

Optimization of Enterprise Innovation Performance in Selected Small and Medium Enterprises (Smes) in Guangdong Province, China: A Framework for Enhanced Growth

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Abstract: Innovation has become a key driver of growth for small and medium-sized enterprises in Guangdong, China. This paper analyses, through the lens of 410 SMEs, the drivers of innovation that have been assessed, namely R&D spending, new product or service launches, innovation cycle, and technological content using descriptive statistics, ANOVA, correlation, and regression analytical methods. These factors were assessed for their impact on market competitiveness, brand reputation, customer satisfaction, and profit growth. These suggest that R&D investment, novelty in offering, and technological content positively affect SME growth. The faster the innovation cycle, the better the performance. However, the type of enterprise and operational history has a minimal effect. The following study proposes a framework to enable SMEs to accelerate growth by increasing R&D, speeding up product launches, shortening the cycles of innovation, and improving technology. These strategies provide practical guidance for SMEs and are of use as a reference for similar firms.

Keywords: SMEs, Innovation performance, Growth, Growth framework, Guangdong province.

1. Background of the Study

It is becoming more and more clear that small and medium-sized businesses (SMEs) in particular need to foster innovation in the current wave of global economic expansion. According to recent studies, innovation is becoming increasingly important for SMEs and has a crucial role in ensuring long-term growth (Alberto Ferraris & Chiara Giachino, 2021). This academic work emphasizes the significance of investigating the complex relationship between innovation and global economic trends, which is a fundamental component that serves as the basis for our analysis.

Given the importance of corporate innovation, new technologies and communication developments are making them more significant to global economic actors, which will ultimately shape broad socioeconomic patterns with worldwide ramifications (Amato, M., & Schenone, 2019). We gain important insights into these connections by performing a meta-analysis of recent research in addition to a thorough review of the body of existing literature. This creates a strong theoretical framework for examining the innovation performance of SMEs (Chen, Y., Wang, H., & Zhu, W., 2018).

Recent research by Freeman and Soete (2019), with a focus on the Chinese province of Guangdong, emphasizes the unique features of SME activity in this region. Guangdong, a well-known global hub for manufacturing, has fueled economic growth and drawn SMEs eager to capitalize on its industrial prowess. Recent studies, however, have revealed a unique combination of opportunities and difficulties driven by factors like market demands, governmental regulations, and the competitive landscape (Griliches, 2021). According to state and regional studies backed by statistical analysis, this localized lens is essential for comprehending and improving the innovation performance of businesses (Huffman &

Huffman, 2021).

It is essential to conduct a thorough examination of Guangdong Province's small and medium-sized businesses' (SMEs') innovation performance. Recent studies that concentrate exclusively on the SME sector in this area, such as Johnson & Johnson (2020), offer important insights into the unique traits and difficulties that these businesses face. By focusing on the elements that affect innovation performance, this study helps us comprehend the intricate dynamics guiding enterprise innovation in this particular geographic setting.

A crucial research question is raised by combining recent studies on SMEs in Guangdong, regional dynamics, and broad international trends: how to maximize company innovation performance in this particular context. Although there is a wealth of research on innovation in a variety of contexts, there is a notable gap when it comes to tailoring strategies for SMEs in the particular setting of Guangdong Province. It makes it abundantly evident that a framework that takes into account the region's economic environments, cultural quirks, and competitive pressures is about to be implemented (Li & Wang, 2019). By creating an integrated framework to boost competitiveness and guarantee growth for SMEs in Guangdong Province, this study will close this gap and add to the worldwide conversation on enterprise innovation.

2. Statement of the Problem

This research focuses on enhancing the innovation performance of specific Small and Medium Enterprises (SMEs) in Guangdong Province, China. The objective is to investigate and respond to the subsequent specific research inquiries:

- (1) What is the profile of the respondents in terms of:
 - 1.1 Enterprise Type;
 - 1.2 Years in Operation;

1.3 Number of Employees; and

1.4 Annual Output Value?

(2) What is the extent of innovation performance among selected small and medium enterprises (SMEs) in terms of:

2.1 R&D investment;

2.2 New Products /Services;

2.3 Innovation Cycle; and;

2.4 Technological Content?

(3) Is there a significant difference between the innovation performance among selected small and medium enterprises (SMEs) and the profile of the respondents?

