

Linking digital transformation, organizational strategic intuition, entrepreneurial orientation, and sustainable operation performance in the Vietnamese food industry

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ABSTRACT

Objective: This study aims to assess the role of the relationship between organizational strategic intuition, which serves as a mediator, and entrepreneurial orientation, which serves as a moderator. This will help us better understand how digital transformation leads to sustainable operation performance. Moreover, business seniority, business size, and degree of level of digitalization all contribute to variance analysis.

Research Design & Methods: The development of an empirical investigation utilized a quantitative methodological technique. I gathered data for the survey of 368 managers or owners who worked for various food processing businesses in Vietnam. I evaluated the acquired data using partial least squares structural equation modelling (PLS-SEM) and multigroup analysis.

Findings: The results showed that digital transformation positively affected sustainable operation performance, organizational strategic intuition mediated the interaction between digital transformation and sustainable operation performance, and entrepreneurial orientation modified the association between digital transformation and sustainable operation performance of enterprises.

Implications & Recommendations: Strategic intuition is an organizational competency appropriate for the organization with the resources, assets, and capabilities that are suitable for the organization in terms of the theory of sustainable competitive advantage, thanks to the study's contribution of new knowledge about expanding concepts of digital transformation, organizational strategic intuition, and entrepreneurial orientation. Based on the research's conclusions, I want to improve Vietnamese food enterprises' standard operating procedures (SOPs) in the context of globalization, free trade, the state of science and technology, etc., under pressure in the current competitive environment. The necessary steps to this aim are giving governance implications and aiding the business in creating a connection between digital transformation, organizational strategic intuition, entrepreneurial orientation, and sustainable operation performance in the future.

Contribution & Value Added: This study examines the relationship between digital transformation, organizational strategic intuition, and sustainable operation performance as well as the moderator function of entrepreneurial orientation and the degree of digitization in the food business in Vietnam, a developing market. Research shows that Vietnamese food companies need to improve sustainable operations to keep up with globalization, scientific and technological advances, and market trends. I made some conclusions to assist institution administrators in realizing the importance of strengthening the connections between digital transformation, organizational strategic intuition, entrepreneurial orientation, and sustainable operation performance in the upcoming stage.

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INTRODUCTION

Digital transformation (DT) mainly embraces the fourth industrial revolution, which is currently in full swing. The core of DT is to analyze every part of the business by using digital characteristics such as copying, linking, simulation, and feedback. One can raise the total operational level of the company by exploiting clearly defined quantities and data, analysis, and optimization of consumption targets, as well as management tailored to every last detail. Businesses that must adapt to the new cycle of industrial transformation trends and science and technology revolution trends reap the benefits of increasing their understanding of digital technology and improving their ability to perceive quickly, act quickly, and make well-informed decisions. This enhances risk management and contributes to sustainable development in the digital era. According to the success stories of numerous traditional industries, it is typical for organizations to boost each link's performance by 30-50% after completion can increase its effectiveness by 8-10 times (Teng *et al.*, 2022).

We may also refer to employee strategic intuition as the organizational strategic intuition (OSI) to conduct its strategic decisions, even though it is an individual's perception. According to resource advantage theory, we must give attention to a firm's internal resources when identifying possible assets, capabilities, and capacities, to increase sustainable operation performance (SOP) (Barney, 1991). Strategic intuition is an individual perception, but from an organizational view, employee strategic intuition (OSI) helps in making strategic decisions. Knowledge capital influences economic performance, providing sustainable funding and adding value to businesses (Jordão *et al.*, 2022). In organizational environments, there have only been a few prior studies on strategic intuition and outcome empirical investigations. Therefore, by emphasizing OSI and researching OSI's mechanism in input-process-output or moving beyond conceptual thinking to practical methodology, this work has attempted to elaborate the gap theory. Strategic intuition is encouraged by cognitive, dynamic management and absorptive information, according to earlier research (Jutidharabongse *et al.*, 2020). These additional findings provide credence to the idea that an organization's knowledge management capabilities influence the development of strategic intuition. Because earlier research on knowledge management, capabilities, and the introduction of dynamic capabilities based on tri only provided insufficient data, the current study attempts to develop the results on such an empirical basis. Digital Transformation refers to a group of strategies that help digital entrepreneurs accelerate their business growth through technology. These approaches simplify the use of distributed systems, enhance mobility, and leverage virtualization to improve operations. By embracing DT, companies can sharpen their competitive advantage (Loonam *et al.*, 2018). During the COVID-19 pandemic, DT proved especially critical, enabling businesses to deliver essential information to clients efficiently (Schoeman *et al.*, 2021). By increasing operational effectiveness, the benefits of DT have enriched performance (Guo & Xu, 2021). However, no research has been done on the connection between DT and OSI. Therefore, this study evaluated this theoretical issue. According to findings from earlier studies, strategic intuition from a competence viewpoint, or strategic intuition competency, magnifies enterprise performance and the organization's dynamic strategy as well as innovation performance. To evaluate a comparable relationship in an organizational setting, this study, which has a similar goal, took a different approach. Furthermore, the notion of SOP has been employed to flexibly change the performance variable. To develop into an SOP, long-term rivalry in the corporate world including research interests in innovation, technology, and the environment, an organization must grow its effectiveness, capacity to serve customers' requirements, competitive advantage, and dominance over rivals (Songkajorn *et al.*, 2022). According to in-depth research (Ferreira *et al.*, 2019; Covin & Slevin, 1989), businesses gain from entrepreneurial approaches when they face novel and unknown issues. Such a company response most likely has its roots in entrepreneurial orientation (EO) or its engagement and strategic orientation in favour of innovation, initiative, and risk-taking (Covin *et al.*, 2020; Covin & Lumpkin, 2011). However, the advantages of a business approach are different for food firms that are in the process of transitioning to digital value creation, *i.e.*, seizing the opportunities brought about by technological development. With no doubt (Kraus *et al.*, 2019a), a more conservative approach can produce the same or greater profits for one organization than another because clients,

