THE IMPACT OF ORGANIZATIONAL INNOVATION ON MARKET PERFORMANCE: THE MEDIATING ROLE OF DIGITAL TRANSFORMATION STRATEGIES

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Abstract: In this study, market performance is the dependent variable, organizational innovation is the independent variable, and digital transformation strategy is the mediating variable. The core conceptual framework is constructed by introducing demographic variables such as length of service and position. This study proposes the following research hypotheses: 1. There is a statistically significant positive correlation between organizational innovation and market performance. 2. Organizational innovation has a significant predictive power on market performance. 3. Digital transformation strategy plays a mediating role between organizational innovation and market performance. And taking manufacturing enterprises as a case study, the minimum sample size was calculated as 384 using random sampling method. This study distributed a total of 550 questionnaires to the middle and senior staff of manufacturing enterprises. The questionnaires were distributed using snowball sampling method, and 531 questionnaires were retrieved, with a recovery rate of 96.5%.

This study found that:1. There is a significant positive correlation between organizational innovation and market performance, and it can also be shown that organizational innovation has a significant predictive power on market performance.2. The digital transformation strategy plays a mediating role between organizational innovation and market performance, i.e., the impact of organizational innovation on market performance is affected by the digital transformation strategy.

Keywords: Organizational Innovation, Market Performance, Digital Transformation Strategies

Introduction

In today's dynamic business environment, organizations are constantly looking for ways to achieve competitive advantage and sustained growth in a changing market environment. One important way to achieve this goal is through innovation, which involves the introduction of new ideas, processes, products or services into the organizational environment (Damanpour & Aravind, 2012). Organizational innovation is a multidimensional concept that is expected to enhance a firm's ability to adapt to changing market demands, increase efficiency, and promote long-term success (Damanpour, 2010; Lichtenthaler

& Lichtenthaler, 2020).

On the other hand, market performance represents the results and outcomes achieved by organizations in their respective markets, including multiple dimensions such as profitability, market share, and customer satisfaction (Chen et al., 2014; Rosenbusch et al., 2011). The pursuit of superior market performance is intrinsic to the survival and growth of an organization as it directly impacts a firm's ability to attract investment, sustain operations and create value for stakeholders (Cui et al., 2016).

In the ongoing digital revolution, organizations are increasingly turning to digital transformation strategies to harness the potential of emerging technologies to drive innovation across their operations (Bharadwaj et al., 2013; Zhu et al., 2020). Digital transformation involves integrating digital technologies into every aspect of an organization to fundamentally change the way it operates and create value for its customers (Westerman et al., 2014). Such strategies include initiatives ranging from the adoption of cloud computing and big data analytics to the implementation of artificial intelligence and machine learning algorithms (Gregor et al., 2015; Sambamurthy et al., 2019).

While previous research has examined the separate impacts of organizational innovation and digital transformation on market performance, there is still a clear gap in understanding the interplay between these constructs. Specifically, there is limited empirical evidence exploring how digital transformation strategies moderate the relationship between organizational innovation and market performance. Addressing this gap is imperative to elucidate the mechanisms by which organizations use digital technologies to enhance the impact of their innovation efforts on market outcomes. The existing literature suggests that digital transformation is a catalyst that amplifies the impact of organizational innovation on market performance through various channels. First, digital technologies enable organizations to streamline internal processes, facilitate knowledge sharing and accelerate the pace of innovation (Bharadwaj et al., 2013; Henfridsson & Bygstad, 2013). By leveraging digital platforms for collaborative innovation and rapid prototyping, firms can improve their ability to develop and commercialize new products or services to gain a competitive advantage in the marketplace (Alt & Zimmermann, 2015; Fichman et al., 2014).

