VNU Journal of Economics and Business

Journal homepage: https://jeb.ueb.edu.vn

Original Article

Digital orientation, market orientation and innovation capabilities: Evidence from Vietnamese food processing enterprises

Tran Thi Hoang Ha[1], Nguyen Thi My Nguyet[2,*]

[1,2]*Thuongmai University*

No. 79, Ho Tung Mau Street, Tu Liem Ward, Hanoi, Vietnam

Received: June 25, 2024
Revised: September 10, 2024; Accepted: August 25, 2025

Abstract: This study explores the mechanism through which digital orientation impacts innovation capability via market orientation. Empirical data from 239 Vietnamese food processing enterprises are used for analysis. The results show that digital orientation promotes the innovation capability of enterprises; market orientation, including customer orientation, supply chain orientation, and competitor orientation, has both a direct impact on innovation capability and plays an intermediary role in promoting the relationship between digital capability and innovation capability. Taking market orientation as the key pathway, the study clarifies the mechanism through which digital orientation affects the improvement of innovation capability, and proposes implications for enhancing innovation effectiveness in Vietnamese food processing enterprises.

Keywords: Digital orientation, market orientation, innovation capability, food processing enterprises, Vietnam.

1. Introduction

The Vietnamese food processing industry is experiencing profound transformations in the face of the industry 4.0 revolution, aimed at fostering digital transformation and harnessing endogenous potential for economic advancement (Ministry of Information and Communications, 2023). In recent years, this sector has achieved remarkable achievements, making significant contributions to national economic growth and fulfilling its mission of meeting domestic food demand while also targeting exports. However, food processing enterprises are facing profound changes in the business landscape. Firstly, the intricate phase of the COVID-19 pandemic, coupled with disruptions to global supply and value chains (Sturgeon, 2021) has caused considerable disruption to food processing businesses; Secondly, under the pressure of economic integration and the globalization of the food market, there is a notable proliferation of foreign contenders penetrating the market through merger and acquisition deals (Statista, 2023); Thirdly, both domestic and international food safety standards are becoming increasingly stringent; and finally, the advent of the Fourth Industrial Revolution has precipitated the proliferation and embrace of digital technology platforms infused with intelligent technologies, aimed at streamlining processes, refining

* Corresponding author
E-mail address: mynguyet@tmu.edu.vn
https://doi.org/10.57110/vnu-jeb.v5i4.313

production methodologies, and enhancing managerial practices, alongside shifts in consumer food preferences (GSO, 2021).

In the context of the global economy and intense competition, food processing enterprises need to integrate internal functions and external partners, thereby creating value, delivering products, and ensuring a seamless flow of information (Alsadi and Aloulou, 2021). An increasing number of businesses are opening the path to digital transformation to meet the changing demands of a complex business environment and ensure their competitive advantage in the market. However, in the process of digital transformation, businesses need to rely on market, customer, competitor, and supply chain orientation to carry out innovations and create mechanisms that adapt to the changing business environment in the new context. This is because these factors create a primary source of uncertainty for enterprises and profoundly shape the deployment of digital competencies at the organizational level, targeting innovation capacity (Homburg & Wielgos, 2022).

Regarding this topic, some studies have explored individual relationships, including the influence of digital orientation on market orientation (Kindermann et al., 2021) or the impact of market orientation on a company's innovation capability (Meisya & Surjasa, 2022). However, there remains a research gap concerning the integration of internal functions (digital orientation) with external factors (customers, supply chain, competitors) in relation to a company's innovation capability. Therefore, this study should contribute to enriching knowledge on digital orientation, market orientation, and innovation capability within enterprises. Moreover, the study is expected to provide additional insights into the mechanisms of integration between internal capabilities and external factors to enhance innovation performance in food processing enterprises.

2. Literature review and hypotheses

Market orientation is a business approach that revolves around placing customers at the center, prioritizing the creation and provision of superior value to customers (Osuagwu, 2019). Accordingly, market orientation reflects a company's capability to monitor and respond to challenges from the business environment, including customers, competitors, and the macro-environment (Ngo & O'Cass, 2012). Market orientation has been conceptualized through both behavioral and cultural approaches (Gaur et al., 2011). The behavioral approach focuses on delivering services and products to enhance customer engagement and experience; a cultural approach prioritizes the customers by creating superior value.