especially elderly customers in particular, occasionally disagree with the creation, application, and deemed worth of digital services like online tools (Niemand *et al.*, 2021). According to a study by Nguyen *et al.* (2023) it is asserted that for companies operating in the food industry in Vietnam, those that effectively implement digital transformation (DT) experience a significant improvement in business performance. According to research, a strategic transformation strategy, digital technology, and digital competencies are required for the success of metrics transformation. Digital technology serves as the basis for DT, digital talents are its secret, and DT strategy serves as its primary objective. This investigation augments knowledge and comprehension of the DT of the food business, broadens the field of existing research on DT, and promotes effective transformation by investing money in digital, necessary resources. It also offers references, methodologies, and routes for company management techniques. Due to their lack of resources, the majority of Vietnam's food firms find it challenging to address these complicated problems. We think that the goal of DT is innovation and that, via it, firms in poor nations have discovered a fresh approach to growth (Teng *et al.*, 2022). Businesses in developed nations have the advantage of flexibility and the capacity to adopt new changes when compared to those in less developed nations. To start going digital is a pretty simple organizational change strategy for businesses. We contend that attaining competitive advantage requires consideration of both the level of digitalization (LD) and the amount to which businesses must strategically acquire income and grasp market opportunities. Businesses may either function without a clear vision or build a DT vision and provide customized packages or new online services as part of their company plan. Moreover, they can employ various DT strategies, which we can distinguish by various degrees of business intensity. As companies roll out online goods, services, and features that have been effective, one strategy for LD in business would be to adopt a wait-and-see attitude (Niemand *et al.*, 2021). In contrast, a business-oriented approach to LD (Kraus *et al.*, 2019a) would expose novel online services to competition (Lumpkin & Dess, 1996) while acknowledging that such services might not deliver extra benefits for revenue, profit, or customer pleasure. This study focuses on linking DT, OSI, EO, and SOP in the Vietnamese food industry. I also tested the moderating effect of DT level and the control variable for firm size and company seniority influencing SOP. Thus, I examined the following four research inquiries:

- RQ1:** How does digital transformation impact an organization's ability to operate sustainably?
- RQ2:** How does organizational strategic intuition mediate the relationship between digital transformation and the viability of business operations?
- RQ3:** How does the entrepreneurial mindset influence the relationship between digital transformation and an enterprise's capacity for sustainable operation?
- RQ4:** Is the level of current digitalization necessary for an entrepreneurial strategy to succeed in the food industry?

Based on these inquiries, I developed study aims to comprehend the connections and effects among variables operating a structural model. I focused on companies in the food industry because they produce significant amounts of money for Vietnam. Thus, this work offers theoretical and applied contributions. I expanded the theoretical idea of DT, OSI, and EO, which has never been done previously in the context of an organizational setting. The scholarly concept will grow as a result of new results. Moreover, it offers a framework for empirical proof of concept that makes it easier to reform DT and build OSI and EO to improve SOP. This essay's remaining sections are organized as follows. The next section will present the literature background and formulation of the hypothesis. Next, I will describe the research method. Then, I will present the results. In the following section, I will expose the analysis and conclusion. Finally, I will discuss restrictions and future research.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Resource-based View (RBV) Theory

One of the earliest academics to support the idea of corporate resources was the American economist Penrose. He exemplifies resources as tangible items that a company buys, rents, or produces for its use as well as a workforce that is employed under specific circumstances. The author also underlines

how each company has its distinct qualities due to the variety of service performance or production capabilities developed by businesses utilizing their resources (Penrose & Penrose, 2009). We may track the initial presentation of the resource-based theory back to Wernerfelt (1984), within the context of a resource-based company. According to Barney (1991), some businesses may stand out from the competition in some way and maintain their edge. Resource-based theory places a strong emphasis on strategic decisions and holds that finding, developing, and allocating resources in a way that maximizes profits is a strategic challenge for corporate management. In line with Peteraf (1993), for a firm to attain a sustainable competitive advantage, it is necessary for the resources under its control to fulfil four criteria: they must possess value, rarity, uniqueness, and irreplaceability. Taking this resource-based perspective and refining this idea, Teece *et al.* (1997) denoted dynamic competencies as the ability to integrate, build, and reconfigure a firm's internal and external capabilities to cope with a quickly changing environment. The dynamic capacity theory grew from this in a gradual yet quick manner. Depending on their DT level, businesses have varying requirements when it comes to elements such as organizational structure, organizational culture, growth strategy, digital resources, and other related competencies. Their coordination and adaption will help increase firm sales (Verhoef *et al.*, 2021). However, SMEs have trouble starting their DT journey because of a lack of resources and skills, according to several recent studies. The dynamic capabilities might help DT as a support mechanism (Fischer *et al.*, 2020). Furthermore, a company's DT is significantly impacted by awareness of learning integration, digital leadership, and critical resources, where awareness and learning capacity are also crucial elements that stimulate corporate revenue (Matarazzo *et al.*, 2021). Dynamic capabilities play a mediating role in the relationship between digital transformation (DT) and firm performance. They not only mediate the impact of DT on innovation performance at the individual level but also have an overall influence on the relationship between DT, entrepreneurial orientation (EO), and innovation performance. The association between performance and the three interaction effects of EO is also mediated (Teng *et al.*, 2022). I used resource-based theory to examine the pertinent literature and better comprehend our DT and SOP assumptions.

Digital Transformation

Even if academics and professionals are currently more interested than ever in DT, there are still differing opinions about what it actually implies (Osmundsen *et al.*, 2018). Academics regard it as a business model (Henriette *et al.*, 2016), a process (Hausberg *et al.*, 2018), or a strategy (Kane *et al.*, 2015). The majority of economists place a strong emphasis on adopting new digital technology to significantly enlarge business (Fitzgerald *et al.*, 2014). The phrase DT refers to major changes based on a combination of information technology, computation, communication, and networking rather than a single technology, which is a crucial distinction to make (Bharadwaj *et al.*, 2013). A combination of sophisticated technologies is incorporating physical and digital systems (EC, 2018). It is crucial that not all DT technologies be digital. Delivery trucks, forklifts, and conveyors are examples of nondigital technologies that can be integrated into DT (Mathauer & Hofmann, 2019) provided that they are fitted with new technological components that allow, for example, for tracking based on position and speed. The function of exploiting people's digital capacities in DT was added by Morakanyan *et al.* (2017). Operational efficiency, a better customer experience, an upgraded business model, strategic differentiation, a competitive advantage, refined stakeholder relationships, cost savings, and other values are among those cited as DT's main outputs (Morakanyane *et al.*, 2017). Moreover, DT is a continual process that fluctuates as an organization executes its level of digital maturity, which is assessed by how well it has adapted to the current condition of the digital business ecosystem (Kane *et al.*, 2017).