In addition, digital transformation enables firms to interact with customers in a more personalized and responsive manner, leading to increased customer satisfaction and loyalty and ultimately improved market performance (Chen et al., 2014; Luo et al., 2018). Through data-driven insights gained from digital channels, firms can better understand customer preferences, anticipate market trends, and customize products to meet changing needs (Verhoef et al., 2015). In addition, digital platforms enable organizations to leverage social media, online communities, and other digital channels to expand their reach, increase brand awareness, and foster stronger customer relationships (Hanna et al., 2013; Mangold & Faulds, 2009).

In addition, digital transformation helps to increase organizational agility and responsiveness,

enabling firms to adapt more effectively to dynamic market conditions and seize emerging opportunities (Kane et al., 2015; Ross et al., 2017). By leveraging real-time data analytics and predictive modeling, firms can rapidly iterate on strategy, optimize resource allocation, and seize competitive advantage in fast-paced markets (Bharadwaj et al., 2013; Zhu et al., 2020).

However, despite the theoretical plausibility of these arguments, empirical evidence linking organizational innovation, digital transformation strategies and market performance remains scarce. Therefore, this study attempts to fill this gap by empirically investigating the mediating role of digital transformation strategies between organizational innovation and market performance. By employing rigorous quantitative analysis and drawing on insights from different industries, this study aims to provide managers and policymakers with actionable insights to help them navigate the complexities of the digital age and leverage innovation for sustainable competitive advantage.

Research Objective (s)

Objective 1: To investigate the relationship between organizational innovation and market performance.

Objective 2: Explore the mediating role of digital transformation strategies.

Objective 3: Provide practical recommendations for managers and policy makers.

Literature Review

Schumpeter (1912) first coined the term “innovation” and proposed that innovation is the formation of a new production function, which mainly includes five aspects of innovation, namely, new products, new technologies, new markets, new sources of raw materials and new organizational forms. Even though Schumpeter did not conduct specific research on organizational innovation, scholars have gradually opened the “black box” of organizational innovation research since then, promoting the formation of organizational innovation research network. Foreign scholars Richard (1978) put forward a dual-core model of organizational innovation - top-down and bottom-up - and found that the labor of people in the innovation will be unevenly distributed. Most of our scholars' definitions of organizational innovation do not differ much from the above. Many researchers all take the environment in which the organization is located into consideration and consider organizational innovation as a process of adjusting the organization internally in order to adapt to the environment. On the other hand, many researchers combined the innovation process on Richard's viewpoint and divided organizational innovation into three stages: innovation formation, realization and solidification.

In the dimensional division of organizational innovation, most scholars agree to divide it into technological innovation and management innovation. And compared with management innovation, technological innovation is relatively mainstream in the study of organizational innovation. The earlier

classification of foreign countries is Knight's article in 1967, which divides organizational innovation into product innovation, personnel innovation, structural innovation and process innovation. From the perspective of content, there are also scholars, including Damanpour and Drucker, who divide organizational innovation from the two dimensions of management and technology; a few researchers believe that it can be divided into culture- and employee-centered innovation and innovation centered on organizational strategy and structural approach. In recent years, Sorensen (2000) showed that there is a linear correlation between the time of organizational establishment and the speed of organizational innovation. After Lin & Huang (2004) verified the mechanism of organizational learning's role in organizational innovation, Lu et al. (2018) further used strategic learning as the independent variable and utilized the knowledge management process dimension to explore its positive effect on organizational innovation with different mechanisms.

Market performance research began with classical economists such as Adam Smith, Ricardo and Mill, and experienced the marginalist revolution and the rise of neoclassical economics. The efficient market hypothesis proposed by Eugene Fama laid down the concept of market efficiency but was challenged by behavioral finance. Behavioral finance emphasized the importance of investor behavioral biases and market anomalies such as momentum and value effects. External factors such as regulatory policies and geopolitical events also have an impact on market performance, such as financial regulations after the Great Depression and regulatory acts after the 2008 financial crisis. Technological advances such as the emergence of electronic trading platforms and cryptocurrencies have changed the market structure. Overall, market performance research reflects the impact of advances in economic theory, changes in market structure, and real-world events, making it a dynamic interdisciplinary field of study. Chen (2015) empirically analyzed the impact of market concentration on market performance in China's logistics industry by constructing an econometric model. Wang (2015) empirically analyzed the relationship between market structure, behavior and market performance in China's logistics industry. Economic growth, investment and so on have a promoting effect on the development of China's logistics industry. Xiong (2009) analyzed the relationship between market structure, market behavior and performance of dairy products industry under different market structures, and constructed the relationship between the three through data analysis. Finally, feasible suggestions were made for the development limitations of dairy companies.

