

The Impact of Innovation Management on the Electronic Communications Industry

–Taking Huawei as an Example

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Abstract: Innovation management emphasizes continuous innovation through effective organization and resource allocation to improve competitiveness and promote sustainable development. The purpose of this paper is to explore the impact of innovation management on the electronic communications industry and to analyze it in depth with Huawei as an example. Through the research method of literature analysis, we find that innovation management plays a crucial role in the development of the electronic communications industry, and its impact on the electronic communications industry is mainly reflected in the three aspects of technology and product innovation, business model innovation and organizational culture innovation. Research on innovation management can help enterprises improve their competitiveness in a rapidly changing market environment and enhance their innovation capabilities in all aspects, thereby increasing their market share and profitability. It also helps electronic communication enterprises to maintain the leading position in technology and business models and to establish effective R&D processes and innovation mechanisms. In addition, research on innovation management can provide lessons for other electronic communication enterprises and even other industries, so that more enterprises and industries can better cope with the challenges of the market and realize healthy and sustainable development.

Keywords: enterprise innovation management, electronic communications industry, Huawei, core competitiveness, sustainable development

1. Introduction

The impact of innovation management on the electronic communications industry has been widely researched and discussed, and this paper will discuss how innovation development can promote better business innovation, business model innovation and organizational culture innovation in the electronic communications industry.

This paper adopts the research method of literature analysis to explore the application of innovation management in the electronic communications industry, its effects, and its role in promoting the development of the industry by collecting, organizing, and analyzing literature related to innovation management, the electronic communications industry, and Huawei.

It is of great theoretical and practical significance to study the impact of innovation management on the electronic communications industry. Firstly, in-depth research on innovation management can enable enterprises to introduce new products, services and technologies of better quality, meet the changing needs of consumers, and increase their market share and profitability. Secondly, it can also help more electronic communication enterprises to stay ahead of the curve in terms of technology and business models, enabling them to establish effective R&D processes and innovation mechanisms and strengthen their technological innovation capabilities. In addition, research on innovation management can promote the creation and sharing of knowledge, help more enterprises understand how to effectively manage and utilize knowledge resources, and establish learning organizations and innovation networks.

2. Innovation Management and the Electronic Communications Industry

2.1. Introduction to Innovation Management in Business

Corporate innovation management is the process of promoting innovation through systematic approaches and strategies in the organization, resources and processes of a company [1]. Innovation management is a key factor for sustained growth and competitive advantage and can help organizations remain competitive in a changing market environment [2]. Innovation is the creation of something new with commercial value by introducing new ideas, methods, products, services or business models based on existing knowledge and technology. Innovation management, on the other hand, refers to the process of innovation in enterprises, through rational organization and management, to promote the development and application of innovation. The core of enterprise innovation management is the formulation and implementation of an innovation strategy. Innovation strategy is the process by which an enterprise clarifies and formulates its innovation objectives, scope and focus. Enterprises need to determine the direction and focus areas of innovation based on their own business strategy and market demand. The formulation of innovation strategy needs to take into account market trends, competitors, technological development and other factors to ensure that the enterprise's innovation can match the market demand.

The purpose of enterprise innovation management is to promote the innovation activities of enterprises and improve their competitiveness and sustainable development ability. Enterprise innovation management can help enterprises realize technological innovation, product innovation and business model innovation, which can improve their market position and profitability [3]. At the same time, through innovation management, enterprises can scientifically and reasonably complete the allocation of resources and the use of funds planning, clear their own market positioning, and find the enterprise's own advantageous business and develop it, which in turn helps enterprises to realize the goal of the establishment of the core competitive advantage in the market. In addition, innovation management can also promote the cooperation between enterprises and external partners to jointly promote innovation activities and accelerate the introduction and application of new technologies and new knowledge [4].

2.2. Introduction to the Electronic Communications Industry

The electronic communications industry refers to the industrial field involving electronics and communications technology, which mainly includes telecommunications carriers, equipment manufacturers, network service providers, communications software developers and other related enterprises. The scope of this industry covers a wide range of fields such as telecommunication network construction, telecommunication equipment manufacturing, telecommunication service provision, and telecommunication software development.