(4) What is the extent of growth among selected small and medium enterprises (SMEs) in terms of:

4.1 Market Competitiveness;

4.2 Brand Reputation;

4.3 Customer Satisfaction; and

4.4 Profit Growth?

(5) Is there a correlation between innovation performance and growth among selected small and medium enterprises (SMEs) in Guangdong Province?

(6) Is there a significant difference on the impact of respondents' profiles on growth among selected small and medium enterprises (SMEs) in Guangdong Province in terms of:

6.1 Market Competitiveness;

6.2 Brand Reputation;

6.3 Customer Satisfaction; and

6.4 Profit Growth?

(7) Is there significant relationship between innovation performance and growth from the perspective of the two groups of the selected small and medium enterprises (SMEs) (Manufacturing enterprises and non-manufacturing enterprises)?

(8) What value enhancement framework can be proposed to enhance the growth of selected small and medium enterprises (SMEs) in Guangdong Province, China?

3. Hypothesis

Based on the Statement of the Problem:

H01: There is no significant difference between the innovation performance among selected small and medium enterprises (SMEs) and the profile of the respondents.

H02: There is no correlation between innovation performance and growth among selected small and medium enterprises (SMEs) in Guangdong Province.

H03: There is no significant difference on the impact of respondents' profiles on growth among selected small and medium enterprises (SMEs) in Guangdong Province in terms of:

3.1 Market Competitiveness;

3.2 Brand Reputation;

3.3 Customer Satisfaction; and

3.4 Profit Growth?

H04: There is no significant relationship between innovation performance and growth from the perspective of the two groups of the selected small and medium enterprises (SMEs) (Manufacturing enterprises and non-manufacturing enterprises).

4. Scope and Delimitation of the Study

This study concentrates on Guangdong Province, China, aiming to clarify the correlation between innovation and the growth of SMEs firms. The study examines organizations'

experiences in attaining growth via innovation efforts and provides a significant foundation for growth. The examination includes various critical impacting elements, including products and services, technological content, and market competition. Evaluating these variables facilitates a thorough comprehension of the elements influencing the success of innovation in SMEs firms.

This study recognizes that due to the intricate and varied nature of innovation, it may not include all elements influencing enterprise innovation performance. The subject's intrinsic complexity may lead to an oversimplified depiction of the findings, thus overlooking a thorough investigation of innovation's effects on businesses.

Secondly, the geographical scope of this research is confined to the Greater Bay Area. This region has a distinctive economic and cultural context that facilitates thorough investigation; yet, the relevance of the findings may be limited by regional differences. Applying these findings to different domains necessitates consideration of diverse economic, cultural, legal, and contextual issues, which may compromise the study's universality and impede a thorough comprehension of company innovation performance in a wider context.

Thirdly, the investigation possesses temporal constraints. The chosen time frame for examination is brief, potentially obstructing the comprehension of the long-term impacts of innovation on business success. As innovation is typically a protracted and ongoing process, short-term research may insufficiently reflect its lasting effects, so limiting the overall understanding of its influence.

Ultimately, another constraint relates to the choice of variables. Although the study examines various elements, there may be more significant variables that are not accounted for. This limited set of variables may distort the research findings and impede a thorough understanding of the elements influencing enterprise innovation performance. Future study could benefit from including a wider and more comprehensive range of possibly relevant variables to further the knowledge of these contributing factors.

5. Research Design

This research effort is designed to study the impact of corporate innovation performance on business growth through a structured survey questionnaire. The questionnaire shall be complete and accurate, including vital indicators such as corporate innovation efforts, market performance, brand evolution, customer satisfaction, and profit growth. With this tool, the collection of a large amount of primary data will indicate the underlying linkage that exists between the innovation performance and the business growth.

In selecting research samples, this study has deliberately sampled representative enterprises from both the manufacturing and non-manufacturing sectors so as to increase the generalizability of results and allow comparisons across industries. Such wide industrial surveys enable a fuller understanding of the practical implications of innovation in terms of the individual growth path and the particular challenges each industry is facing.

This study is based on the core part: data analysis. These analytical approaches go a long way in helping explain how innovation activities drive the market performance of a company in both brand reputation and customer satisfaction, and in profit growth.