As early as 2000, Patel and McCarthy (2000) applied the concept of digital transformation to business management research. However, it was not until 2014 that digital transformation gained more attention in industry and academia. Discussions on the topics of digitization and digital transformation have gained the combined attention of a variety of disciplines, including information systems research and management studies. Information systems researchers tend to explore how firms adopt and use digital technologies and the direction of new digital technologies based on a technology application

perspective (Skog & Wimelius et al., 2018). Scholars in the field of business management research, on the other hand, are more focused on exploring the changes that digital technologies have brought to organizations' key business operations and organizational operating logics, as well as the changes that such transformations have brought to the enterprises' original products/services, business processes, organizational structures, and management philosophies. Existing studies believe that the digital transformation of enterprises is by no means a simple application of digital technology, and that this transformation runs through a wide range of organizational activities such as business models, organizational operation processes, business models and organizational structures in the process of organizational management. For example, some scholars define the digital transformation of an enterprise based on the value chain perspective of the business model as its reshaping of the enterprise value creation model through digitization, i.e., the organizational transformation of how an enterprise uses digital technology in order to develop a new digital business model and create more value (Kane and Palmer et al., 2017:Schallmo and Williams et al., 2017).

From a disciplinary perspective, scholars in the field of information systems research focus on the impact of digital technologies with unique characteristics on strategic change in firms, such as the heterogeneity, verifiability, and self-referentiality of digital technologies (Skog and Wimelius et al., 2018), and many management researchers have argued that digital technologies with these unique characteristics do not just change the physical attributes of products and resources; they also change the existing logic of organizational operations, such as corporate strategy (Chen & Wang, et al., 2020). Research from an economic perspective has explored the deep-seated impact of digital technology on the overall economic pattern and industrial laws, and explored the “emerging digital technology + real enterprise” model that implies industrial integration, innovation drive, and the characteristics of the new economic pattern, such as the in-depth integration of the mobile Internet, the Internet of Things, big data, cloud computing, artificial intelligence, etc., with the real enterprise and the derivation of a data-driven element, which is a key element of the new economy. derive a new economic form and industrial development law with data as the driving element (Li, 2016).

The relationship between organizational innovation, market performance and digital transformation strategy is intricate and dynamic. Organizational innovation is a driver of market performance and empowers organizations to develop innovative products, processes, and business models to better meet customer needs and differentiate themselves from competitors. By implementing a digital transformation strategy, organizations can enhance their ability to innovate, streamline operational processes, and leverage technology to gain a competitive advantage in the marketplace. Digital transformation provides the tools and capabilities needed to effectively conceptualize and execute new solutions and is a catalyst for organizational innovation. Digital technologies such as artificial intelligence, data analytics, and cloud computing enable organizations to collect, analyze, and

leverage large amounts of data to inform decisions and drive innovation. In addition, digital transformation fosters collaboration and knowledge sharing across organizational boundaries, fostering creativity and a culture of experimentation.

At the same time, market performance plays a key role in determining the success or failure of digital transformation initiatives and organizational innovation efforts. Organizations must continuously monitor and assess market dynamics, customer preferences, and competitive forces to adjust their digital transformation strategies and innovate effectively. Market feedback and performance metrics provide valuable insights that inform strategic decisions and resource allocation.