There are three main characteristics of the electronic communications industry. First, the electronic communications industry is an industry that is highly dependent on technological innovation, which constantly promotes the development and progress of communications technology. As technology continues to advance, the electronic communications industry continues to introduce new technologies and solutions, such as 5G, Internet of Things (IoT), artificial intelligence, etc., in order to meet people's needs for faster, more reliable and safer communications. Second, the electronic communications industry is a highly competitive market, with fierce competition among various companies in terms of technology, products and services. Telecommunications operators compete for subscriber market share, equipment manufacturers compete to launch new products, and communications software developers continue to innovate and develop new applications to meet user needs. Third, the electronic communications industry is characterized by globalization, with enterprises from various countries and regions conducting business activities on a global scale. Multinational telecommunication operators build and operate communication networks in different countries, equipment manufacturers sell their products globally, and communication software developers provide globalized applications. The development of globalization has made the electronic communications industry an important part of the global economy.

The electronic communication industry has an important position and role in modern society. First of all, the electronic communication industry is an important driving force for modern economic development. The development and popularization of communication technology provide efficient communication and information exchange methods for all walks of life, and promote the globalization and digital transformation of the economy. The development of the electronic communications industry is important for improving productivity, promoting innovation and fostering economic growth. In addition, the development of the electronic communications industry promotes the development of society and the improvement of the quality of life. Through electronic communication technology, people can make voice calls, video calls and other forms of communication anytime and anywhere, realizing instant communication on a global scale and facilitating life and work. At the same time, the electronic communication industry also provides a broad platform for the dissemination of information in the fields of news, entertainment, education and transportation.

3. Impact of Innovation Management on the Electronic Communications Industry

Innovation management plays a vital role in the development of the electronic communications industry, and it has positively impacted the industry in the following ways.

3.1. Enterprise Competitiveness

First, innovation management promotes business model innovation in telecommunication and communication enterprises. By redesigning and optimizing business processes and introducing new business models and sources of revenue, enterprises can gain a competitive advantage in a highly competitive market. For example, Telecom operators can create new business models, provide more diversified services, and increase revenue sources by providing value-added services, customized packages, and cross-border cooperation, thus improving competitiveness [5].

Second, innovation management can help companies improve operational efficiency and reduce costs. In the telecommunication and communication industry, cost control is one of the key factors of enterprise competitiveness. Through innovation management, enterprises can introduce new technologies and processes to improve production and operational efficiency, thereby reducing costs. For example, the use of automation technology can reduce labor costs and the use of cloud computing can reduce infrastructure investment.

3.2. Market Share

Innovation management has a positive impact on the competitive position and share of the market of telecommunication and communication enterprises. Firstly, innovation management improves the product differentiation ability of telecommunication enterprises. Through the implementation of innovation management, enterprises are able to continuously introduce products with unique features and advantages, thereby attracting more consumers and expanding their market share. For example, by introducing and improving existing communication technologies, such as mobile payment and video calling, consumers' demands for high-quality, convenient and diversified communication needs can be met, thus increasing the market share of enterprises [6].

Secondly, innovation management promotes the market expansion ability of telecommunication and communication enterprises. By continuously innovating and exploring new market areas, companies can expand their market share and gain more market share. For example, telecommunication operators can increase their market share by launching new packages and services and entering emerging markets, such as the Internet of Things, cloud computing, and smart homes [5].

3.3. Products and Services

Innovation management promotes the process of product innovation in the telecommunication and communication industry, and improves the quality and level of services in the industry. First of all, innovation management promotes the product innovation of telecommunication and communication enterprises. Through the implementation of innovation management, enterprises are able to continuously introduce new technologies and functions to improve the performance and quality of their products and meet consumer demand for high-quality communication products. For example, the introduction and continuous updating of technologies such as AR and VR can provide users with a faster, more stable and richer communication experience, thus increasing the competitiveness and market share of enterprises [7].

Secondly, innovation management promotes the service improvement of telecommunication and communication enterprises. Through innovation management methods, firms are able to improve service processes, enhance service quality and increase the degree of personalization and customization of services to meet consumer demand for personalized, convenient and efficient communication services. For example, the introduction of innovative service models such as intelligent customer service, online self-service and personalized marketing can enhance user experience and increase user stickiness [8].