Digital orientation arises from the technological advancements brought about by the Fourth Industrial Revolution such as the internet of things, artificial intelligence and big data (Wamba et al., 2017). It embodies a strategic approach embraced by enterprises to attain a competitive advantage through the pursuit of opportunities engendered by advancements in digital technologies. Subsequently, enterprises assimilate digital technologies within their business ideology, and employ new technologies to optimize resources efficiently and flexibly to initiate a competitive advantage. The digital orientation of enterprises is evidenced by the breadth of application of digital capacity, digital infrastructure, and digital technology (Kindermann et al., 2021).

Innovation pertains to the utilization of new ideas, behaviors, policies, systems, programs, devices, processes, services, or products to accommodate environmental shifts and enhance economic efficacy of enterprises (Fariborz, 1991). It serves as a tool that empowers enterprises to enhance agility within their capacities. These systematic activities transpire across the processes of market, operation, production, organization, and knowledge transfer, facilitating the dissemination of knowledge and technology, both internally and externally within the enterprise in the aforementioned innovation process (Wang & Ahmed, 2007).

Digital orientation and market orientation

We revisited the concept of market orientation, from a marketing standpoint that places customers at the focal point of all business endeavors, striving to engender superior value (in products and services) to address the evolving demands of customers, competitors, and the business landscape (Osuagwu, 2019) Simultaneously, market orientation emerges as a principal strategic approach embraced by enterprises to monitor, analyze, and respond to the challenges posed by an ever-changing business environment by aligning internal and external resources with the organization's established objectives (Sett, 2017). In this context, digital orientation serves as a facilitator, enabling businesses to share and update information from the market, thereby nurturing relationships between the firm and its stakeholders (Aziz & Omar, 2013) Consequently, digital orientation assumes a pivotal role in driving a firm's market orientation.

Digital orientation and innovation capabilities

A firm's digital orientation is intricately associated with the strategic changes that businesses bring about by deploying digital technologies, which in turn enhance the competitiveness of businesses (Kindermann et

al., 2021). Simultaneously, it assumes essential roles in catalyzing innovation and enhancing business performance (Qinqin et al., 2023). According to Kindermann et al., (2021) digital orientation signifies an intentional strategic stance adopted by a company to capitalize on the opportunities afforded by digital technologies. This strategic stance encompasses attitudes and behaviors that support the creation and utilization of deep market insights, proactive innovation, and openness to new ideas. Digitally oriented companies have a higher capacity to digitize, scale, and upgrade their organizational functions compared to non-digitally oriented companies (Nasiri et al., 2022). Adopting digital orientation also serves as a pathway to attaining success in organizational innovation (Kindermann et al., 2021) Several scholars have contended that digital orientation can afford companies a notable competitive edge and outstanding innovation performance (Ardito et al., 2021). In this context, innovation capability refers to the outcome of innovation endeavors encompassing product, process, and overall assessment of organizational innovation (Chen et al., 2008). Nevertheless, the empirical findings on the performance impact of digital orientation are mixed and inconclusive, with some researchers establishing a positive relationship (Ardito et al., 2021).