Organizational Strategic Intuition (OSI)

According to RBV, internal resources are necessary for creating a persistent competitive advantage (Barney, 1991). Because of this, the study's methodology views OSI as an organization's capacity to understand strategies or decide how to react in risky scenarios. Since it is a fresh concept, applying the concept of strategic intuition is crucial to advancing comprehension. Intuition or a sense of insight is the ability to perceive or understand something instinctively without having to research or analyze it

(Songkajorn *et al.*, 2022). Everyone can benefit from intuition by changing their perspective, acting wisely, finding their passion, recognizing possibilities, and achieving goals even with little resources. The higher self can connect with a person through intuition in a variety of ways, enclosing sensations and pictures (Songkajorn *et al.*, 2022). Without consulting any evidence, people might begin the decision-making process by making use of their intuition (Kuusela *et al.*, 2020). Making efficient strategic decisions necessitates the simultaneous use of intuition and rationality, two very different thought processes (Calabretta *et al.*, 2017). Experts can generate solutions by applying both analysis and intuition, alternating between the two techniques (Okoli & Watt, 2018). Conforming to Klein *et al.*'s (1986) recognition-based decision-making model, due to the balance, intuition is more likely than analysis. First impressions that are formed intuitively and naturally tend to be broken by reminders. Although intuition operates implicitly, analysis is not always at odds with it. In conformity with Songkajorn *et al.* (2022), intuition is an analysis linked to habit and the capacity for swift perception-based reactions. Furthermore, the speed and simplicity of the application of intuition and analysis are two mental processes that stand out clearly from one another.

Entrepreneurial Orientation

Rigtering *et al.* (2017) claim that the idea of EO often refers to managerial techniques and initiatives that result in new commercial ventures in developing or mature markets, with either current or outdated goods or services. Prior to that, Miller (1983) and Covin and Slevin (1989) proposed the most general idea of EO, which refers to a company's strategic orientation vision toward innovation, initiative, and risk-taking. As stated by Lumpkin and Dess (1996), innovation refers to the processes of novelty and creativity as well as the creation of new ideas through experimentation. Being proactive means looking for fresh opportunities that might or might not relate to the current stream of activities. It also refers to introducing new products and brands before competitors and strategically phasing out old activities that are nearing their peak or declining in importance (Venkatraman, 1989). The uncertainty that results from top managers or businesses acting in an entrepreneurial spirit is referred to as risk-taking. Incorporating research done in numerous cultural situations (Semrau *et al.*, 2016) and diverse industries (Rigtering *et al.*, 2014), one of the most influential subfields of entrepreneurship studies is now called EO (Covin & Lumpkin, 2011). For the most part, these studies have shown a positive relationship to business performance. As explained by Hambrick and Mason (1984), we may find the theoretical foundations of EO at the top, which suggests that organizations eventually take on the characteristics of their top management. The strategic centre of a business actually has the most influence on crucial decisions like where to enter new markets, where to invest in technology, and how much service to offer (Eggers *et al.*, 2017). Nonetheless, individuals operating at discrete organizational levels can plan, organize, and conduct business operations on behalf of the company (Wales *et al.*, 2011). Consequently, scholars frequently view EO as the result of senior management's propensity for entrepreneurship and the actions of organizations that exhibit entrepreneurial behaviour by placing a premium on initiative, innovation, and risk-taking at the corporate and management levels (Covin & Wales, 2012). In agreement with Wales *et al.* (2020), the organizational structure of EO fosters innovation and risk-taking behaviour. It also demonstrates a forward-looking mindset. The outcomes of EO are not always positive and may occasionally lead to failure or, in more catastrophic situations, insolvency (Wiklund & Shepherd, 2011). Basic EO studies (Lumpkin & Dess, 1996) have built on stochastic theory (Burns & Stalker, 1961) to comprehend the circumstances in which EO leads to firm performance. According to the stochastic theory, attaining a high degree of business performance requires that the important variables be in agreement with one another (Donaldson, 1995).

Sustainable Operation Performance

Conforming to Waterman and Peters' (1982) book, where SOP originally appeared, a company that upholds a strong culture and alignment between leadership, strategy, structure, and staff abilities is considered to have SOP. This notion has grown and ameliorated over time. To beat its rivals in terms of financial performance over the long term, De Waal (2007) described SOP as an organization that manages long-term and builds an integrated management structure, continuous improvement, and

core competencies, regarding its personnel as its most precious assets. SOP was previously construed by Amah and Oyetunde (2019) as an organization that integrates economic terms, social and environmental achievements, and actions to achieve an observable consequence. They also suggested that SOP activities consider how to preserve the economic and social environment. Theorists contend that De Waal (2007) is widely mentioned in investigations even though we may divide SOP into sundry components. The study explores the concept of SOP in relation to organizational activities and aims to present fresh and captivating perspectives while also respecting traditional notions. It considers elements such as innovation, technology, and the environment, recognizing their significance in maintaining a competitive edge for organizations amidst rapidly changing conditions and unpredictable global economic circumstances (Liu *et al.*, 2021). By exploiting new or enhanced production techniques and introducing new or revised items to the market, innovation increases revenues while lowering costs (Rahimnia & Molavi, 2021). The company efficiently supports its operations with technology. Organizations also employ IT to make it easier for people to share information and build expertise (Nieves & Osorio, 2019). Furthermore, businesses should listen to community requests, practice corporate social responsibility, or protect the environment to boost community engagement. Moreover, maintaining performance requires both the usage of awareness-raising materials and the updating of necessary skills in light of current trends (Al Koliby *et al.*, 2022).

