

Research on the Impact of Internet Application Level on Enterprise Competitiveness

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Abstract

With the rapid development of Internet technology and its widespread application in the commercial field, it is particularly important to study the impact of Internet application level on enterprise competitiveness. Through literature review and theoretical analysis, this study defines the concept and classification of Internet application, and explores the components of enterprise competitiveness. Based on the resource-based view and dynamic capability theory, this paper constructs an analytical framework for the impact of Internet application on enterprise competitiveness. The study found that the improvement of Internet application level can significantly enhance the operational efficiency, innovation ability, market responsiveness and brand value of enterprises. Specifically, it is manifested in: optimizing supply chain management and production efficiency, supporting R&D and business model innovation, improving customer relationship management and market information acquisition capabilities, and enhancing brand communication and corporate image management through social media. Through case analysis of typical enterprises, this paper summarizes the successful experiences and failure lessons of Internet application, and puts forward strategic suggestions for improving the level of enterprise Internet application, including formulating clear strategic goals for Internet application, increasing technology investment, cultivating professional talents for Internet application, innovating management mechanisms and strengthening win-win cooperation. Finally, this paper summarizes the research conclusions, points out the limitations of the research, and proposes future research directions. This study provides a theoretical basis and practical guidance for enterprises to enhance their competitiveness in the Internet era, which has important theoretical and practical significance.

Keywords

Internet Application; Enterprise Competitiveness; Operational Efficiency; Innovation Capability; Market Responsiveness.

1. Introduction

1.1. Research Background

The rapid development of Internet technology and its wide application in business are profoundly changing the way enterprises operate and the market structure. The Internet not only provides a wealth of information resources and communication platforms, but also penetrates into various business links of enterprises through various forms such as e-commerce, social media, and big data. Specifically, enterprises can use Internet technology to achieve rapid transmission and sharing of information on a global scale, thereby improving decision-making efficiency and operational benefits. For example, e-commerce platforms enable enterprises to break through geographical restrictions and sell products directly to global customers; big data technology helps enterprises analyze market trends and consumer

behavior, thereby formulating more accurate market strategies. In addition, with the development of 5G technology and the popularization of the Internet of Things, the importance of the Internet in corporate strategic planning is also increasing, becoming one of the key factors in corporate competitiveness. Therefore, studying the specific impact of the level of Internet application on corporate competitiveness has important practical significance and academic value.

1.2. Research Objectives

This study aims to explore the specific impact of the level of Internet application on corporate competitiveness. Through theoretical analysis and actual cases, it reveals the role of Internet applications in improving corporate operational efficiency, promoting innovation, enhancing market responsiveness, and enhancing brand value. Specifically, the study will systematically analyze the impact of Internet applications on supply chain management, production process optimization, R&D innovation, market expansion, customer relationship management, and brand building by constructing an analytical framework. At the same time, the study not only focuses on the direct impact of Internet applications on corporate competitiveness, but also explores its indirect impact and potential mechanisms, such as how Internet technology can improve the overall competitiveness of enterprises by improving internal communication and improving employee work efficiency. In addition, this article will also put forward practical strategic suggestions to help enterprises better use Internet technology to improve their competitiveness, so as to occupy a favorable position in the fierce market competition.

1.3. Research Significance

This study is of great significance both in theory and practice. On the theoretical level, this paper enriches the theory of enterprise competitiveness by systematically analyzing the relationship between the level of Internet application and enterprise competitiveness, supplements the research results in the field of Internet application, and helps the academic community to have a more comprehensive understanding of this field. Specifically, the study will integrate existing theoretical and empirical research, propose new analytical frameworks and hypotheses, and further reveal the role of Internet technology in the formation of enterprise competitiveness. On the practical level, the research results of this paper will provide enterprises with specific guidance on Internet application, help them identify and grasp the opportunities brought by Internet technology, and improve their market competitiveness. By formulating scientific and reasonable Internet application strategies, increasing technology investment, cultivating professional talents, innovating management mechanisms, and strengthening win-win cooperation, enterprises can achieve sustainable development and competitive advantages in the Internet era. For example, enterprises can optimize supply chain management, improve production efficiency, and reduce operating costs by introducing advanced Internet technologies, thereby gaining an advantageous position in market competition.