Market orientation and innovation capabilities

Market orientation serves as a dynamic capability for businesses encompassing the elements of "sensing", "seizing" and "reconfiguring" (Sett, 2017). According to Tse et al., (2004) market orientation entails knowledge transfer endeavors between the organization and its stakeholders, comprising customers, competitors (Meisya & Surjasa, 2022), and the supply chain (Gligor et al., 2020). Initially, businesses tend to utilize market information to identify market gaps and subsequently, to implement resource adjustments to enhance value for customers and stakeholders (Lee et al., 2015). Insights derived from customers propel product and service innovation, empowering businesses to cultivate robust customer relationships, foster fresh ideas and perspectives in the development of new products and services (Rakthin et al., 2016). The relationship between customer orientation and innovation is conspicuous as is the company's adeptness in fulfilling customer preferences and its responsiveness can significantly impact innovation, resulting in the development of new products and organizational activities (Brockman et al., 2012). Innovation engenders a continuously expanding capacity for customer orientation (Hansen, 2016). Tajeddini, (2010) investigated the impact of market orientation on innovation and performance, finding that customer orientation positively impacts both performance outcomes and innovation in companies. Furthermore, supply chain orientation empowers businesses to establish a unified and coordinated response mechanism, fostering proactive innovation and adaptation to meet customer demands. Supply chain orientation signifies the degree of a company's attention to supply chain activities and flows, enabling information exchange and alignment among entities within the chain (Gligor et al., 2020). Ultimately, competitors play another crucial role in propelling a company's innovation. Competitive pressure from industry peers urges businesses to continuously benchmark against rivals, prompting them to pursue innovation through product development, process reengineering, or marketing campaigns in order to gain a competitive advantage (Lukas & Ferrell, 2000). On the other hand, competitor orientation empowers businesses to collect market information and identify areas for capability enhancement, thereby propelling innovation (Ramirez et al., 2014). Nevertheless, this relationship remains unexamined within the food processing industry.

Mediating role of market orientation

Burin et al., (2020) emphasize that digital capabilities and resources enable business firms to collect and disseminate market information among supply chain partners, thereby improving business firms' ability to respond to sudden market changes. Furthermore, Malik et al., (2021) posited that a business firm's digital orientation enhances its resource utilization capability by enabling managers to access critical market data faster, helping them make quick and informed decisions. In a similar vein, within the domain of food processing firms, we contend that business firms' digital orientation amplifies firm innovation by prioritizing digital technologies that empower businesses to analyze the market landscape, encompassing competitors, customers, and the supply chain (Hansen, 2016). This, in turn, enhances strategic coordination among supply chain partners, enables effective responses to competitive trends, and better meet customer demands.

In light of the above rationale and supported by the literature, this study formulated the following research hypotheses:

H_1: Digital orientation has a positive impact on market orientation

H_2: Digital orientation has a positive impact on innovation capabilities

H_3: Market orientation has a positive impact on innovation capacities

H_4: Market orientation strengthens the linkage between digital orientation and innovation capability

3. Research methodology

Measures

The measurement scales employed for the variables in the proposed research model have been inherited and refined from previous investigations on market orientation, encompassing customer, supply chain, and competitor orientations. To ensure the questionnaire's reliability, the English scales in the original studies were translated back into Vietnamese by two independent groups of language experts using the back-translation method to mitigate potential semantic disparities. Subsequently, a pre-test was conducted with 8 experts (scientists teaching strategic management and managers in food processing companies).

Samples

The research subjects associated with this study are enterprises operating within the food processing industry located in Vietnam. This survey sample consists of 239 enterprises in the food processing industry. Two methods, direct distribution and email, were primarily utilized to send the questionnaire to business representatives.

The survey sample composition comprises the following: Among the businesses, 87.03 per cent of the surveyed businesses are both small and medium-sized, while 12.97 per cent are large-scale businesses; Male respondents make up 76.15 per cent, whereas female respondents make up only 23.84%; Among the respondents, per cent directors constitute 37.66 per cent, deputy directors 36.4 per cent, department heads 17.15 per cent, and the remaining 8.79 per cent occupy other positions such as deputy department heads or section heads; Respondents who have accumulated less than 1 year of tenure at the enterprises make up 6.69 per cent, while those with 1-3 years make up 30.54 per cent, and the majority, constituting 62.76 per cent, have been working for more than three years.

Analysis methods

This study employs the partial least squares structural equation modeling (PLS-SEM) using the Smart PLS to examine the measurement model and test the research hypotheses (J. F. Hair et al., 2014).

4. Research results

Measurement model

The reliability of the first-order variable's scale is determined by examining its external loading factor, depicted in Table 1. This factor yields a value of 0.858, surpassing the recommended threshold of 0.7 suggested by (Hair et al., 2019). All variables' Cronbach's alpha values lay between 0.932 and 0.949, falling within the recommended range of [0.75-0.95] (Hair et al., 2010). Consequently, the results affirm the reliability of all scales.