Hypotheses Development

Because adopting DT will boost a firm's SOP, this study hypothesizes that a food company with DT will perform better financially and non-financially than a company without DT. The widespread adoption of digital technology can boost productivity, significantly lower maintenance and inventory costs, and better the effectiveness of production tools. By incorporating numerous digital technologies into its everyday operations, an organization that opts for the DT approach also displays a desire to increase commercial value. Moreover, the pursuit of DT by a company will be incorporated into the corporate culture, enhancing its competitiveness (Gatignon & Xuereb, 1997). Furthermore, the development of digital technology can successfully address the issue of asymmetric information and lower the costs associated with data collection, product creation, and contract performance, while simultaneously elevating the effective use of resources by businesses (Lin & Kunnathur, 2019). To reduce resource consumption and production costs, efficiently address the production capital shortfall, and optimize the allocation of production means, businesses might share technology, equipment, and services (Lyytinen *et al.*, 2016). Businesses can access new relationships and information thanks to DT, which fosters innovation and the globalization of markets (Parida *et al.*, 2012). The DT strategy as a whole encourages innovation, cost reduction, and a company's sustained competitive advantage. As a result, a company with DT will have a higher SOP than a company without DT. It demonstrates how DT aids in the creation of a company's business model (Hess *et al.*, 2020). Furthermore, DT creates fascinating chances for creativity and has the potential to become the main source of innovation (Secundo *et al.*, 2020). To foster innovation and entrepreneurship, digital infrastructure enables computing, communication, and teamwork capabilities (Nambisan, 2017). To create value and get an advantage over the competition, almost all firms employ DT. This enables them to reconfigure their networks, strengthen communication channels with suppliers and customers, and boost their flexibility and capacity (Vial, 2019). The organization will accomplish SOP thanks to digital technologies. Consequently, I hypothesized:

- H1:** The actual combination of barriers and stimuli has been oriented on restructuring of Russian export.

Digital transformation upgrades and combines information technology, computing, communication, and connection within an organization to take advantage of digital opportunities, create innovation, and have an impact on business (Vial, 2019). Digital transformation makes it easier for implicit knowledge to become explicit knowledge and vice versa (Fernandes, 2018). Members of the organization have this knowledge stored in their collective memories, which is consistent with the emergence of the first stage of strategic intuition. Moreover, in the OSI development process' final stage, the DT's decision and determination to drive activities (Von Clausewitz, 1968) effectively support the organiza-

tion's desired strategy. DT affects the changing goods, organizational structure, and processes because it is connected to a shift in the organization's business model (Hess *et al.*, 2020). It is performed by employing digital technology, such as platforms, infrastructure, and artifacts (Nambisan, 2017). In line with RBV, DT is an organizational resource that supports OSI capabilities to acquire a long-lasting competitive advantage (Barney, 1991). Because of this, I hypothesized:

H2: Digital transformation has a positive effect on organizational strategic intuition.

Digital transformation innovation originates from the personal intuition of the company's leaders to each member of the company, whether the top leader or the lowest employee. The strategic intuition technique allows innovation to emerge through the imaginative fusion of historical aspects in a novel way that adds value (Duggan, 2013). When making judgments based on intuition, it is important to consider organizational issues, such as the regulatory environment, time constraints, decision-making culture, and market conditions, as well as external influences like disruptions and changes in the market (Kuusela *et al.*, 2020). In the context of a deeply and widely integrated economy like Vietnam, there is pressure when it comes to intuitive decision-making because it has the most important role in responsiveness and SOP (Bullini Orlandi & Pierce, 2020). In accordance with RBV, achieving a sustained competitive advantage for a firm requires the crucial leadership skill of OSI (Barney, 1991). In light of this research, I hypothesized:

H3: Organizational strategic intuition has a positive impact on sustainable operation performance.

H4: Organizational strategic intuition acts as an active mediator between digital transformation and sustainable operation performance.

The emphasis on EO at the organizational level reflects an environment where organizations display stronger levels of creativity, initiative, and risk-taking than their corporate counterparts (Wales *et al.*, 2020). Businesses will actively seek out market possibilities and act faster than their competitors to take advantage of them with more creative solutions (Webb *et al.*, 2010) if they place a strong emphasis on innovation and initiative. Therefore, businesses with a high level of EO will be better able to discover new market niches, attract new customers, and provide cutting-edge products and services to their current clients (Covin & Lumpkin, 2011). Furthermore, emphasizing market orientation, innovation, and proactive corporate behaviour enables businesses to react quicker to shifting customer and technological demands (Nguyen *et al.*, 2023). Moreover, EO stands for a forward-looking orientation, and when a corporation embraces that approach as its strategic apex, businesses are more receptive to novel ideas and technological advancements. Prior research on EO in units suggested that EO had a network effect (George *et al.*, 2001). Diversity networks enable top managers to more effectively identify and evaluate multiple business prospects. Therefore, top executives in the food sector who have an EO bias are more likely to recognize novel (digital) opportunities and better assess the risk associated with those digital chances. On the other hand, risk can have a larger range of financial effects and is never totally avoidable (Wiklund & Shepherd, 2011). However, profits are anticipated to be positive overall. This suggests the following hypothesis:

H5: Entrepreneurial orientation has a positive effect on sustainable operation performance.

Different organizations may offer different digitization approaches. Some enterprises may implement DT according to a rigorous process aimed at responding to customer requests quickly and efficiently (Warner & Wäger, 2019). However, this process may not be very novel given the online services these businesses offer. In those cases, management evaluates effectiveness.