2. Literature Review

2.1. Research on the Enterprise Competitiveness Evaluation System

Wei Xiaoxu (2017) qualitatively analyzed the competitiveness of small and medium-sized coal trading companies and how to maintain their competitive advantage based on the theory of competitive strategy. Xiong Yanjun (2018) qualitatively analyzed the core competitiveness of a medical trading company using value chain identification analysis, skill identification analysis, and factor identification analysis. Gong Feifei (2018) and other scholars built a corporate competitiveness evaluation model based on the balanced scorecard model, which includes four dimensions: finance, customers, internal operations, and learning and growth. Casas et al. (2020) used the balanced scorecard theory to build a strategic planning model to help

companies improve their competitiveness. Kolumber et al. (2020) believe that understanding the balanced scorecard and continuously using it to evaluate companies can greatly improve the competitiveness of companies.

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Liu Na (2020) conducted a regression analysis using panel data and found that Internet applications have a significant positive effect on the development of China's foreign trade, and this effect varies from region to region. Guo Ran et al. (2021) studied the impact mechanism of Internet applications on the international competitiveness of manufacturing enterprises and found that the country's Internet applications can produce a significant innovation incentive effect, that is, the higher the level of national Internet applications, the stronger the motivation for technological innovation, which can enhance the international competitiveness of manufacturing enterprises. Kwarteng et al. (2021) conducted a study on 198 micro, small and medium-sized service enterprises and found that Internet channels help improve the market perception of enterprises and then indirectly enhance the competitiveness of enterprises. In addition, they believe that enterprises need to increase investment in Internet applications, especially investment in Internet marketing tools, and use them effectively to maintain the long-term competitiveness of enterprises. Pan et al. (2022) found that the integration of manufacturing enterprises with Internet technology and business can significantly enhance the degree of product differentiation of enterprises, thereby enhancing the competitiveness of manufacturing enterprises. Therefore, they suggest that enterprises increase investment in the Internet field, transform the resources obtained into effective enterprise resources, and enhance the competitive advantage of enterprises.

3. Theoretical Basis and Analytical Framework

3.1. Basic Theory

When studying the impact of Internet application level on enterprise competitiveness, the resource-based view and dynamic capability theory provide a solid theoretical foundation. The resource-based view (RBV) believes that the competitive advantage of an enterprise comes from its unique resources and capabilities. As an important enterprise resource, Internet technology is not only scarce and difficult to imitate, but also can enhance the operational efficiency and market responsiveness of enterprises through information flow, data analysis and customer interaction. Specifically, Internet technology can optimize the internal processes of enterprises, improve production efficiency and reduce operating costs; through big data analysis and artificial intelligence technology, it can help enterprises to accurately position the market and develop products, thereby improving market competitiveness. In addition, Internet technology can also promote cooperation and resource sharing among enterprises, build a collaborative network among enterprises, and further enhance the overall competitiveness of enterprises.

The Dynamic Capabilities Theory emphasizes the ability of enterprises to maintain their competitive advantage by constantly updating and reorganizing resources in a rapidly changing environment. Internet applications, as an important part of the dynamic capabilities of enterprises, can enhance the ability of enterprises to adapt to environmental changes. Specifically, Internet technology helps enterprises quickly capture market changes and consumer demand dynamics through real-time data analysis and market monitoring, so as to adjust strategies and operating models in a timely manner. At the same time, Internet technology also supports enterprises to flexibly allocate resources and adjust their businesses in the face of market uncertainties. For example, enterprises can quickly expand new markets

through e-commerce platforms, or achieve rapid expansion and reduction of businesses through cloud computing technology. In addition, Internet technology also promotes the formation of knowledge sharing and innovation culture within enterprises, and enhances the innovation ability and market adaptability of enterprises. Therefore, Internet applications are not only an improvement of static resources of enterprises, but also a manifestation of dynamic capabilities, providing strong support for enterprises to maintain their competitive advantages in a complex and changing market environment.

3.2. Analytical Framework

In order to systematically analyze the impact of the level of Internet application on corporate competitiveness, it is necessary to establish a scientific analysis framework. The first is the measurement indicators of the level of Internet application. The level of Internet application can be evaluated through multiple dimensions, including the degree of technology application, application scope, application depth and application effect. Specific measurement indicators may include the investment and application of enterprises in e-commerce, social media, big data analysis, cloud computing and the Internet of Things. For example, the transaction volume of enterprises on e-commerce platforms, the amount of user interaction on social media, the frequency and effect of market analysis using big data technology, etc. can all be used as important indicators to measure the level of Internet application. Through these quantitative indicators, the level of Internet application of enterprises can be comprehensively evaluated, thus providing data support for subsequent analysis.