Table 1: Results of the measurement model

	Outer loading coefficients	**Cronbach's Alpha**	**CR**	**AVE**
Customer orientation (CUO) (Alsadi & Aloulou, 2021)	0.881-0.926	0.949	0.950	0.832
Supply chain orientation (SUO) (Patel et al., 2013)	0.858-0.907	0.933	0.933	0.789
Competitor orientation (COO) (Meisya & Surjasa, 2022; Narver & Slater, 1990)	0.880-0.919	0.935	0.936	0.794
Innovation (INN) (Ngo & O'Cass, 2012)	0.863-0.906	0.932	0.932	0.787
Digital orientation (DIO) (Yu et al., 2023)	0.890-0.909	0.943	0.945	0.814

The composite reliability of the constructs within the model varies from 0.932 to 0.950, all surpassing the threshold of 0.7 advocated by J. F. Hair et al., (2019). This outcome indicates that the scale's consistency attains reliability. The AVE value signifies the convergence of the scales, with all values surpassing 0.6 (ranging from 0.787 to 0.832), exceeding the recommended threshold of 0.5 by J. F. Hair et al., (2019). The HTMT results show that the correlation values of the first-order variables are all below 0.847, which falls under the threshold of 0.90 (Henseler et al., 2015). Consequently, all first-order scales in the model affirm their discriminant validity. Following the examination of the adequacy of the first-order measurement model, which ensures internal consistency reliability, convergent validity, and discriminant validity, the assessment progressed to the second-order measurement model. Analysis results reveal that the second-order variable, market orientation, exhibited consistency, convergent validity and discriminant validity. Additionally, the variance inflation factor (VIF) values for all service quality measures ranged from 2.598 to 3.973, remaining below the threshold of 5.0, thereby confirming the absence of multicollinearity (Henseler et al., 2015).

Structural model

The analysis outcomes indicated that the adjusted R^2 coefficient effectively predicted the

independent variable on the dependent variables, Market orientation and Innovation, with respective values of 0.648 and 0.612, demonstrating a strong explanatory capacity of the variables within the model. Furthermore, the values of Q^2_{MAO} (0.531) and Q^2_{INN} (0.645) suggested a high level of predictive accuracy for the dependent variables in the research model.

Table 2: Results of the discriminant validity assessment of the second-order variable

	DIO	INN	MAO
DIO			
INN	0.78		
MAO	0.894	0.839	

Direct effect

The results from the test of the direct impact hypothesis (Table 3) indicate that hypotheses H_1, which posits the positive influence of digital orientation on the innovation of food processing enterprises, is accepted (β = 0.805, p = 0.000). Similarly, hypothesis H_2, concerning the impact of digital orientation on the innovation of food processing enterprises, is also accepted (β = 0.355, p = 0.000). Furthermore, hypotheses H_3 received support (β = 0.470, p = 0.000), demonstrating the significant role of market orientation in fostering innovation within food processing enterprises.

Mediating effect

Hypothesis H_4, which proposes the mediating role of market orientation in the relationship between digital orientation and innovation, is affirmed at the 5 per cent significance level (β = 0.733, p = 0.000).

Table 3: Hypothesis testing results

Direct	**β**	**t-value**	**p-value**	**Findings**
H_1. DIO -> INN	0.355	3.866	***	Accepted
H_2. DIO -> MAO	0.806	30.114	***	Accepted
H_3. MAO -> INN	0.47	5.746	***	Accepted
Mediating	**β**	**t-value**	**p-value**	**Findings**
DIO -> INN	0.355	3.866	***	
DIO -> MAO -> INN	0.379	5.41	***	
H_4. DIO -> INN	0.733	19.135	***	Accepted

Multi-group analysis

In this study, the sample was divided into four groups: thirty-five businesses operating for less than three years, ninety-three businesses established between three and five years, seventy-seven businesses operating between five and ten years, and the remaining thirty-four businesses established for more than ten years. A multi-group analysis was then applied to assess the differences.