Nevertheless, a distinct revenue strategy is necessary to secure a lasting competitive advantage (Porter, 1996). Instead, businesses must develop distinctive assets that are challenging to replicate (Barney, 1991) and continuously position their goods and services in front of rivals (Lumpkin & Dess, 1996). The food industry is moving towards more online tools and services overall, while it is yet unclear what specific formats or popular designs will be in use. However, the setting fosters a corporate atmosphere where these businesses can focus on individuals willing to test out novel approaches and emerging technology (Boudreau *et al.*, 2011). Therefore, a more business-oriented

approach to digitization can align a company's strategic approach to the needs of the environment and produce unique resources (Kraus *et al.*, 2019a; Kraus *et al.*, 2019b), helping it to stay ahead of the competition when it comes to introducing new digital services (proactivity), and it can allow for reasonable costs to be incurred while testing new digital solutions, which is expected to result in more innovative and unique digital services. Moreover, companies managing sustainable practices will end up with sustainable outcomes, which will result in sustainability for the industry as a whole (Islam *et al.*, 2020). This induces the following recommended hypothesis:

H6: The moderating role of entrepreneurial orientation in the relationship between digital transformation and sustainable operation performance.

Entrepreneurial orientation not only helps food firms more successfully realize their digital vision but also allows businesses that have made the transition to digitization to provide goods and services for an infinite amount of time in space. With the use of digitization, businesses may communicate with their clients swiftly and effectively (Jayachandran *et al.*, 2004). Moreover, the employment of information technology applications is frequently necessary to take advantage of business opportunities for quick and highly secure payments in the money transfer process (Gerritsen *et al.*, 2015). Businesses with a high rate of digitalization will therefore be better able to acquire the necessary skills and change their business models to benefit from economic opportunities. If businesses regularly implement and test new technologies, they will eventually become accustomed to digital solutions and technology. As a result, businesses with a relatively high level of digitalization (LD) will be in a better position than rivals with less expertise to seize commercial opportunities that call for digital solutions and make optimum use of their EO. In a world where information technology is changing quickly, businesses with a high degree of EO and digitization may explore business prospects more successfully. This provoked the next hypothesis:

H7: A high level of digitalization has a positive effect on entrepreneurial orientation and sustainable operation performance.

Control variables can have a confounding influence on the relationships between the variables by reducing the sources of undesirable variance in the study's model. Firstly, company size can also affect a company's SOP. Often, large enterprises have more advantageous resources to accommodate DT implementations. Furthermore, smaller enterprises face limitations in terms of their capacity, which acts as a barrier to entry into their respective industries. This highlights that larger companies possess a higher level of competitiveness, making it comparatively easier for them to adopt and implement SOPs. In light of these justifications, scholars advise to regulate firm size (Terjesen *et al.*, 2011). Secondly, older businesses may experience problems with consistency and unreported operating expenses that could make it challenging to identify DT and influence SOP. The number of years after a company was founded was kept to a minimum in this analysis, as suggested by Park and Ro (2011). In summary, I expect that in the context of the global economic integration of an emerging economy like Vietnam, businesses operating in the food sector will need to make quick changes and coordinate with DT, OSI, and EO to achieve SOP. I propose a research model as shown in Figure 1.

RESEARCH METHODOLOGY

The study employed the following quantitative research techniques. Initially, I conducted focus group discussions with two groups. To identify and calibrate the research model and the measured observed variables of the DT, OSI components, EO, and SOP at food enterprises, group 1 includes 7 scientists with PhD degrees, group 2 consisted of nine people who held a Master's degree and are currently the directors of representatives of food enterprises in 9 provinces. The results of the focus group discussions indicated that, generally, the participants approved of the proposed approach. Moreover, the majority of the members' suggestions centred on changing the observed variable's language to make it more understandable and appropriate to Vietnamese food enterprises. Following consultation with subject-matter experts, I created a survey questionnaire that comprised 21 observable variables (Appendix), significant demographic survey variables, and a 5-point Likert scale (1 denoting a significant disagreement and 5 a strong agreement). I conducted the research from

January 2024 to July 2024. A total of 429 businesses volunteered to take part in the survey, although I sent only 1 survey per business to owners and managers of food businesses in Vietnam. I conducted the survey throughout the entirety of Vietnam, encompassing the southern, middle, and northern areas. Finally, I employed a dataset of 368 questionnaires to evaluate data with a pass rate of 85.8%. I used PLS-SEM to assess the acquired data and test the hypotheses.

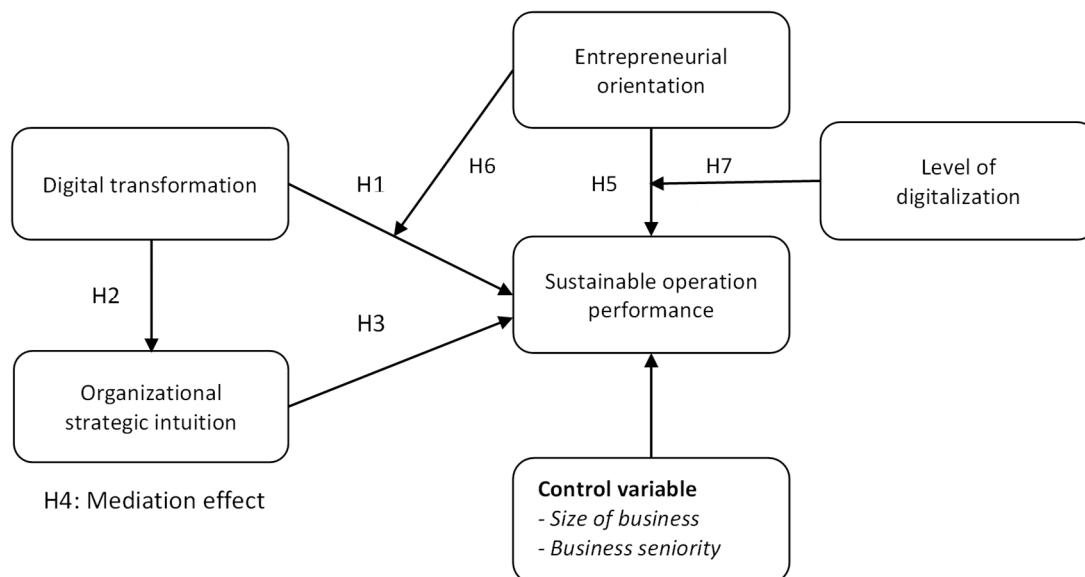


Figure 1. Proposed research model

Source: own elaboration.