The second is the evaluation system of enterprise competitiveness. Enterprise competitiveness is a multi-dimensional concept, usually including market competitiveness, innovation ability, operational efficiency, brand value and customer satisfaction. Specific evaluation indicators may include market share, R&D input-output ratio, production efficiency, brand awareness and customer satisfaction index. In the analysis framework, it is necessary to conduct correlation analysis between the level of Internet application and various dimensions of enterprise competitiveness, and explore how Internet technology can comprehensively enhance enterprise competitiveness by optimizing operational processes, promoting innovation, enhancing market responsiveness and enhancing brand value. For example, by constructing a structural equation model (SEM) or a regression analysis model, the specific impact of the level of Internet application on various dimensions of enterprise competitiveness can be quantified, thereby revealing the mechanism and path of Internet application to enhance enterprise competitiveness. This analysis framework not only helps to carry out in-depth theoretical research, but also provides scientific guidance for enterprises to enhance their competitiveness in practice.

4. The Specific Impact of Internet Application Level on Enterprise Competitiveness

4.1. Improving Operational Efficiency

Internet technology plays an important role in improving the operational efficiency of enterprises. First, the application of Internet technology in supply chain management has greatly optimized the supply chain process. Through the Internet of Things, cloud computing and big data analysis, enterprises can achieve real-time monitoring and data sharing of all links in the supply chain, thereby improving the transparency and responsiveness of the supply chain. For example, enterprises can obtain suppliers' inventory information in a timely manner through Internet technology, conduct accurate demand forecasting and production scheduling, and reduce inventory costs and production cycles. Secondly, the role of Internet applications in the production process cannot be ignored. By introducing intelligent manufacturing

technologies such as industrial Internet and automated production systems, enterprises can achieve interconnection and data sharing of production equipment, improve production efficiency and product quality. In addition, Internet technology also supports enterprises to conduct remote monitoring and fault diagnosis, reduce equipment downtime and maintenance costs, and further improve operational efficiency.

4.2. Promoting Innovation Capabilities

Internet technology provides strong support for the R&D innovation and business model innovation of enterprises. First, in terms of R&D innovation, Internet technology helps enterprises to quickly process and analyze massive data and discover market demands and technological trends through big data analysis and cloud computing platforms. For example, enterprises can use Internet platforms for open innovation and invite experts and consumers from all over the world to participate in R&D activities, thereby accelerating the speed of innovation and improving the quality of innovation. Secondly, the Internet has brought about the innovation of new business models. For example, e-commerce platforms enable enterprises to break through geographical restrictions and sell products directly to global customers, thus achieving innovation in business models. In addition, emerging business models such as Internet finance, sharing economy and platform economy also provide enterprises with more innovation opportunities and development space. Through Internet technology, enterprises can not only enhance their own innovation capabilities, but also occupy a favorable position in a highly competitive market environment.

4.3. Enhance Market Responsiveness

Internet technology plays a significant role in enhancing the market responsiveness of enterprises. First, Internet applications have improved the quality and satisfaction of customer relationship management. Through customer relationship management systems (CRM) and social media platforms, enterprises can achieve real-time interaction and communication with customers, understand customer needs and feedback in a timely manner, and provide personalized services and products. For example, enterprises can publish new product information and promotional activities through social media platforms to attract customers to participate in interactions and improve customer satisfaction and loyalty. Secondly, the application of Internet technology in market research and analysis enables enterprises to quickly obtain and analyze market information. Through big data technology and artificial intelligence algorithms, enterprises can conduct in-depth analysis of market trends, consumer behavior and competitor dynamics, so as to formulate more accurate market strategies and marketing plans. This not only improves the market response speed of enterprises, but also enhances the flexibility and adaptability of enterprises in market competition.

4.4. Enhance Brand Value

The Internet plays an important role in enhancing the brand value of enterprises. First, the role of social media in brand building cannot be ignored. Through social media platforms, enterprises can carry out brand communication and marketing activities to enhance brand awareness and influence. For example, enterprises can publish brand stories, product information and customer reviews through social media to establish a good brand image and reputation. In addition, social media also provides a platform for interaction with customers, enhancing customers' brand identity and loyalty. Secondly, the application of the Internet in corporate social responsibility and image management also enhances the brand value of enterprises. Through the Internet platform, enterprises can publicly release social responsibility reports and environmental protection initiatives, demonstrate the efforts and achievements of enterprises in social responsibility, and enhance the social image and public trust of enterprises. For example, enterprises can share the progress and results of

environmental protection projects and demonstrate the sustainable development concept of enterprises through official websites and social media platforms, thereby enhancing the brand value and market competitiveness of enterprises.