3.4. Enterprise Performance and Culture

First, innovation management emphasizes encouraging innovative thinking and behavior among employees, thus shaping a positive innovation culture. Through the implementation of innovation management, enterprises can establish a working environment that is open, inclusive and encourages innovation. Employees are encouraged to come up with new ideas and innovative solutions. The establishment of this innovation culture helps to stimulate the creativity and innovation potential of employees and drives the enterprise to continuously pursue performance excellence [9].

Second, innovation management emphasizes teamwork and knowledge sharing, which promotes a collaborative and learning performance culture. Innovation management encourages cooperation and communication among employees and promotes knowledge sharing and transfer. Team members can work together to solve problems, share experiences and knowledge. This collaborative and learning performance culture helps firms to form effective teams and learning organizations, and improve their performance levels [10].

4. Huawei's Innovation Management Practices

Huawei, as a globally recognized electronic communications company, has been actively practicing innovation management and has successfully managed innovation in the company in the following six ways.

4.1. Culture Shaping

First, Huawei focuses on the establishment and inheritance of an innovation culture. Huawei regards innovation as one of its core values and integrates it into its corporate culture. The importance of innovation is emphasized within the company, and employees are encouraged to come up with new ideas and innovative solutions. Huawei motivates employees to participate in innovation by organizing various innovation activities and setting up an innovation reward mechanism, and permeates the innovation culture into all levels of the company [11].

Second, Huawei advocates an open and inclusive innovation environment. Huawei encourages communication and cooperation among employees and provides an open platform where employees can share and exchange innovative ideas and experiences. Communication channels within the company are open, and employees are free to raise issues, discussions and solutions. This open and inclusive innovation environment helps to stimulate employees' creativity and innovation potential [12]. Huawei also focuses on knowledge management and the construction of a learning organization. The company encourages employees to continuously learn and improve their knowledge and skills, and provides corresponding training and learning opportunities.

4.2. Organizational Structure

First, Huawei adopts a flat organizational structure to encourage employees to innovate and make decisions on their own. Huawei's organizational structure has a high degree of flexibility and adaptability, enabling it to respond quickly to market changes and technological developments. This flat organizational structure helps to reduce decision-making levels, improve the efficiency of information flow, and promote the generation and dissemination of innovation [13].

Second, Huawei has established a globalized network of R&D centers, attracting top research talents from around the world. Huawei has formed an open innovation ecosystem by setting up R&D centers around the world and collaborating with partners and research institutions around the world. This globalized R&D network helps to attract and integrate global innovation resources and improve the capacity and efficiency of innovation [14].

In addition, Huawei motivates employees to participate in innovation by organizing various innovation activities and innovation reward mechanisms. The establishment of this innovation culture helps to stimulate the creativity and innovation potential of employees and promotes the occurrence and landing of innovation [15].

4.3. Process Optimization

First, Huawei focuses on the refinement and standardization of processes. Huawei has improved work efficiency and quality through the refined design and standardized management of various business processes. Huawei has established a comprehensive process management system, including process specification, process evaluation, and process improvement, which improves the speed and effectiveness of innovation by continuously optimizing processes [16].

Second, Huawei advocates cross-departmental synergy and cooperation. Huawei promotes information sharing and resource integration between different departments by establishing cross-departmental synergy mechanisms and teams. Huawei encourages employees to cross departmental

boundaries and participate in cross-functional innovation projects, realizing cross-border integration of knowledge and experience.

In addition, Huawei focuses on process agility and rapid responsiveness. Huawei has accelerated the advancement of innovation projects by introducing agile development and rapid iteration methods. Huawei encourages employees to make quick trial and error and learn quickly, which improves the efficiency and quality of innovation through continuous iteration and optimization [17].

4.4. Resource Allocation

First, Huawei focuses on the centralized allocation of resources. By focusing resources on key innovation projects, Huawei ensures the effective use of resources and the realization of maximized value. Huawei evaluates and allocates resources at the early stages of innovation projects, and focuses limited resources on projects with high potential and strategic significance to improve the success rate of innovation and market competitiveness [18].

Second, Huawei focuses on the flexible allocation of resources. By flexibly allocating resources, Huawei is able to better respond to market demands and changes. Huawei has established a flexible resource allocation mechanism that allows it to adjust the allocation and use of resources in a timely manner according to market conditions and project needs to ensure the smooth and successful implementation of innovation projects [19].