Table 4: Multi-group analysis results

Hypotheses	**Difference (U3Y - F3T5)**	**Difference (U3Y - F5T10)**	**Difference (U3Y - O10Y)**
MAO -> INN	-0.051^{NS}	-0.377*	-0.579*
DIO -> MAO	-0.425*	-0.538***	-0.613***
DIO -> INN	-0.113^{NS}	-0.383***	-0.437***

Note: ^{NS} (non-significant); ***(p-value < 0.001); **(p-value < 0.01); *(p-value < 0.05).

Except for the relationship between market orientation and digital orientation to innovation in the group of enterprises with less than three years of operation compared to the group of enterprises operating from three to five years, which is not statistically significant, the research results show that there is a difference in the relationship between the groups of enterprises based on their years of operation. Specifically, in the context of food processing enterprises, compared to enterprises with less than three years of operation, enterprises with three to five years, five to ten years, and over ten years of experience all exhibit greater impacts from these relationships. The relationship between digital orientation and market orientation in the group of enterprises with 3-5 years of operation is also higher compared to the group with less than three years of operation.

5. Discussion

The findings reveal the following contents:

Firstly, digitalization orientation exerts a positive and strong impact on the market orientation of Vietnamese food processing enterprises. The proliferation of digital technology has catalyzed market orientation, encompassing facets such as customer orientation, supply chain orientation, and

competitor orientation. Digital orientation empowers enterprises to actively cultivate stakeholder relationships through technological means. This allows businesses to take a proactive approach to organizing their business operations in a way that focuses on the needs of stakeholders, regularly updates and analyzes, and monitors changes in customer needs, in competitors, the supply chain, as well as the business environment, to create superior value-added products and services. This is in line with the conclusion of Kohli & Johnson, (2011) on the role of digital technology in enterprise market orientation capability; specifically, digital technology enhancing enterprises' proficiency in augmenting their data capabilities, information dissemination efficiency, and response capabilities to address emerging demands or capitalize on opportunities.

Secondly, market orientation exerts a positive influence on the innovation capability of Vietnamese food processing enterprises. The results of this study, together with previous studies by Ngo & O'Cass, (2012) further reinforce the important role of market orientation in creating conditions to promote the innovation capability of enterprises (Ngo & O'Cass, 2012) Because the nature of market orientation is continuous innovation to create products and services with superior value (Akman & Yilmaz, 2008), the results will lead to stimulating continuous innovation activities of the enterprise to be implemented throughout the system from governance, operational activities and business production processes. In particular, enterprises carry out innovation based on the acquisition and exploitation of knowledge from external sources such as customers, competitors, supply chains, etc., and in combination with the company's internal knowledge to create new products and services that are suitable for changes from the market.

Thirdly, this study unveils the direct impact of digitalization orientation on the innovation capability of food processing enterprises. This revelation finds reinforcement in the research conducted by Shehadeh et al., (2023), which highlights digitalization as a facilitative tool enabling businesses to enhance overall customer experiences while simultaneously refining competitive operations. Digital orientation empowers enterprises to undertake technology-driven innovation initiatives. By rendering information systems and operational processes within the enterprise more flexible, digitalization fosters an environment conducive to innovation. Particularly pertinent for the majority of small and medium-sized food processing enterprises in contemporary times, the amalgamation of digital transformation and innovation holds the potential to confer a competitive edge amid the prevailing landscape of intense competitive pressures.

Fourthly, the study also shows that compared to businesses with less than three years of operation, businesses with more than three years of experience have a higher level of influence from market orientation and digital orientation on innovation. This is because newly established businesses focus on breaking even and maintaining operations, and therefore, they do not pay much attention to market orientation or digitalization capabilities. On the other hand, these capabilities require businesses to have a stable operational time, relationships with various stakeholders, and stable financial capacity.

Finally, the mediating role of market orientation in promoting the relationship between digitalization orientation and enterprise innovation is affirmed. Indeed, digital technology plays a crucial role in enterprise development. To face competition, businesses need to strengthen their interaction activities with stakeholders, including customers, suppliers, and supply chain members, in order to optimize costs and effectively meet market demands. Technology empowers businesses to establish a communication, exchange, updating, and timely environment to achieve that goal, and at the same time contributes positively to business innovation (Drayse, 2011).

