635, p < 0.001$). The second-order Dynamic Capability construct was modeled to capture the combined influence of these interrelated capabilities on SME performance. Among the components, Innovation Capability exerts the strongest direct influence on firm performance, emphasizing the critical role of technological orientation and innovative strategies in driving market, operational, and human resource outcomes. Learning Orientation and Organizational Agility also contribute to Dynamic Capability, but the mediation effect of Organizational Agility on the relationship between Learning Orientation and firm performance is non-significant ($\beta = 0.035, p = 0.285$), indicating that agility does not substantially transmit the effect of learning orientation. These results align with the

best-fit model findings, demonstrating that integrating these three capabilities into a higher-order construct effectively captures their collective impact on enhancing SME performance.

The central role of Innovation Capability within the higher-order Dynamic Capability construct in driving SME performance aligns with the theoretical foundation of this study, which is anchored on dynamic capabilities theory (Matikiti 2024). This theory posits that organizations that continuously learn, innovate, and exhibit agility are better positioned to respond to rapid market shifts and sustain long-term performance. Innovation capability enables firms to transform ideas into valuable products, services, and processes that enhance competitiveness (Olaleye et al., 2024). Similarly, technological orientation strengthens a firm's ability to apply advanced knowledge for operational improvements (Lau & Lo, 2019), while innovative strategies foster differentiation and sustainable competitive advantage (Deszczyński, 2021). Collectively, these findings underscore that SMEs with strong innovation capabilities are better positioned to achieve superior market, operational, and human resource performance.

Learning Orientation contributes to Dynamic Capability by providing the foundation for knowledge acquisition, sharing, and application, in line with organizational learning theory (Irfan et al., 2022), which emphasizes the importance of continuous learning and adaptability in navigating complex business environments. Learning-oriented firms enhance adaptability and decision-making in dynamic environments (Abdulai 2022), while openness to new ideas and proactive knowledge integration enable SMEs to refine strategies and sustain competitiveness (Makhloufi et al., 2021). Furthermore, learning orientation fosters a culture of continuous improvement, supporting the development of innovation capability and ultimately contributing to firm performance (Nnko et al., 2024).

The non-significant mediation role of Organizational Agility indicates that, while agility supports adaptability and market responsiveness, it does not significantly transmit the effects of learning orientation to firm performance in this context. This aligns with prior studies noting that agility enhances resilience and competitiveness but requires complementary factors, such as innovation, to produce tangible performance outcomes (Kumkale 2022). Agility alone cannot drive superior performance without the support of learning and innovation practices (Omowole et al., 2024). Thus, while all three capabilities are integral to Dynamic Capability, Innovation Capability serves as the primary driver of SME performance, Learning Orientation enables it, and Organizational Agility supports adaptability without directly mediating outcomes. By integrating insights from dynamic capabilities and organizational learning theories, this study contributes to a deeper understanding of how SMEs can optimize their strategic capabilities for sustainable growth.

CONCLUSION AND RECOMMENDATION

SMEs demonstrate a very high level of learning orientation, with strong commitment to learning and knowledge application. However, open-mindedness, while still high, shows room for improvement in embracing diverse perspectives and ideas. It is recommended that SMEs should strengthen programs that promote open-mindedness, such as cross-functional collaborations, brainstorming sessions, and feedback mechanisms, while maintaining commitment to learning through training, mentoring, and knowledge-sharing initiatives.

SMEs exhibit a high level of innovation capability, with innovative strategies being more developed than technological orientation. This indicates that firms actively pursue new ideas but may face limitations in fully leveraging technology for innovation. It is recommended that SMEs should focus on

enhancing technological orientation by investing in digital tools, R&D, and technology-driven processes, while continuing to develop innovative strategies to improve products, services, and processes.

SMEs show high organizational agility, particularly in responding to market changes, though areas like change management need further strengthening. This suggests that firms are generally agile but may encounter challenges in implementing organizational changes effectively. It is recommended that SMEs should improve management practices through structured initiatives, training programs, and adaptive leadership development, while sustaining market responsiveness and fostering a culture of innovation.

SME performance is generally high, with human resource management being the strongest aspect, whereas operational processes need enhancement. This demonstrates that firms are effectively managing their workforce but should optimize operational efficiency to achieve better overall performance. It is recommended that SMEs should implement process optimization, workflow improvements, and operational monitoring systems to strengthen efficiency, while continuing to invest in human resource development to maintain strong workforce performance.

The study shows that innovation capability has the most significant positive influence on SME performance, while learning orientation and organizational agility contribute positively but are not significant predictors. This highlights the central role of innovation in driving SME success. It is recommended that SMEs should prioritize initiatives that enhance innovation capability, such as technology adoption, R&D, and strategic innovation planning, while continuing to foster learning orientation and organizational agility to support adaptability and sustainable performance.

The higher-order construct model was identified as the best-fit model, confirming that the combined effects of learning orientation, innovation capability, and organizational agility effectively explain SME performance. It is recommended that SMEs should adopt a holistic approach by integrating learning orientation, innovation capability, and organizational agility into their strategic and operational frameworks to maximize performance and resilience, and future studies should explore additional variables to further enhance SME performance.

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