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Dynamic Capability, Disruptive Innovation and Enterprise Performance: Theoretical Model

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Abstract

After experiencing the impact of COVID-19, enterprises have gradually realized that only by constantly adapting to the external dynamic environment, cultivating dynamic capability and carrying out disruptive innovation can they improve performance and bring long-term development. Dynamic capability and disruptive innovation have become the focus of enterprise strategic research. Based on the perspective of dynamic capability and disruptive innovation, this study analyzes relevant literature, divides dynamic capability into three dimensions: sensing opportunities capability, resource integration capability and organizational reconfiguration capability and divides disruptive innovation into two dimensions: product disruptive innovation and mode disruptive innovation. On the basis of dimension division, this study puts forward the following hypotheses. Sensing opportunities capability has a positive impact on product disruptive innovation. Resource integration capability has a positive impact on product disruptive innovation. Organizational reconfiguration capability has a positive impact on product disruptive innovation. Sensing opportunities capability has a positive impact on mode disruptive innovation. Resource integration capability has a positive impact on mode disruptive innovation. Organizational reconfiguration capability has a positive impact on mode disruptive innovation. Product disruptive innovation has a positive impact on enterprise performance. Mode disruptive innovation has a positive impact on enterprise performance. This study establishes a theoretical model of dynamic capability, disruptive innovation and enterprise performance and provides new insights for the development of enterprise strategic management practice.

Keywords: Dynamic capability, Disruptive innovation, Enterprise performance, Resource, Product, Mode

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Introduction

The acceleration of technological innovation has made the competitive environment of enterprises show dramatic dynamic changes (Shrivastava, 2015; Xiong et al., 2017). The decisive influence of knowledge and technology on enterprise performance and competitive advantage is becoming increasingly prominent (kabanoff, 2018). If an enterprise wants to survive and develop, it must reasonably and timely search, obtain, use and coordinate resources of all aspects and levels to adapt to the changes of external conditions and internal state. That is, it must cultivate dynamic capability, so that it can obtain a certain degree of mobility and agility in the turbulent competitive environment

(Mudalige et al., 2019). After the COVID-19, innovation, especially disruptive innovation, has become a decisive factor in enhancing the comprehensive strength and core competitiveness of enterprises. Whoever can lead the disruptive innovation will be able to take the initiative (Ruta&Emil, 2022).

Dynamic capability consists of organizational and management processes and routines, which allow enterprises to integrate, learn and reconfigure organizational resources by absorbing knowledge, so that enterprises can achieve new resource allocation (Teece & Pisano, 1997). Dynamic capability, as a competitive advantage acquisition mechanism, can help enterprises adapt to complex and changeable environment and promote enterprise performance (Vecchiato, 2017; Haque et al., 2018; Liu et al., 2022). Dynamic capability, as a subset of capabilities, allows companies to develop new products to cope with the changing market environment and provide innovation as the result in this process, sometimes disruptive innovation as the result (Karimi & Walter, 2018).

Disruptive innovation introduces a set of features and performance attributes different from existing products and provides them at a lower price. Due to the poor performance of attributes valued by mainstream customers, this combination is not attractive to mainstream customers when introducing products. However, a new customer segment (or the more price-sensitive mainstreammarket) finds value in the innovation's new attributes and lower price (Christensen et al., 2006). Disruptive innovation can not only help enterprises win market opportunities, but also play an important role in the improvement of enterprise performance. With the increasingly fierce market competition, there are more and more opportunities for enterprises to learn and imitate each other. Incremental innovation mode shows more inefficiency, unable to capture the latest market opportunities in time, while the core competence created by disruptive innovation mode forms strong market competitiveness, which has an important impact on enterprises to occupy market competitive advantage in a long period of time (Florian et al., 2020). Therefore, both incumbent enterprises and start-ups should be aware of the need to break the original competition pattern and seize part of the market segments through disruptive innovation mode, so as to shape new core competence and long-term competitive advantage through disruptive innovation. Under the new era background, especially after the COVID-19 epidemic, enterprises have been given the mission of traction and integration of disruptive innovation. (Huang et al., 2019).