In addition, Huawei focuses on cross-departmental integration of resources. Huawei realizes the sharing and collaborative use of resources through cross-departmental integration. Huawei encourages cooperation and coordination between different departments and promotes cross-departmental integration of resources in order to improve the efficiency of resource utilization and the comprehensive capability of innovation projects [20].

4.5. Transformation of Achievements

First, Huawei focuses on the transformation of technological achievements. Huawei establishes a technology transformation mechanism to rapidly transform R&D technological achievements into commercialized products and solutions. Huawei actively promotes the interface between technology and the market, and through the guidance of market demand and the development of product customization, Huawei transforms technological achievements into commercially valuable products, realizing the organic combination of technological innovation and commercial success [21].

Second, Huawei focuses on the transformation of knowledge achievements. Huawei promotes the flow and transformation of knowledge by establishing a knowledge management system and a knowledge-sharing platform. Huawei encourages knowledge sharing and cooperation among employees, and promotes the transformation and commercialization of innovations through internal training and exchange activities that transform R&D staff's expertise and experience into practical applications [22].

In addition, Huawei focuses on the transformation of partners' achievements. Huawei has established close cooperative relationships with its partners to jointly promote the transformation of innovations. Huawei works closely with suppliers, customers, research institutes, and other partners to share resources and knowledge, jointly develop and promote innovative products and solutions, and maximize the value of innovations [23].

4.6. Evaluation and Improvement

First, Huawei focuses on the evaluation of innovation performance. Huawei has established a complete set of innovation performance evaluation systems to evaluate innovation projects and teams through quantitative and qualitative indicators. Through the evaluation of innovation performance,

Huawei finds problems and deficiencies in a timely manner, provides data support for innovation management, and promotes the refinement and continuous improvement of innovation management [23].

Second, Huawei focuses on the improvement of the innovation process. Huawei continuously optimizes the innovation process to improve innovation efficiency and quality. Huawei also encourages employees to participate in the improvement of the innovation process, advocates rapid trial and error and continuous learning, and promotes flexibility and adaptability of innovation management [24].

Evaluation and improvement help to improve the effectiveness and efficiency of innovation management, and promote the company's continuous innovation and competitiveness.

5. Conclusion

Through the above analysis, the following conclusions can be drawn: (1) Under the rapidly changing market environment, enterprises need to innovate continuously to adapt to market demand and improve competitiveness. Innovation management can help enterprises cultivate innovation awareness, establish innovation mechanisms, and promote the improvement of organizational innovation capability. (2) As a leading enterprise in the electronic communications industry, Huawei focuses on scientific and technological innovation and organizational innovation, and constantly promotes the innovation and upgrading of its products and services through the establishment of R&D centers and technical cooperation. Huawei's innovation management practices provide useful references for other electronic communication enterprises. (3) The impact of innovation management on the electronic communications industry is mainly reflected in three aspects: technological innovation, product innovation and business model innovation. Innovation management can help enterprises strengthen technology research and development and promote technological progress; meet user needs and improve user experience through innovative products and services; and realize profitable growth and market share enhancement through innovative business models. (4) Innovation management also faces some challenges and problems in the electronic communications industry. For example, the speed of technological change has accelerated, and companies need to be more agile in responding to market changes; knowledge management and talent cultivation have become important issues in innovation management; and innovation risks and uncertainties have increased, and companies need to manage the innovation process more effectively.

Based on above conclusions and findings, this stud proposes the following future research directions to further explore in depth the impact of innovation management on the electronic communications industry: (1) exploring the differences of innovation management in the electronic communications industry in different countries and regions. There are differences in the level of development and market environment of the electronic communications industry in different countries and regions, and the practice and effect of innovation management may also vary. Comparing the innovation management practices in different regions can help companies better meet the challenges of local and global markets. (2) Focus on the social impact of technological innovation and sustainable development issues. Technological innovation plays an important driving role in the electronic communications industry, but it also brings a series of social and environmental problems. Future research can explore how to balance the relationship between technological innovation and sustainable development to promote the healthy and sustainable development of the electronic communications industry.

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