Methodology

In this paper, the research and measurement of organizational innovation from the perspective of the division of management innovation and technological innovation, the questionnaire design of this paper is carried out after combing the mature scales used by scholars such as Damanpour (1991), Wang & Zhu (2009), and Tang, et al. (2018); the market performance scale is designed to reflect the organization's effectiveness, competitiveness, and adaptability in the market environment by covering the dimensions of market performance and referring to Chin & Dale (2021) and Lee et al. (2018). The market performance scale collectively defines market performance by covering dimensions that reflect the effectiveness, competitiveness, and adaptability of organizations in the market environment and is revised with reference to the studies of Chin & Dale (2021), Lee et al. (2018), Zhu, et al. (2021), etc.; The study in this paper takes the digital transformation strategy as a holistic variable to be studied with reference to the tests of domestic and foreign scholars (Wang & Feng et al., 2020; Zhu & Lin et al., 2022).

This study focuses on the middle and senior management of manufacturing companies, who play a crucial role in the operation and development of the company. The study population and sample size are two important considerations in the study of middle and senior managers in manufacturing companies. Clearly defining the research population and determining an appropriate sample size are key steps in ensuring the validity and reliability of the research results, which are important for promoting the development of the manufacturing industry and enhancing overall competitiveness. By scientifically and rationally designing the research program and sample strategy, the value and impact of the study can be effectively enhanced, providing strong support for the sustainable development and innovation of the manufacturing industry.

Since the sample size is unknown and the percentage of the population is unknown.

$$n=\frac{Z^2}{4e^2}$$

$$n=\frac{(1.96)^2}{4\ (0.05)^2}=384.16$$

Therefore, the minimum acceptable sample size is 384.

The questionnaire study of top executives in manufacturing companies, with a sample size of 550 and 531 valid questionnaires returned, with a 96.5% recovery rate, utilized a snowball sampling method, gradually expanding the sample through social networks and contacts. The questionnaires were sent to the selected respondents through the online survey platform, e-mail or postal mail to ensure the representativeness and diversity of the sample. During the implementation of the survey, the validity and completeness of the questionnaire were emphasized, while respecting the privacy and free will of the respondents.

Results

Of the 531 respondents in this study, 129 (24.3%) had 1 to 5 years of service, 265 (49.9%) had 6 to 10 years of service, 111 (20.9%) had 11 to 15 years of service, and 26 (4.9%) had greater than 16 years of service. The number of mid-level employees was 444, or 83.6%, and the number of top-level employees was 87, or 16.4%. The number of employees working in large-sized enterprises is 74 (13.9%), the number of employees working in medium-sized enterprises is 180 (33.9%), and the number of employees working in small-sized enterprises is 277 (52.2%). The number of people who belonged to enterprises established from 1 to 5 years was 286 (53.9%), from 6 to 10 years was 115 (21.7%), from 11 to 15 years was 67 (12.6%), and from 16 years or more was 63 (11.9%).

In the regression analysis of the effect of organizational innovation on market performance, the adjusted R-squared was 0.801. organizational innovation (independent variable) explained 80.1% of the variance in market performance (dependent variable). In the test of variance, the F-value is 2140.905 and the significance p-value is .000b less than 0.01, which means that the regression model is highly significant at the 0.01 level and the model is usable and meaningful. After analyzing the coefficients we found that the unstandardized coefficient of organizational innovation is 0.799 and the standardized coefficient is 0.,895 with a p-value of 0.000, which means that there is a strong positive correlation between organizational innovation and market performance, and in conclusion it can be also shown that organizational innovation has a significant predictive power on market performance. In the regression analysis of the impact of organizational innovation on digital transformation strategy, the significance p-value is less than 0.01, which means that the regression model is very significant at the level of 0.01, and the model is usable and meaningful. In the regression analysis of the effect of organizational innovation on market performance, the significant P-value of organizational innovation on market performance is less than 0.01; in the regression analysis of the effect of digital transformation strategy on innovative behaviors, the significant P-value of digital transformation strategy on innovative

behaviors is less than 0.01; and the absolute value of the coefficient of organizational innovation on market performance in model 2 is smaller than the coefficient of organizational innovation on market performance in model 1. Therefore, it is a partial mediation effect, digital transformation strategy plays a mediating role between organizational innovation and market performance, that is, the impact of organizational innovation on market performance is affected by digital transformation strategy.