6. Conclusion

This study elucidates several managerial implications for managers and stakeholders of Vietnamese food processing enterprises aimed at fostering digital orientation, market orientation, and enterprise innovation. *Firstly*, food processing enterprise managers need to establish a direction and invest resources for the digitalization activities of the enterprise in the short and long term. At the same time, it is necessary to take advantage of government policies and support to adapt to pressures from customers, competitors, and partners in the supply chain. Presently, as part of the Business Digital Transformation Support Program spanning from 2021 to 2025, the Ministry of Planning and Investment of Vietnam, in collaboration with the United States Agency for International Development (USAID) in Vietnam, under the auspices of the project "Promoting Reform and Enhancing Connectivity Capacity for Small and Medium Enterprises", has initiated the development of a digital transformation handbook tailored specifically for small and medium enterprises operating within the food processing and distribution sector. Therefore, it is imperative to capitalize on this opportunity to instigate digitalization initiatives within businesses and progress towards establishing a sustainable digital

economy. *Secondly*, it is necessary to encourage creativity and innovation through new ideas from lower-level managers and employees, and to allocate the necessary resources to implement digital technology application projects such as artificial intelligence into business operations, in order to enhance business efficiency, improve relationships, and meet customer needs. On the other hand, businesses must invest in strategic research and development endeavors for product enhancement while concurrently fostering effective market orientation, thereby enhancing innovation efficacy. *Lastly*, food processing enterprises need to adapt quickly and flexibly to new technologies and processes, as well as train and build appropriate motivation for each individual in the organization to be ready to respond to challenges and seize development opportunities in the current digital age.

Due to some resource limitations, this study still has some limitations. Primarily, additionally, the impact of certain environmental factors could not be analyzed. Therefore, there is a need for future research to consider these factors.

References

Akman, G., & Yilmaz, C. (2008). Innovative capability, innovation strategy and market orientation: An empirical analysis in Turkish software industry. *International Journal of Innovation Management*, *12*(1), 69–111. https://doi.org/10.1142/S1363919608001923

Alsadi, A. K., & Aloulou, W. J. (2021). Impacts of strategic orientations on Saudi firm performance: Is supply chain integration a missing link? *The International Journal of Logistics Management*, *32*(4), 1264–1289. https://doi.org/10.1108/IJLM-02-2020-0080

Ardito, L., Raby, S., Albino, V., & Bertoldi, B. (2021). The duality of digital and environmental orientations in the context of SMEs: Implications for innovation performance. *Journal of Business Research*, *123*, 44–56. https://doi.org/10.1016/j.jbusres.2020.09.022

Aziz, N. A., & Omar, N. A. (2013). Exploring the effect of Internet marketing orientation, learning orientation, and market orientation on innovativeness and performance: SME (exporters) perspectives. *Journal of Business Economics and Management*, *14* (Suppl. 1). https://doi.org/10.3846/16111699.2011.645865

Brockman, B. K., Jones, M. A., & Becherer, R. C. (2012). Customer orientation and performance in small firms: Examining the moderating influence of risk-taking, innovativeness, and opportunity focus. *Journal of Small Business Management, 50*(3), 429–446. http://doi.org/10.1111/j.1540-627X.2012.00361.x

Burin, A., Perez-Arostegui, M., & Montes, F. (2020). How Ambidexterity and IT competence can improve supply chain flexibility? A resource orchestration approach. *Journal of Purchasing and Supply Management*, *26*. https://doi.org/10.1016/j.pursup.2020.100610

Chen, J., Yu, X., Li, W., & Fu, X. (2008). Critical factors for SMEs innovation performance in innovation networks. In *2008 IEEE International Conference on Industrial Engineering and Engineering Management*. IEEE. https://doi.org/10.1109/IEEM.2008.4738159

Drayse, M. H. (2011). Globalization and innovation in a mature industry: Furniture manufacturing in Canada. *Regional Studies, 45*(3), 299–318. https://doi.org/10.1080/00343400903241501