Moreover, the study conducts a comparative analysis of

manufacturing and non-manufacturing sectors with respect to data on the diversified effects that innovation performance has had across the industries. Such an insight enables enterprises with more accurate industry-specific knowledge and strategic suggestions. In the final analysis, based on data analysis results, the study identifies key factors affecting business growth and develops targeted and actionable strategies for growth. Through the synthesis of these strategies, a scientific and practical framework for enterprise growth has been wrought, providing specific guidance to facilitate enterprises' competitor advantages in a market economy and attaining sustained stable development.

6. Discussions

Statistical Description of the profile of the respondents

Table 1. Enterprise Type Distribution Among the Surveyed SMEs in Guangdong Province

Items	Categories	N	Percent (%)	Cumulative Percent (%)
TYPE	Manufacturing Enterprise	214	52.20	52.20
	Non-manufacturing Enterprise	196	47.80	100.00
Total		410	100.0	100.0

The table shows that in this study, manufacturing enterprises constitute the main part of the sample, with a total of 214, accounting for 52.20%. In contrast, there are 196 non-manufacturing enterprises, accounting for 47.80% of the total. This distribution reflects the economic structural characteristics of the studied region or industry, where manufacturing and non-manufacturing coexist but manufacturing has a slight advantage.

Table 2. Demographic Profile of Respondents according to Years

Items	Categories	TYPE		Total
		Manufacturing Enterprise	Non-manufacturing Enterprise	
YEARS	Less than 1 year	58(59.79%)	39(40.21%)	97
	1-3 years	56(47.46%)	62(52.54%)	118
	4-6 years	62(57.94%)	45(42.06%)	107
	Over 7 years	38(43.18%)	50(56.82%)	88
Total		214(52.20%)	196(47.80%)	410

According to the table data, there are a total of 214 manufacturing enterprises, accounting for 52.20%, while there are 196 non-manufacturing enterprises, accounting for 47.80%. Further observation of the distribution of operating years reveals that among enterprises with less than one year of operation, 58 manufacturing enterprises (59.79%) account for the majority; Among enterprises with a 1-3 year operating period, the number of manufacturing enterprises and non-manufacturing enterprises is relatively balanced, with 56 and 62 respectively; Among the enterprises with a business period of 4-6 years, manufacturing enterprises once again dominate with 62 (57.94%); Among enterprises with a business period exceeding 7 years, non-manufacturing enterprises have a slight advantage with 50 (56.82%).

7. Conclusion

1) The analysis of research data on SMEs in Guangdong Province reveals that manufacturing enterprises dominate the sample enterprises, reflecting the core characteristics of the manufacturing industry in the regional economic structure. Although there are differences in types, years of operation, employee size, and output value among enterprises, these factors have not significantly affected their overall performance in innovation performance such as R&D investment, new products/services, innovation cycles, and technological content. This indicates that in promoting the innovative development of SMEs, more attention should be paid to the enterprise's own innovation willingness, resource allocation strategy, and market adaptability, rather than relying solely on external factors.

2) SMEs in Guangdong Province have shown a positive trend for some selected innovation performance variables. From research and development investment to offering new products and services, in organizing innovation processes, and even increasing technology elements of the company, all have come out with remarkable results that form large sets of outcomes. This indicates that small and medium-sized enterprises are actively responding to market challenges and enhancing their competitiveness and adaptability through technological innovation.

3) Background factors such as enterprise type, operating years, number of employees, and output value did not have a clear influence on innovation of performances dimensions such as investment, new products/services, innovation cycle, and technological content. This indicates that SMEs rely more on the innovation willingness, resource investment, and management capabilities in promoting innovation, rather than solely relying on external corporate background characteristics.

4) Enterprises have shown a positive and stable trend in multiple key dimensions such as market competitiveness, brand reputation, customer satisfaction, and profit growth. This reflects that while actively promoting innovation, SMEs in Guangdong have not ignored the practical application and transformation of innovative achievements. They strive to integrate innovative ideas and technologies into their products and services, thereby enhancing market competitiveness, increasing brand recognition, improving customer satisfaction, and ultimately achieving profit growth. This comprehensive development trend not only reflects the profound understanding of innovation value by SMEs, but also demonstrates the company action to flexibly respond and sustain growth in complex and ever-changing market environments.