However, there is a lack of studies on the relationship between dynamic capability and disruptive innovation. In addition, the existing research has not given a reasonable explanation to the question of "what kind of innovative actions can be taken by dynamic capability to improve enterprise performance". Therefore, this study takes "how dynamic capability improve enterprise performance through innovative actions" as the research starting point, focuses on the performance mechanism of dynamic capability, takes the research of Day and Wensley (1988) as the theoretical basis, uses the views of Teece (2007) and Jiao et al. (2021) for reference, identifies various types of dynamic capability, and introduces disruptive innovation as the mediating variable. This study tries to establish theoretical models of dynamic capability, disruptive innovation and enterprise performance, and puts forward relevant propositions to promote the development of enterprise performance theory and practice.

Literature Review

Dynamic Capability

Since the resource-based view and core competence theory cannot explain how enterprises respond to environmental changes, Teece put forward the concept of dynamic capability in 1997. However, scholars have different definitions of dynamic capability due to different research backgrounds and practical environments. Based on the research of scholars, the definition of dynamic capability can be basically summarized into three aspects: the meaning of knowledge view, the meaning of convention view and the meaning of capability view. Dynamic capability based on the process of knowledge accumulation first uses the internal absorption capability to obtain knowledge outside the organization, and then relies on the knowledge integration capability to realize the internal knowledge innovation of the organization, so as to promote the formation of dynamic capability

(Tallott &Hilliard, 2016). All conventions included in the enterprise operation process that can guide the enterprise resource allocation constitute dynamic capabilities (Pasamar et al., 2015). Dynamic capability consists of the ability of enterprises to perceive external opportunities and challenges, the ability to master resources and the ability to reallocate resources (Wohlgemuth and Wenzel, 2016).

Dynamic capability is difficult to operate and test, so it is necessary to measure this variable in a reasonable way. It is also important to clarify the specific dimensions or cmponents of dynamic capability. Dynamic capability can be divided into perception and integration capability, learning capability, reconstruction and transformation capability (Mudalige et al., 2019). Dynamic capability can be divided into opportunity perception capability, resource integration capability and resource reconstruction capability (Feng and Wei, 2011). According to Barreto (2010), dynamic capability can be divided into perceived opportunities and threats, planned decisions, made decisions, and changed resource-based capabilities. Dynamic capability can be divided into identification capability, regulation capability, autonomy capability and reconfiguration capability (Chiua et al., 2016). Dynamic capability can be divided into perception capability, coordination capability, learning and integration capability and reconfiguration capability (Ilmudeen et al., 2020) . According to the research background and research problems, this paper divides dynamic capability into three dimensions: the ability to sense opportunities, the ability to integrate resources and the ability to change organizations.

In the research on the relationship between dynamic capability and enterprise performance, most scholars believe that dynamic capability can improve enterprise performance. Dynamic capability can improve enterprise competitive advantage and further improve enterprise performance (Wang et al., 2015). Taking Alibaba as an example, enterprises that are good at transforming big data into knowledge and forming innovation inertia will eventually gain competitive advantage by improving their dynamic capability (Chen et al., 2021).

Disruptive Innovation

Disruptive innovation refers to the process in which enterprises introduce technology products or business mode to meet the needs of low-end or new users, gradually undermine existing rules, and even replace existing enterprises (Christensen et al., 2006) . Disruptive innovation includes two types: low-end innovation and new market disruptive innovation. Low-end innovation refers to that enterprises provide technologies with similar characteristics with the performance of existing technologies at a lower cost, while new market innovation refers to that the market has new demand points for new technology products (Si et al., 2020).

Disruptive innovation can be divided into two levels: new market subversion and low-end market subversion (Christensen, 2015). In addition to disruptive innovation in new markets and low-end markets, disruptive innovation in mixed markets is also common (Zhu, 2016). From the perspective of destructive cognition, disruptive innovation can be divided into export-oriented innovation and inward oriented innovation. Export-oriented innovation emphasizes the introduction of products or services from outside the market. The inward type focuses on importing products or services from the existing market to erode and replace the existing mainstream market share (Lin et al., 2017). According to the research background and research problems, this paper divides disruptive innovation into two dimensions: product disruptive innovation and mode disruptive innovation.