RESULTS AND DISCUSSION

Table 1 displays the survey sample's characteristics, ensuring the sample size representativeness.

Table 1. Respondents profile

Construct	Categories	# of cases	%
Size of business (people)	Small (<50)	73	19.84
	Medium (50-99)	166	45.11
	Large (≥ 100)	129	35.05
Business seniority	Less than 5 years	61	16.58
	From 5 to 10 years	203	55.16
	More than 10 years	104	28.26
Working position	Managers	239	64.95
	Owners	129	35.05
Levels of digital transformation	Level 1: Scattered use of data	57	15.49
	Level 2: Business-centered data-based operations	185	50.27
	Level 3: Data competitiveness formation	126	34.24

Note: N = 368.

Source: own study.

Measurement model. I conducted confirmatory factor analysis (CFA) to evaluate the psychometric properties (convergence and discriminant), average variance extracted (AVE), and composite reliability (CR) of all items (Hair *et al.*, 2018). Due to the low CR score, I removed one item from the recovery satisfaction scale. Reevaluation of the results revealed that the research met all minimal criteria, leading to CR and Cronbach's alpha values for every construction that were both higher than 0.70. Furthermore, as mentioned by Hair *et al.* (2018), all variable AVE values were higher than 0.5. Therefore, the convergent value was acceptable (Table 2). Due to the fact that all HTMT ratios were less than 0.90, Table 3 demonstrates that discriminant values were likewise acceptable (Henseler *et al.*, 2015).

Table 2. Results of the measurement model

Constructs	Indicator	Outer loading	Cronbach's alpha	rho_A	Composite reliability (CR)	Average variance extracted (AVE)
Digital transformation	DT1	0.69	0.89	0.89	0.89	0.65
	DT2	0.83				
	DT3	0.91				
	DT4	0.75				
	DT5	0.79				
Organizational strategic intuition	OSI1	0.65	0.85	0.87	0.84	0.66
	OSI2	0.77				
	OSI3	0.93				
	OSI4	0.81				
	OSI5	0.68				
Entrepreneurial orientation	EO1	0.63	0.88	0.89	0.89	0.62
	EO2	0.81				
	EO3	0.83				
	EO4	0.86				
	EO5	0.79				
Sustainable operation performance	SOP1	0.81	0.87	0.87	0.87	0.79
	SOP2	0.81				
	SOP3	0.68				
	SOP4	0.85				
	SOP5	0.78				

Note: N = 368.

Source: own study.

Table 3. Discriminant validity of measure model Heterotrait-Monotrait ratio (HTMT) of correlations

Constructs	DT	OSI	EO	SOP
DT	–	–	–	–
OSI	0.55	–	–	–
EO	0.79	0.67	–	–
SOP	0.73	0.81	0.53	–

Source: own study.

Model structure. In compliance with Hair *et al.* (2018), I evaluated the structural model's beta, *t*-values, effect sizes (f^2), predictive relevance (Q^2), and coefficient of determination (R^2). I found that support for the impact of perceived DT on SOP (H1) $\beta = 0.78$ and $p = 0.000$. OS (H2) was positively affected by perceived DT ($\beta = 0.37$ and $p = 0.000$). Moreover, I validated OS's impact on SOP (H3) with $\beta = 0.66$ and $p = 0.000$. I applied Preacher and Hayes' (2008) technique with subsamples of 10 000 bootstrapping procedures to calculate *t*-values and confidence intervals for the mediating hypothesis. I found that OS positively and significantly mediated the relationship between DT and SOP ($\beta = 0.43$, $t = 6.75$, and $p < 0.05$). Consequently, I accepted H4. Moreover, the effect of EO on SOP ($\beta = 0.58$ and $p = 0.000$) supported H5 and the finding that EO moderates the relationship between DT and SOP ($\beta = 0.55$, $t = 8.73$, and $p < 0.05$) supported H6. Though I rejected H7 was rejected, I found no support for the combined effect of EO and LD ($\beta = -0.69$, $t = 3.57$, and $p > 0.05$).

The next step involved 10 000 samples for additional bootstrap testing. According to Efron and Tibshirani (1993), specific metrics (deviation, variance, confidence intervals, prediction error, etc.). Comparing the crucial rate's absolute value to 1.96 (which indicates the value of a regularly distributed transaction at 0.9750 or 2.5% on one side and 5% on both sides), we may see that it was significantly higher. Given that the absolute value of the critical ratio (CR) in the aforementioned relationships was less than 1.96, the outcomes demonstrated statistical significance with a 95% confidence interval. The model had remarkable predictive reliability. Therefore, it was acceptable to infer that the study's esti-

mates were accurate and that all 6 hypotheses, H1 to H6, were true. Moreover, I applied the ANOVA test with five qualitative variables. The variance results showed that $\text{Sig} > 0.05$, signifying that there was no difference in the variance between the groups. It is evident from this that there was no distinction in terms of demographic parameters such as gender, education level, place of employment, business type, and number of years in operation. Figure 2 presents SEM results.

Table 4. Results of structural model analysis (Hypothesis testing)

Hypotheses	Relationships	β	t-values	p-values	f^2	R^2	Q^2	Decision
H1	DT -> SOP	0.78	11.63	0.000	0.71	0.52	0.31	Supported
H2	DT -> OSI	0.37	5.56	0.000	0.32	0.56	0.53	Supported
H3	OSI -> SOP	0.66	12.56	0.000	0.69	0.47	0.34	Supported
H4	DT -> OSI -> SOP	0.43	6.75	0.000	0.37	0.63	0.49	Supported
H5	EO -> SOP	0.59	9.58	0.000	0.49	0.61	0.52	Supported
H6	Interaction effect EO ->DT -> SOP	0.55	8.73	0.000	0.47	0.59	0.50	Supported

Source: own study.