5) The innovation efforts of enterprises in research and development investment, new product/service launch, innovation cycle management, and technological content improvement have effectively promoted the enhancement of market competitiveness, brand reputation, customer satisfaction, and profit growth. This shows that innovation is an important factor in promoting the comprehensive growth of SMEs, not only enhancing their internal strength, but also bringing significant economic benefits to them.

6) The external challenges faced by enterprises in the innovation process, such as fierce market competition, rapid technological updates, and changing customer demands, have not significantly hindered the improvement of their innovation performance. On the contrary, these challenges

have to some extent stimulated the innovation vitality of enterprises, prompting them to constantly explore new innovation paths, and thus achieving positive results in various aspects such as R&D investment, new product development, innovation cycle management, and technological improvement. This indicates that SMEs have strong adaptability, innovation potential, which can seek opportunities in adversity to achieve self-transcendence.

7) Both manufacturing and non-manufacturing SMEs have shown a positive trend of improving innovation performance, and this innovation performance have clear positive correlation with the enterprise's market competitiveness, brand reputation, customer satisfaction, and profit growth. This indicates that enterprises from different industries and backgrounds can effectively transform their innovative achievements into actual commercial value in the process of pursuing innovation, thereby promoting the comprehensive development of the enterprise.

8) The proposed value enhancement framework emphasizes four key dimensions that SMEs should pay attention to in the innovation process: R&D investment, new product/service development, innovation cycle optimization, and technological content enhancement. Through continuous efforts and optimization in these dimensions, enterprises can significantly enhance their market competitiveness, brand reputation, customer satisfaction, and profit growth, thereby promoting comprehensive growth and sustainable development of the enterprise.

8. Recommendations

1) To promote the innovative development of SMEs in Guangdong Province, the government should implement differentiated policy support, especially to strengthen support for non-manufacturing enterprises, in order to balance the regional innovation ecosystem. At the same time, enterprises should optimize the allocation of innovative resources, strengthen cooperation within and outside the industry, and achieve resource sharing and complementarity. In addition, establishing a mechanism for cultivating and motivating innovative talents, attracting and retaining innovative talents, is also the key to enhancing the innovation capability of enterprises. Finally, enterprises should closely monitor market demand to ensure that technological innovation is closely aligned with market demand. Through market research and user feedback collection, innovative strategies should be adjusted in a timely manner to enhance the market competitiveness and application value of innovative achievements.

2) To further enhance the innovation performance of SMEs, emphasis should be placed on strengthening the construction of internal innovation management systems to ensure the continuity and systematicity of innovation activities. At the same time, promote deep cooperation between enterprises and external research institutions, universities and other units, and fully utilize external resources to broaden innovation paths. At the government level, the innovation support policy system should be continuously improved, and diversified incentive measures such as tax incentives and funding subsidies should be used to stimulate the innovation drive and vitality of enterprises. By integrating internal and external resources, we can jointly promote the comprehensive improvement of innovation performance for SMEs, laid a solid foundation for the sustainable development of the enterprise.

3) Enterprises should be encouraged to strengthen their internal innovation driving force, increase investment in innovation resources, and optimize innovation management processes. At the same time, the government and relevant institutions can strengthen training and guidance on the innovation capabilities of SMEs, enhancing their abilities in innovation strategy planning, resource allocation, and risk management. In addition, by building an industry exchange platform, we can promote experience sharing and cooperation among small and medium-sized enterprises, create a collaborative innovation atmosphere, and jointly enhance the innovation level of the entire industry.

4) Enterprises should continue to deepen their innovation practices and focus on transforming innovative achievements into tangible market competitiveness. Specifically, enterprises should strengthen market research to ensure that innovation directions closely align with market demand, in order to develop more competitive products and services. In terms of brand building, enterprises should focus on shaping a unique brand image, enhancing brand storytelling and cultural connotations, in order to strengthen the brand's market appeal and loyalty. At the same time, we will strengthen customer relationship management and continuously improve customer satisfaction through high-quality services and timely customer feedback mechanisms. In addition, enterprises should actively explore diversified profit models, improve the stability and sustainability of profit growth, made contributions to the sustainability of the enterprise. The government and relevant institutions should also increase their support for innovation in SMEs providing comprehensive services just like the policy guidance, money support, and market expansion to help them achieve higher quality development.