In the initial stage, channel innovation behavior can improve market performance by reducing enterprise costs and influencing consumer preferences, while customer education and product improvement behavior can affect market performance by increasing consumer preferences for the performance of disruptive innovative products; In the growth period, the product improvement behavior can continuously improve consumers' acceptance of disruptive innovative products, and cause disruptive attacks on incumbent enterprises. In addition, as the enterprise's strategic business unit's autonomy continues to increase, balanced pricing continues to decline, which affects consumers' preference level and improves market performance (Shi et al., 2017). Small enterprises (or enterprises with weak marketing ability) can shake the market monopoly position of large enterprises through disruptive innovation, but it is impossible to infer that small enterprises will succeed in doing so. As long as large enterprises can always maintain sensitive insight into the

development prospects of disruptive innovation technologies and necessary innovation investment in the process of improving existing products, small enterprises will not be difficult to adopt aggressive strategies of disruptive innovation (Chen and Yu, 2019).

Enterprise Performance

In the field of management, enterprise performance is a multi-level concept, an important indicator to measure the organizational operation effect and efficiency, and a general term for all the results achieved by enterprises in the implementation of production and operation activities (Li, 2019).

Enterprise performance can be measured by financial indicators and non-financial indicators. Financial indicators include the profitability, solvency, asset management ability, growth ability, equity expansion ability, main business status, etc. When studying the impact of market orientation on the economic performance of enterprises through product development management process, supply chain management process and customer relationship management process, the profit margin, return on investment and return on total assets of major competitors can be used to measure the economic performance of enterprises (Jaakkola et al., 2016). The ratio of the market value of the enterprise to the replacement cost of capital Tobin Q can be used to measure economic performance (Bassiti et al., 2018). The total assets yield can be used to measure the performance of enterprises. Based on the quarterly data of share listed companies in the second quarter of the 2018-2021 quarter, the impact of COVID-19's internal control quality on enterprise performance was analyzed (Zheng and Liu, 2021). Indicators of non-financial performance of enterprises mainly include enterprise growth, sales growth, relationship performance, customer performance, market performance, etc. (Kohtamaki et al., 2013). Productivity can be used to measure enterprise performance, so as to explore the impact of service-oriented on enterprise productivity (Zhou et al., 2017; Lv et al., 2017). When studying the relationship between professional knowledge search, management innovation and enterprise performance, enterprise performance can be measured from two aspects: financial performance and market performance (Yu et al., 2020). This paper takes financial indicators and non-financial indicators as the measurement indicators of enterprise performance.

Hypotheses Development

Dynamic capability and Disruptive Innovation

In the practice of disruptive innovation, the accurate identification of the direction and timing of disruptive innovation depends on the relevant capabilities of enterprises. Through sensing capability, enterprises can grasp the dynamic changes of national macro-policies, industrial development trends, technological development trends, competition patterns and stakeholder needs, timely perceive opportunities and threats in the external environment, and accurately assess their own resources and capabilities, so as to identify the correct direction and grasp the appropriate timing of disruptive innovation (Kammerlander & Richards, 2018).

After identifying opportunities, enterprises need to integrate and utilize existing resources quickly. With the help of resource integration capability, it is easier for enterprises to lay knowledge foundation for the best scheme to develop the above opportunities, rapidly develop new markets or develop new technologies and other innovative achievements to match opportunities, bring new products and effectively implement disruptive innovation (Parry & Kawakami, 2017). Disruptive innovation need new organizational system and organizationalmanagement to support, and require corresponding organizational and cultural changes. The essence of organizational change is the change of organizational management and process. With the help of organizational reconfiguration capability, the implicit knowledge of organizational members is gradually transformed into a new understanding of the organization, generating new knowledge, and then promoting the change of operation process and business practices (Cao et al., 2020).

Therefore, the following hypotheses are put forward in this study:
H1: Dynamic capability has a positive impact on disruptive innovation.
H1a: Sensing opportunities capability has a positive impact on product disruptive innovation.
H1b: Resource integration capability has a positive impact on product disruptive innovation.
H1c: Organizational reconfiguration capability has a positive impact on product disruptive innovation.
H1d: Sensing opportunities capability has a positive impact on mode disruptive innovation.
H1e: Resource integration capability has a positive impact on mode disruptive innovation.
H1f: Organizational reconfiguration capability has a positive impact on mode disruptive innovation.