The next step involved 10 000 samples for additional bootstrap testing. According to Efron and Tibshirani (1993), specific metrics (deviation, variance, confidence intervals, prediction error, etc.). Comparing the crucial rate's absolute value to 1.96 (which indicates the value of a regularly distributed transaction at 0.9750 or 2.5% on one side and 5% on both sides), we may see that it was significantly higher. Given that the absolute value of the critical ratio (CR) in the aforementioned relationships was less than 1.96, the outcomes demonstrated statistical significance with a 95% confidence interval. The model had remarkable predictive reliability. Therefore, it was acceptable to infer that the study's estimates were accurate and that all 6 hypotheses, H1 to H6, were true. Moreover, I applied the ANOVA test with five qualitative variables. The variance results showed that $\text{Sig} > 0.05$, signifying that there was no difference in the variance between the groups. It is evident from this that there was no distinction in terms of demographic parameters such as gender, education level, place of employment, business type, and number of years in operation. Figure 2 presents SEM results.

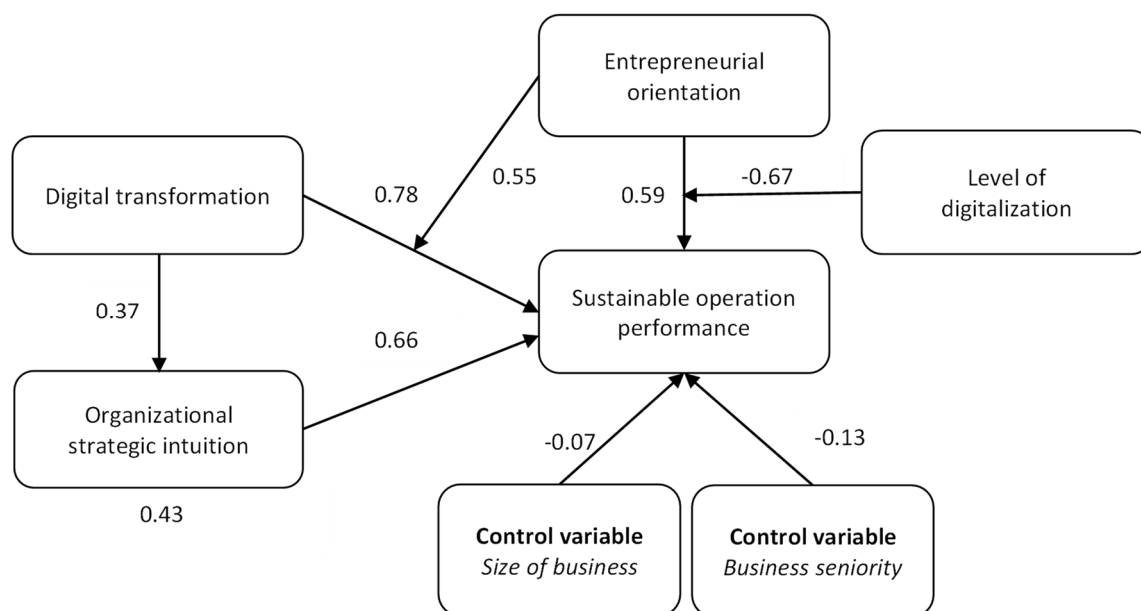


Figure 2. The results of the SEM

Source: own elaboration.

RESULTS AND DISCUSSION

The main discovery of this study was the association between DT, OSI, EO, and SOP. Compared to previously published articles on the topic of food, my findings are innovative because no experimental research has been done to confirm this relationship mechanism. Despite the fact that studies on the particular impacts of DT, OSI, and wait to SOP are frequently used, this study substantially adds to the body of knowledge by building on the previous discoveries and formulating a novel strategy to aid the food industry in a developing country like Vietnam. Firstly, the study's primary goal was to ascertain how revenue influences food enterprises' standard operating procedures favourably. Our findings are consistent with those of Teng *et al.* (2022) and Matarazzo *et al.* (2021), which discovered that firms might boost efficiency and customer value by adopting effective digital marketing. The trend states that the company becomes sustainable. Our study adds to the corpus of research by illuminating both the procedure for growing DT in the workplace and the essential elements for successful DT. Furthermore, Madzik *et al.* (2023) assert that, in the current international economy, organizations must be more vigilant and implement DT when necessary. Long-term users will profit more from DT implementation than they will from conventional strategies, despite the risks and costs. Secondly, the empirical evidence demonstrating how DT greatly enhances OSI and facilitates OSI development and decision-making addresses the second research aim: What role does the OSI play in businesses' DT and SOP relationships? Digital marketing promotes promotional techniques, brand positioning, and the growth of e-businesses, based on a study on the effects of DT (Melović *et al.*, 2020). Shen *et al.* (2022) suggest a digital platform built on knowledge management for strategic asset management solutions. The existing body of research could thus explain this in one of two ways: either DT helps choose a consistent strategy or DT convinces OSI to come up with a strategy. To further understand this, more research is needed. Numerous studies have demonstrated the value of the DT approach. For instance, a study on the benefits of DT on Indian manufacturing found that strategic alignment had a beneficial impact on sales and operating performance. This underlines the need to have a thorough grasp of the organizational process to develop and implement an effective DT strategy before transformation (Singh *et al.*, 2021). Even if the results of recent studies on the connection between DT and OSI are unclear, they provide a foundation for future research in this field. Furthermore, the study's findings support the idea that LD has no moderating influence on the relationship between EO and SOP. In contrast to Niemand *et al.* (2021) findings, it is asserted that technology is evolving quickly and that companies in the financial sector are dealing with a transition from traditional to digital service formats, which presents chances for companies to gain a competitive edge.