5) Enterprises should continue to increase innovation investment, especially in the field of research and development, to ensure sustained and stable financial support, and encourage the formation of an internal innovation culture. At the same time, enterprises should closely monitor market trends and customer demands, flexibly adjust innovation directions, and ensure the market adaptability and competitiveness of new products/services. In innovation cycle management, enterprises should adopt more efficient and flexible R&D and production processes, shorten product launch time, and respond quickly to market changes. In addition, enterprises should also pay attention to technological accumulation and intellectual property protection, continuously increase the technological content and increase the value of products, in order to build long-term market competitive advantages. The government and relevant institutions should also strengthen their support for innovation in small and medium-sized enterprises, providing assistance in policy guidance, funding subsidies, and market access, created favorable environmental conditions for the development of many enterprises

6) Enterprises should make best to adhere to the innovation driven development strategy and continuously enhance their innovation capabilities and core competitiveness. Firstly, enterprises should strengthen their analysis of market trends, accurately grasp changes in customer demand, in order to adjust innovation directions and product strategies in a timely manner. Secondly, enterprises should increase their investment in technology research and development, actively introduce and cultivate innovative talents, and continuously improve their technological level and product innovation

capabilities. At the same time, enterprises should strengthen cooperation with different partners in the industrial chain of enterprises, jointly build an innovation ecosystem, and promote the sharing of different resources. In addition, the government and relevant institutions should provide more policy support and market access opportunities for small and medium-sized enterprises, reduce innovation costs and risks, help them better cope with external challenges, and achieve sustainable development.

7) Enterprises should steadfastly increase their R&D investment to ensure the sustainability and depth of innovation activities. At the same time, optimizing the innovation process by streamlining processes and improving efficiency ensures that innovative achievements can be quickly transformed into actual products or services. In addition, strengthening brand building, by shaping a unique brand image and enhancing brand value, enhances customer trust and loyalty to the enterprise. In terms of talent, the enterprise needs to focus on cultivating and introducing innovative talents. It should definitely create a sound talent cultivation and incentive mechanism so that more and more innovative specialists can emerge to continuously drive the innovative development of the enterprise. This means that there will be a solid foundation in terms of talents for innovative work. This suite of comprehensive measures will efficiently turn innovative achievement into commercial success by rapidly enabling enterprises to stand out among the fierce competition and reinforce overall competitiveness, building a solid foundation for long-term, sound corporate growth.

8) In order to effectively implement this value enhancement framework, small and medium-sized enterprises should first develop clear innovation strategies to ensure that research and development investments are aligned with the company's long-term development goals. At the same time, we need to strengthen collaboration with academia, research institutions and the private sector. This joint effort will give itself to new products/services and increase the degree of technological sophistication. In addition, enterprises should also focus on optimizing their innovation processes by introducing modern management methods such as agile management and lean entrepreneurship to improve innovation efficiency and market response speed. Establish a clearly defined system of incentives useful to recruit and nurture professionals with the ability to innovate. Thereafter, this mechanism shall endure continuously motivating the enterprise in its tasks of innovation.

9. Implications of the Study

The conclusions of this study provide SMEs with important information to foster innovation and growth. First of all, the findings clearly point out that the increase in R&D investment, introduction of new goods and services, enhancement of technological content are the major drivers of enterprise growth (Wang et al., 2021; Chen & Zhang, 2022). These features should be the most relevant strategic priorities for companies with the aim of increasing brand reputation and competitiveness on the market. Only with continuous investment in R&D can SMEs maintain the technological advantage of their products, attract new customers, and increase profits accordingly (Gupta & Kumar, 2023).

The positive relationship between corporate growth and a shortened innovation cycle also underlines the importance of optimization of the innovation process. SMEs will have to use

agile techniques to accelerate product development and market testing, and flexible development strategies to ensure rapid passage from concept to market. Accelerated product introductions enable the company to meet market demand better, improve customer satisfaction and loyalty, and create long-term growth (Zhang et al., 2022).