Disruptive Innovation and Enterprise Performance

The introduction of new technologies and the development of new skills can greatly enhance the performance level of existing products, develop the functional effects of new products, significantly reduce cost investment, develop new product lines and the latest business areas, actively promote the functional relationship between suppliers and customers, and expand the latest development market (Rice et al., 2018). Those enterprises that can fundamentally realize rapid changes in decision-making management and formal institutions have more advantageous performance than those enterprises that choose gradual reform (Miller et al., 2019). During the continuous response period related to basic environmental change, enterprises carrying out disruptive change will have stronger performance advantages than those enterprises with no obvious change (Virany et al., 2017). Moreover, many case studies related to product disruption also make it clear that the development of disruptive innovation does have a strong driving function on enterprise performance. Product disruptive innovation improves the diversification of enterprise strategic behavior development by changing the enterprise vision and its technical level, so as to enhance its competitive development advantage in the market to a great extent. Mode disruptive innovation can help enterprises better expand new markets, obtain new customers and develop new supply channels, so as to help enterprises achieve a higher level of performance (Jiang, 2020). Therefore, the following hypotheses are put forward in this study:

H2: Disruptive innovation has a positive impact on enterprise performance.
H2a: Product disruptive innovation has a positive impact on enterprise performance.
H2b: Mode disruptive innovation has a positive impact on enterprise performance.
Based on the above analysis, this study constructs a theoretical model of dynamic capability, disruptive innovation and enterprise performance, as shown in Figure 1.

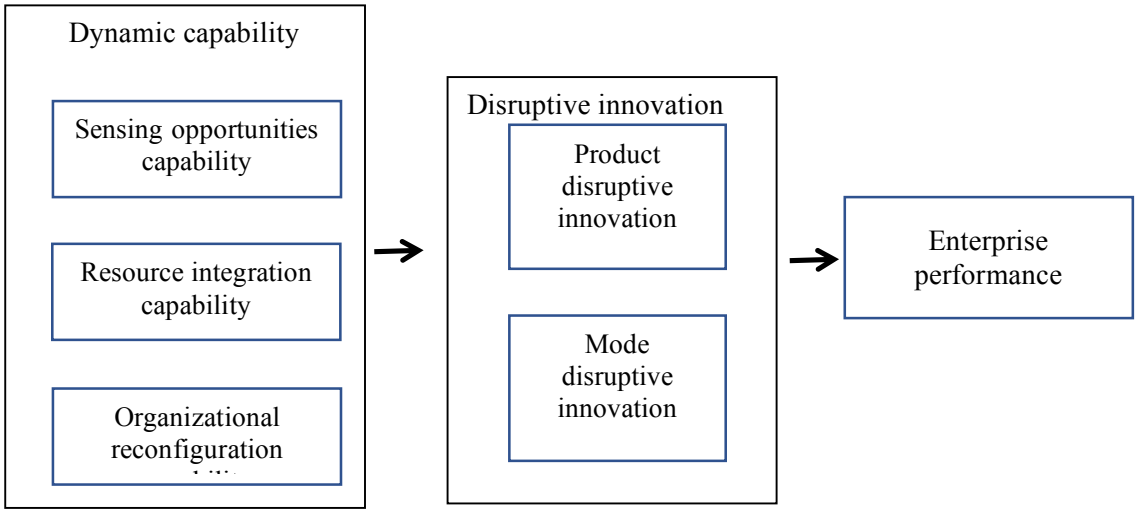

Figure 1：A Theoretical Model of Dynamic Capability, Disruptive Innovation and Enterprise Performance

Research Limitation and Future Direction

This paper has only completed the basic work of the theoretical framework of dynamic capability, disruptive innovation and enterprise performance, and the follow-up research can be divided into three parts. Firstly, typical enterprises can be selected for case studies to further modify and improve the theoretical framework proposed in this paper. Secondly, as high-tech enterprises are practitioners of innovation-driven strategies, based on the theoretical framework and related propositions formed in this paper, a large sample of high-tech enterprises in China can be selected to conduct a questionnaire survey to test the theoretical framework and related hypotheses. Finally, a mixed study and even comparative studies can be used to further reveal the mechanism among dynamic capability disruptive innovation and enterprise performance.

Conclusion

There is no complete research on what kind of innovative actions dynamic capability can take to improve enterprise performance. On the basis of literature research and theoretical discussion, this study establishes a theoretical model of dynamic capability, disruptive innovation and enterprise performance, and extracts relevant propositions.

Compared with the previous studies, the main contributions of this paper are as follows: this paper contributes in explaining the mechanism and path of the relationship between dynamic capability and enterprise performance from the perspective of disruptive innovation. It is of great significance to enrich, improve and develop enterprise performance theory, promote enterprises to improve dynamic capabilities and disruptive innovation capabilities, and ultimately improve enterprise performance.

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