Finally, prior studies did not explore the impact of DT on the food industry SOP, which presents a hurdle in advancing digitization in the food business. We filled this gap by conducting a survey among businesses on the topic approach, and we discovered fresh findings that also addressed our third research question. Businesses that presented a high degree of EO reported higher performance levels, but, more significantly, EO moderated the relationship between DT and SOP. This result is also consistent with Niemand *et al.* (2021) who claim that EO directly regulates the relationship between SVD and FP as well as the digitization degree in the financial industry. If an organization successfully implements its DT vision, it will meet the financial performance maximization criteria, such as the ratio return on assets (ROA), return on invested capital (ROI), revenue, asset turnover, market share, profit margin, revenue growth rate, and economic indicators. Technology-based strategies have the potential to boost a company's success independently, as opposed to aligning its strategic vision with its aims and inherent commercial skills. These findings add fresh, long-lasting insights into the function of EO and DT in the food industry and emphasize the need for businesses to have a comprehensive understanding of digitalization during periods of rapid technological change, which is characterized by creativity, staying one step ahead of the competition, and taking risks.

Theoretical Implications

The study's findings have assorted scientific applications. Firstly, it contributes to the existing literature by constructing a research model and empirically testing the proposed theoretical model. The study examined the dynamic interplay between DT, OSI, and EO in relation to SOP. It also investigated the mediating role of OSI between DT and SOPs, as well as the moderating role of EO between DT and SOP within companies operating in the food sector in Vietnam. Secondly, I explained the theory in this study using the RBV theory, which also produces some surprising results regarding the above associations. Moreover, this investigation supports RBV theory (Barney, 1991). Thirdly, this study contributes new knowledge about expanding concepts of DT, OSI, and EO forcing to explain that strategic intuition is considered not only as an individual competency but also as an organizational competency that is suitable for the organization suitable with resources, assets, and capacities in light of the sustainable competitive advantage theory. Finally, the study also examined the differences in demographic variables such as firm size, year-end business, and adjusted revenue levels of Vietnamese food companies.

Managerial Implications

The study's findings will help ameliorate standard operating procedures for Vietnamese food companies as they face pressure from globalization, free trade, and scientific and technological advancements. Given the current competitive environment, the following solutions will assist the business in concentrating on reinforcing the relationship between DT, OSI, EO, and SOP in the future. In addition, for DT, companies need to pay attention to adjusting their sustainability strategic focus to ensure the company's SOP. Prioritizing accreditation management competencies for the DT process is key to increasing financing through the promotion of sustainability strategies. Therefore, managers need positive behavior and good management capacity leading to a sustainable strategy to achieve better financial and nonfinancial returns for the company. Consequently, managers must develop a strategic business strategy for DT businesses centered on the sustainability principle. In other words, managers should prioritize tasks in accordance with their objectives and focus on DT business strategy, which serves as the cornerstone of sustainable strategy, as their first concern. The management's capability to grab digital possibilities and significantly influence company outcomes is another indicator of how well-organized the digitalization operations are. This result is also similar to that of Teng *et al.* (2022) when affirming that SMEs want to maximize operational efficiency and must actively apply DT in their businesses. Moreover, companies employing DT will have an impact on customer culture and behaviour (Silva *et al.*, 2023). A sustainable sustainability strategy and the goal of SOP must also be balanced in corporate companies. Instead of only being the solution to economic success, adopting a sustainability plan emphasizes a holistic sustainability approach.

Another outcome of this work is that causal analysis has empirically proven that DT promoted OSI advancement and led to SOP. Therefore, organizations that want to become SOPs need to have better support or investment activities to promote DT. Systems from DT for mobility, analytics, and virtualization are used as tools or channels to elucidate or elaborate the strategy's viability and raise the organization's potential. Moreover, OSI is necessary to help the organization advance toward becoming an SOP. Scholars need to give strategic intuition more weight throughout the hiring and training processes because it is a good indicator of an employee's OSI. Another strategy for increasing OSI potential is to help employees develop their strategic intuition. This outcome is in line with the research by Rogers (2016) and Songkajorn *et al.* (2022). Finally, the study's findings support those of Pratono *et al.* (2019) that gaining sustainable competitive advantage through market orientation and green EO would increase SOP. Moreover, EO contributes positively to the regulation of the interaction between DT and SOP. Companies that prioritize innovation and initiative will be more proactive in identifying market possibilities and will exploit them more quickly than their rivals with creative solutions. This result is congruent with Niemand *et al.*'s (2021) study, which showed that if a business successfully conducted its DT vision, it would be able to maximize its financial performance. In conclusion, DT, OSI, and EO in enterprises directly contribute to the increase of organizational SOP. This suggests that the

above linkage can operate as an amplifier for managers to refine their ability to diversify in accordance with business goals in the setting of global integration.

CONCLUSIONS

Although I achieved the study's objectives, there were still a number of shortcomings, such as the sheer number of samples that needed to be gathered, which might provide interesting areas for future research. I ensured the sample representativeness, albeit not very well. I conducted the study among food enterprises in emerging markets, namely, Vietnam. Furthermore, the mediating role of entrepreneurial orientation in the relationship between digital transformation and sustainable operation performance; thus, more research is required. Following a thorough examination of the preceding function, it was vital to clarify the roles of OSI and EO. Moreover, for the company to achieve SOP in addition to DT, OSI, and EO, there are many other factors such as social responsibility, organizational culture, and sustainable resources. Thus, the next study path should include additional variables, larger sample sizes, and an expansion of the number of research subjects, as well as other industries and economies.

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Appendix: Constructs' items

Digital transformation (DT)

- Digital Technology Usage
- Encouragement
- Barrier Elimination
- Important factors for successful DT
- Next steps to expand DT

Organizational strategic intuition (OSI)

- Learning from History
- Business Strategy Creation

Resolution

Entrepreneurial orientation (EO)

- We encourage people in our company to take risks with new ideas.
- We engage in risky investments to stimulate future growth.
- We work to find new businesses or markets to target.
- We consider ourselves as an innovative company.
- Our business is often the first to market with new products and services.

Sustainable operation performance (SOP)


- Return On Assets (ROA)
- Return On Equity (ROE)
- Innovation Generation
- Technology
- Internal Environment
- External Environment

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Use of Artificial Intelligence

The author confirms that no AI/GAI tools were used in the creation of this text. All work was done manually without the assistance of any artificial intelligence or generative AI.

Conflict of Interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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