Discussion

1. Positive Relationship between Organizational Innovation and Market Performance

The first finding underscores a significant positive relationship between organizational innovation and market performance. This corroborates numerous recent studies that have emphasized the pivotal role of innovation in driving organizational success and competitive advantage (García-Morales et al., 2019; He et al., 2020). Organizational innovation encompasses a broad spectrum of activities, including product innovation, process innovation, and business model innovation (Lichtenthaler & Lichtenthaler, 2020). By continually innovating, organizations can enhance their product offerings, streamline operations, and adapt to changing market dynamics, thereby bolstering their market performance.

2. Predictive Power of Organizational Innovation on Market Performance

The second finding underscores the predictive power of organizational innovation on market performance. This implies that organizations that prioritize innovation are more likely to achieve superior market outcomes in the long run. This aligns with the resource-based view (RBV) of the firm, which posits that internal resources and capabilities, such as innovation prowess, are key determinants of competitive advantage and performance (Barney, 1991; Peng et al., 2019). By investing in innovation initiatives, organizations can foster sustainable growth, enhance customer satisfaction, and outmaneuver competitors in the marketplace.

3. Mediating Role of Digital Transformation Strategy

The third finding introduces the mediating role of digital transformation strategy in the relationship between organizational innovation and market performance. In today's digital age, organizations are increasingly leveraging technology to drive innovation and achieve strategic objectives (Bharadwaj et al., 2013; Henfridsson et al., 2018). Digital transformation entails the integration of digital technologies across all aspects of the organization, encompassing processes, people, and systems (Westerman et al., 2014). By serving as a mediator, digital transformation strategy amplifies the impact of organizational innovation on market performance by facilitating the adoption and diffusion of innovative practices throughout the organization (Zhu et al., 2021). This underscores the importance of aligning innovation efforts with digital transformation initiatives to maximize their effectiveness and capitalize on emerging opportunities in the digital landscape.

In conclusion, the findings underscore the importance of fostering a culture of innovation within organizations and leveraging digital technologies to drive transformative change. By embracing innovation and digital transformation, organizations can enhance their competitiveness, adaptability, and resilience in an increasingly dynamic and digitalized business environment.

Conclusions

This study provides valuable insights into the intricate interplay between organizational innovation, market performance, and the mediating role of digital transformation strategies. Through empirical analysis, we identify a significant positive relationship between organizational innovation and market performance, thus affirming the importance of organizational innovation in driving organizational success. Furthermore, the predictive power of organizational innovation on market performance highlights the long-term strategic importance of fostering an innovative culture within organizations. Furthermore, the study reveals the mediating impact of digital transformation strategies on the relationship between organizational innovation and market performance. In the contemporary digital environment, firms are increasingly recognizing the need to integrate digital technologies into their innovation programs in order to achieve strategic goals and gain competitive advantage. Digital transformation is a catalyst that amplifies the impact of organizational innovation on market performance through the seamless adoption and diffusion of innovative practices throughout the organization.

In summary, this study contributes to the field of theory and practice by elucidating the synergistic relationship between organizational innovation, digital transformation strategies, and market performance. By embracing innovation and strategically leveraging digital technologies, organizations can navigate the complexities of the modern business environment, enhance their competitiveness, and drive sustainable growth in the digital age. To improve organizational performance, it is paramount to foster a culture of innovation that encourages creativity and risk-taking among employees. At the same time, it is imperative to invest in a strong digital transformation strategy that enables organizations to effectively leverage technology and remain competitive in the digital age. Seamlessly integrating innovation into a digital strategy can drive continuous improvement and agility, ensuring alignment with changing market needs. Open innovation practices further enrich the innovation ecosystem by leveraging external expertise and resources. Continuous learning and adaptation are critical to navigating the dynamic digital environment, hence the need to invest in employee training and development programs.

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