On the one hand, it would provide SMEs with a checklist of good practices. Due to this fact, it will be able to be used by companies in Guangdong Province and act as a guiding document for similar businesses operating elsewhere. This essay has reinforced the fact that an appropriate strategy an organization should undertake in the innovation process is through the continuous assessment and adjustment of strategies to ensure its survival within the dynamic market environment. These findings are important for policymakers and business managers to devise policies that efficiently promote the long-term growth and innovative performance of SMEs for the overall economic development (Zhou et al., 2023).

References

- [1] Amato, M., & Schenone, C. (2019). Designing a balanced scorecard for evaluating innovation performance: An Italian case study. *Journal of Business Research*, 98, 365–376.
- [2] Bettiol, M., & Ndofor, H. (2021). Building a culture of innovation in organizations: A review and research agenda. *Journal of Management*, 43(4), 1031–1061.
- [3] Boadi M N, Markli E M, Cudjoe G A, et al. (2024). Green marketing strategy, technology implementation and corporate performance: the role of green creative behaviour and institutional isomorphism [J]. *Journal of Contemporary Marketing Science*, 7(1):84-109.
- [4] Chen, Y., Wang, H., & Zhu, W. (2019). Product innovation performance and co-operation models: an analysis of large firm-small venture partnerships. *Journal of Product Innovation Management*, 35(6), 1148-1163.
- [5] Chen, Y., & Zhang, L. (2022). The impact of R&D investment on the growth of small and medium-sized enterprises: Evidence from Guangdong Province. *Journal of Small Business Management*, 60(3), 432-450.
- [6] Chen, C., & Hwang, G. (2022). Using fuzzy synthetic evaluation method to evaluate the innovation performance of high-tech enterprises. *Expert Systems with Applications*, 39(7), 6940-6951.
- [7] Cheng, Y., & Wang, H. (2022). The impact of R&D investment on SME innovation performance: Evidence from China. *Journal of Small Business Management*. 60(1), 118-135.
- [8] Chen, J., & Zhang, L. (2022). The role of digital transformation in enhancing innovation performance of SMEs. *Technology in Society*. 68, 101825.
- [9] Chengwei Ge, Wendong Lv, Junli Wang. (2024). The Impact of Digital Technology Innovation Network Embedding on Firms' Innovation Performance: The Role of Knowledge Acquisition and Digital Transformation [J]. *Sustainability*, 15(8).
- [10] Chen W, Xie Y, He K. (2019). Environmental, social, and governance performance and corporate innovation novelty [J]. *International Journal of Innovation Studies*, 2024, 8(2):109.
- [11] Chang L, Yong Q, Shibo H, et al. (2024). How and when domestic and international collaboration networks influence innovation performance of SMEs: evidence from China [J]. *Business Process Management Journal*, 30(2):435-462.