Damanpour, F. (1991). Organizational innovation: A meta-analysis of effects of determinants and moderators. *The Academy of Management Journal, 34*(3), 555–590. http://www.jstor.org/stable/256406

Gaur, S., Vasudevan, H., & Gaur, A. (2011). Market orientation and manufacturing performance of Indian SMEs: Moderating role of firm resources and environmental factors. *European Journal of Marketing, 45*, 1172–1193. https://doi.org/10.1108/03090561111137660

Gligor, D., Feizabadi, J., Russo, I., Maloni, M. J., & Goldsby, T. J. (2020). The triple-A supply chain and strategic resources: Developing competitive advantage. *International Journal of Physical Distribution & Logistics Management, 50*(2), 159–190. https://doi.org/10.1108/IJPDLM-08-2019-0258

GSO. (2021). Bright prospects of the food manufacturing and processing industry. https://www.nso.gov.vn/du-lieu-va-so-lieu-thong-ke/2021/05/trien-vong-tuoi-sang-cua-nganh-cong-nghiep-san-xuat-che-bien-thuc-pham/

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis: A Global Perspective* (7th ed.). Pearson.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review, 31*(1), 2–24. https://doi.org/10.1108/EBR-11-2018-0203

Hair, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review, 26*(2), 106–121. https://doi.org/10.1108/EBR-10-2013-0128

Hansen, E. N. (2016). When innovativeness determines market orientation: The forest sector and the Great Recession. *BioProducts Business, 1*(1), 1–11. https://www.researchgate.net/publication/296196379

Henseler, J., Ringle, C., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science, 43*, 115–135. https://doi.org/10.1007/s11747-014-0403-8

Kindermann, B., Beutel, S., Garcia de Lomana, G., Strese, S., Bendig, D., & Brettel, M. (2021). Digital orientation: Conceptualization and operationalization of a new strategic orientation. *European Management Journal, 39*(5), 645–657. https://doi.org/10.1016/j.emj.2020.10.009

Kohli, R., & Johnson, S. (2011). Digital Transformation in Latecomer Industries: CIO and CEO Leadership Lessons from Encana Oil & Gas (USA) Inc. *MIS Q. Executive, 10*, 3. https://api.semanticscholar.org/CorpusID:3607081

Lee, J. Y., Kozlenkova, I. V., & Palmatier, R. W. (2015). Structural marketing: using organizational structure to achieve marketing objectives. *Journal of the Academy of Marketing Science*, *43*(1), 73–99. https://doi.org/10.1007/s11747-014-0402-9

Lukas, B. A., & Ferrell, O. C. (2000). The Effect of Market Orientation on Product Innovation. *Journal of the Academy of Marketing Science*, *28*, 239–247. https://doi.org/10.1177/0092070300282005

Malik, M. M., Ghaderi, H., & Andargoli, A. (2021). A resource orchestration view of supply chain traceability and transparency bundles for competitive advantage. *Business Strategy and the Environment*, *30*. https://doi.org/10.1002/bse.2845

Meisya, P., & Surjasa, D. (2022). Effect of Market Orientation on Firm Performance in F&B Business Sector: The Role of Supply Chain Integration and Firm Innovativeness. *Jurnal Manajemen Teori Dan Terapan | Journal of Theory and Applied Management*, *15*(1), 132–145. https://doi.org/10.20473/jmtt.v15i1.33635

Ministry of Information and Communications. (2023). Summary report for the first 6 months of 2023, directions and tasks for the last 6 months of 2023. https://mic.gov.vn/Upload_Moi/2023_01_eng/28.6.-DU-THAO-BC-CONG-TAC-QLNN-6-THANG-DAU-NAM-2023-cua-Bo.pdf

Narver, J. C., & Slater, S. F. (1990). The effect of a market orientation on business profitability. *Journal of Marketing*, *54*(4), 20–35. https://doi.org/10.2307/1251757

Nasiri, M., Saunila, M., Rantala, T., & Ukko, J. (2022). Sustainable innovation among small businesses: The role of digital orientation, the external environment, and company characteristics. *Sustainable Development*, *30*(4), 703–712. https://doi.org/10.1002/sd.2267