5. Strategic Recommendations for Improving Enterprise Internet Application Levels

5.1. Strategic Planning

Formulating clear strategic goals and plans for Internet applications is the first step to improve the level of Internet application in enterprises. Enterprises need to comprehensively evaluate their current status of Internet applications and clarify the role and positioning of Internet technology in enterprise operations. Based on this, enterprises should formulate detailed strategic goals, including short-term, medium-term and long-term development plans. Short-term goals can focus on improving basic Internet facilities and technical levels, medium-term goals can focus on the in-depth application of Internet technology in production, management and marketing, and long-term goals should consider the strategic layout of Internet technology in innovation and sustainable development. In addition, enterprises need to formulate detailed implementation plans and evaluation mechanisms to ensure the effective implementation and continuous improvement of Internet application strategies. Through scientific strategic planning, enterprises can clarify the direction and path of Internet applications, thereby occupying a favorable position in the fierce market competition.

5.2. Technological Investment

Increasing investment in the research and development and application of Internet technologies is an important guarantee for improving the level of Internet applications in enterprises. First, enterprises need to continuously track and introduce advanced Internet technologies, including big data, cloud computing, the Internet of Things, artificial intelligence, etc., to improve the technical reserves and application levels of enterprises. For example, by introducing advanced cloud computing platforms, enterprises can achieve efficient storage and processing of data and improve the flexibility and scalability of information systems. Secondly, enterprises should increase investment in research and development, carry out independent innovation, and develop Internet application solutions suitable for their own business characteristics. For example, in response to the pain points in supply chain management, enterprises can develop customized Internet solutions to improve the efficiency and responsiveness of the supply chain. In addition, enterprises should also pay attention to the actual effect evaluation of technology applications to ensure that technology investment can effectively improve the operational efficiency and market competitiveness of enterprises.

5.3. Talent Cultivation

Cultivating Internet application professionals and improving employees' Internet application capabilities are the key to improving the level of enterprise Internet application. First, enterprises need to formulate systematic talent training plans, including recruitment, training and career development. For example, enterprises can attract and cultivate professionals with Internet technology backgrounds by cooperating with universities and research institutions. Secondly, enterprises should strengthen the training of on-the-job employees to improve their Internet technology application capabilities. For example, by organizing special training, technical seminars and practical operations, employees can master the latest Internet technologies and application methods. In addition, enterprises should establish a scientific incentive mechanism to stimulate employees' enthusiasm for innovation and practice in Internet applications. Through systematic talent training, enterprises can build a professional

team with high-level Internet application capabilities to provide strong support for the company's Internet applications.

5.4. Management Innovation

Establishing a new management mechanism that adapts to Internet applications is an important part of improving the level of Internet applications in enterprises. First, enterprises need to innovate in organizational structure and management model and establish a flexible and efficient management system. For example, through a flat organizational structure, the management level can be reduced and the efficiency of decision-making and execution can be improved. Secondly, enterprises should strengthen information management and establish a data-driven management mechanism. For example, by introducing an ERP system, efficient integration and management of enterprise resources can be achieved, and operational efficiency and decision-making level can be improved. In addition, enterprises should also focus on the optimization and reconstruction of management processes, combine Internet technology, simplify processes, and improve the transparency and controllability of management. Through management innovation, enterprises can better adapt to the needs of Internet applications and improve the overall management level and market competitiveness.

5.5. Win-win Cooperation

Strengthening cooperation with Internet technology providers and other enterprises and sharing resources is an effective way to improve the level of enterprise Internet application. First, enterprises can obtain the latest technical support and application services by establishing strategic partnerships with Internet technology providers. For example, by cooperating with cloud computing service providers, enterprises can obtain stable and efficient cloud computing services and improve data processing capabilities. Secondly, enterprises should actively participate in industry alliances and technical cooperation to share resources and experience. For example, by joining industry associations or technology alliances, enterprises can share technological achievements and application experience with other enterprises to promote common development. In addition, enterprises can also expand markets and business channels and enhance market competitiveness through partnerships. Through win-win cooperation, enterprises can achieve optimal allocation of resources and complementary advantages, thereby improving the overall level of Internet application and market competitiveness.

Acknowledgments

This work is supported by Innovation and Entrepreneurship Training Project for College Students of Anhui University of Finance and Economics in 2024, Project number: S202410378621.

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