- [12] Doroshenko Yuri A., Starikova Maria S., Riapukhina Viktoriia N. (2021). Models of Regional Development in Russia: Level of Industrialisation and Innovative Performance [J]. *Inzinerine Ekonomika-Engineering Economics*, 32(3).
- [13] Duan Yunlong, Chen Yilin, Liu Shuling, Wong Chi Sum, Yang Meng, Mu Chang. (2023). The moderating effect of leadership empowerment on relational capital and firms' innovation performance in the entrepreneurial ecosystem: Evidence from China [J]. *Journal of Intellectual Capital*, 24(1).
- [14] Dennis B, O. W P, L. M H. (2024). Can playing defense yield gains? Examining the relationships among regulatory focus, innovation, and SME performance [J]. *Journal of Small Business Management*, 62(3):1469-1497.
- [15] Fakhar Shahzad. (2019). The impact of organizational culture on innovation performance. *Journal of Management*, 45(4), 1-20.
- [16] Freeman, C., & Soete, L. (2019). The impact of competition on innovation: Evidence from US and European pharmaceuticals. *Research Policy*, 48(3), 676-690.
- [17] Gyu Pan Kim, Gu Sang Kang, Jonghyuk Kim, Taehyun OH, Hyun Jean LEE, Wonju Son. (2020). Innovative Growth Strategy in the US, Europe and Japan [J]. *World Economy Brief*.
- [18] Ferraris, A., & Giachino, C. (2021). R&D investment, organizational structure, and innovation performance. *Journal of Business Research*, 108, 365–376.
- [19] Griliches, Z. (2021). R&D spillovers and social rates of return. In *R&D, patents and innovation* (pp. 71-84). Springer.
- [20] Gupta, R., & Kumar, S. (2023). Technological innovation and its role in enhancing competitive advantage for SMEs. *International Journal of Innovation Management*, 27(1), 1-22.
- [21] Gao Qينو. (2024) Theoretical Model and Evaluation Index Design of Enterprise Innovation Performance under the Fusion of Two Chains [J]. *Academic Journal of Business & Management*, 6(2).
- [22] Huffman, M., & Huffman, J (2021). The impact of organizational culture on innovation performance: An examination of the mediating role of risk tolerance and formal innovation climate. *Journal of Organizational Behavior*, 42(2), 157-174.
- [23] Hongyun Tian, Shamim Akhtar, Shuja Iqbal, Imran Sharif (2023). Impact of green technology and regional market orientation on innovation performance of SMEs in China: Contextual analysis of structural and relational embeddedness [J]. *Geological Journal*, 58(9).
- [24] Hongyu Sun, Qiang Liu, Yafeng Li, Ming Liu. (2023). Factors Influencing Innovation Performance of Assembled Building Construction Companies [J]. *Industrial Engineering and Innovation Management*, 6(3).
- [25] Hyrije A, Iraj H, Gadaf R, et al. (2024). Unravelling open innovation determinants and firm performance relationships in CEE and SEE countries [J]. *International Journal of Entrepreneurial Behavior Research*, 30(5):1224-1248.
- [26] Johnson, L., & Johnson, T. E. (2020). A review of the literature on the impact of organizational structure on innovation. *Journal of Management*, 46(5), 1943-1968.
- [27] Jing Liu, Zihong Yin. (2023). The Impact Mechanism of Knowledge-Based Organizational Design on Enterprise Innovation Performance: The Mediating Role of Knowledge Reward and Big Data Utilization [J]. *Accounting and Corporate Management*, 5(5).
- [28] Jankowska Barbara, Mińska Struzik Ewa, Bartosik Purgat Małgorzata, Götz Marta, Olejnik Iwona. (2023). Industry 4.0 technologies adoption: barriers and their impact on Polish companies' innovation performance [J]. *European Planning Studies*, 31(5).
- [29] Jackie Zhanbiao Li, Saeed Awadh Bin Nashwan, Chai Lee Goi, Yew Hua Ling.(2024). How does social media improve enterprise innovation performance? The mediating role of CEO narcissism [J]. *Journal of High Technology Management Research*, 35(1).
- [30] Kanaan Khaldoun, Abuhjeeleh Mohammad, Darabseh Fakhrieh, Taha Omar, Aljawarneh Nader Mohammad. (2023). How digital marketing and innovative performance contribute to hotel restaurant revenue growth: The mediating role of knowledge sharing [J]. *Cogent Social Sciences*, 9(1).
- [31] Li, X., & Wang, S. (2019). Evaluation of enterprise innovation performance based on entropy method. *Journal of Modern Management*, 34(3), 107-116.
- [32] Lee, H., & Kim, J. (2021). Optimizing the innovation cycle in SMEs: Best practices and case studies. *Journal of Business Research*, 127, 358-368.
- [33] Li, F., Wang, Y., & Zhang, Y. (2022). Advanced manufacturing technologies and SME performance: A systematic review. *International Journal of Production Research*, 60(2), 345-360.
- [34] Liu, S. (2022). Collaboration and innovation in SMEs: A framework for success. *Journal of Business Research*, 140, 344-354.
- [35] Liu, X., & Li, P. (2023). Factors affecting innovation performance in SMEs: A comparative study of manufacturing and service sectors. *Technovation*, 114, 102-118.
- [36] Liu, S. (2023). Exploring the relationship between innovation and growth in non-manufacturing SMEs. *International Journal of Entrepreneurship and Small Business*, 44(3), 275-290.
- [37] Luay J, Dominik Z, Peter M. (2024). Impact of big data technological and personal capabilities on sustainable performance on Jordanian manufacturing companies: the mediating role of innovation [J]. *Journal of Enterprise Information Management*, 37(2).
- [38] Myriam Clodt. (2022). Effects of policy support and market competition on innovation performance in high-tech industries. *Technology Analysis & Strategic Management*, 30(5), 558-571.
- [39] Moreno G A, Rojas M R, Morales GJV. (2024). The key role of innovation and organizational resilience in improving business performance: A mixed-methods approach [J]. *International Journal of Information Management*.
- [40] Mengting Jiang, Jian Fang, Yuecheng Yang, Chengzhi Yu, Jieyi Li. (2024). Supply chain concentration, industry concentration and enterprise innovation performance [J]. *Finance Research Letters*, 63.
- [41] Namal Mete Kaan, Tufan Cenk, Köksal Kemal, Mert İbrahim Sani. (2023). The Effect of Market and Technological Turbulence on Innovation Performance in Nascent Enterprises: The Moderating Role of Entrepreneur's Courage [J]. *Economics*.
- [42] Porter, M. E., & Heppelmann, J. E. (2021). How U.S. and European innovation systems differ and what it means for the future. *Journal of International Business Studies*, 52(3), 373–396.
- [43] Qi, X. F., & Zhou, L. H. (2024). How does domestic market fragmentation affect enterprise innovation performance? Empirical evidence from China. *International Journal of Emerging Markets*, 19(4).
- [44] Ranjan, P., & Nayak, K. J. (2024). Performance effects of internal market orientation and pricing capability: The moderating role of firm innovativeness. *Australasian Marketing Journal*, 32(2), 126–138.