Ngo, L. V., & O'Cass, A. (2012). In search of innovation and customer-related performance superiority: The role of market orientation, marketing capability, and innovation capability interactions. *Journal of Product Innovation Management*, *29*(5), 861–877. https://doi.org/10.1111/j.1540-5885.2012.00939.x

Osuagwu, C. (2019). Market orientation conceptualizations, components and performance-impacts: A literature review and conceptual framework. *International Journal of Marketing Studies*, *11*(2), 102. https://doi.org/10.5539/ijms.v11n2p102

Patel, P. C., Azadegan, A., & Ellram, L. M. (2013). The effects of strategic and structural supply chain orientation on operational and customer-focused performance. *Decision Sciences*, *44*, 713–753. http://doi.org/10.1111/deci.12034

Qinqin, W., Qalati, S. A., Hussain, R. Y., Irshad, H., Tajeddini, K., Siddique, F., & Gamage, T. C. (2023). The effects of enterprises' attention to digital economy on innovation and cost control: Evidence from A-stock market of China. *Journal of Innovation and Knowledge*, *8*(4). https://doi.org/10.1016/j.jik.2023.100415

Rakthin, S., Calantone, R. J., & Wang, J. F. (2016). Managing market intelligence: The comparative role of absorptive capacity and market orientation. *Journal of Business Research*, *69*(12), 5569–5577. https://doi.org/10.1016/j.jbusres.2016.03.064

Ramirez, R. G., Guzman, G. M., Del Carmen, M., & Serna, M. (2014). The relationship between market orientation, entrepreneurial orientation, and innovation: Evidence from Mexican SMEs. *Journal of Business and Economics*, *5*(10), 1930–1940. https://doi.org/10.15341/jbe(2155-7950)/10.05.2014/020

Sett, R. (2017). Market orientation − firm performance link in a dynamic environment: Looking inside the black box. *AMS Review*, *8*, 1–13. https://doi.org/10.1007/s13162-017-0099-2

Shehadeh, M., Almohtaseb, A., Aldehayyat, J., & Abu-AlSondos, I. A. (2023). Digital transformation and competitive advantage in the service sector: A moderated-mediation model. *Sustainability*, *15*(3). https://doi.org/10.3390/su15032077

Statista. (2023). Food-Vietnam. https://www.statista.com/outlook/cmo/food/vietnam

Sturgeon, T. J. (2021). Upgrading strategies for the digital economy. *Global Strategy Journal*, *11*(1), 34–57. https://doi.org/10.1002/gsj.1364

Tajeddini, K. (2010). Effect of customer orientation and entrepreneurial orientation on innovativeness: Evidence from the hotel industry in Switzerland. *Tourism Management*, *31*(2), 221–231. https://doi.org/10.1016/j.tourman.2009.02.013

Tse, A. C. B., Sin, L. Y. M., Yau, O. H. M., Lee, J. S. Y., & Chow, R. (2004). A firm's role in the marketplace and the relative importance of market orientation and relationship marketing orientation. *European Journal of Marketing*, *38*(9–10), 1158–1172. https://doi.org/10.1108/03090560410548915

Wamba, S. F., Gunasekaran, A., Akter, S., Ji-Fan Ren, S., & Dubey, R. (2017). Big data analytics and firm performance: effects of dynamic capabilities. *Journal of Business Research*, *70*, 356–365. https://ro.uow.edu.au/buspapers

Wang, C. L., & Ahmed, P. K. (2007). Dynamic capabilities: A review and research agenda. In *International Journal of Management Reviews* (Vol. 9, Issue 1, pp. 31–51). https://doi.org/10.1111/j.1468-2370.2007.00201.x

Yu, W., Wong, C. Y., Chavez, R., & Jacobs, M. (2023). Surfing with the tides: How digitalization creates firm performance through supply chain entrainment. *International Journal of Operations & Production Management*, *43*(12), 2008–2030. https://doi.org/10.1108/IJOPM-10-2022-0678