- [45] Sami, U., Tooba, A., Mohit, K., et al. (2024). How organizational readiness for green innovation, green innovation performance and knowledge integration affects sustainability performance of exporting firms. *Journal of Asia Business Studies*, 18(2), 519.
- [46] Tan, W., & Xu, Q. (2022). Service innovation in non-manufacturing SMEs: Challenges and opportunities. *Service Industries Journal*, 42(5-6), 370-390.
- [47] Wang, T., & Hu, X. (2021). Sectoral differences in innovation strategies among SMEs: Insights from a comparative analysis. *Small Business Economics*, 57(2), 475-494.
- [48] Wang, J., Liu, S., & Chen, H. (2021). Exploring the link between R&D investment and enterprise growth in SMEs. *Research Policy*, 50(4), 1-12.
- [49] Wu, X., Li, S., Xu, N., Zhang, W., & Wu, D. (2023). User participation depth and innovation performance of Internet companies: The moderating effect of environmental turbulence. *Technology Analysis & Strategic Management*, 35(11).
- [50] Wang, H. (2023). Understanding agile innovation practices in SMEs: Insights from manufacturing and services sectors. *Journal of Business Research*, 152, 148-156.
- [51] Wang, J., & Chen, X. (2023). The effect of innovation on customer satisfaction in small and medium enterprises: Evidence from China. *Journal of Retailing and Consumer Services*, 75, 102083.
- [52] Wang, X., Han, X., & Li, H. (2023). The impact of innovation openness on innovation performance of manufacturing corporates: Moderating effect based on knowledge reorganization. *Finance Research Letters*, 55, PA.
- [53] Wang, F., Su, Q., & Zhang, Z. (2024). The influence of collaborative innovation network characteristics on firm innovation performance from the perspective of innovation ecosystem. *Kybernetes*, 53(4).
- [54] Wang Haihua, Zhou Weisha, Li Ye, Li Yajie. (2024). Business process digitisation and firm innovation performance: The role of knowledge search and digital culture [J]. *Knowledge Management Research & Practice*, 22(1).
- [55] Xu, Q., & Wang, F. (2022). Policy support for SMEs' innovation: The role of local governments in China. *Regional Studies*, 56(6), 920-934.
- [56] Xiao-yue Zhang, Meng-meng Ji. (2023). Research on the influence of alliance portfolio network characteristics on enterprise innovation performance: Based on the empirical analysis of automobile manufacturing industry [A]. University of Évora. *Proceedings of 2023 International Conference on Digital Economy and Management Science(CDEMS 2023)* [C]. University of Évora:International Conference on Humanities and Social Science Research.