Chinese Business Review, Jan.-Mar. 2023, Vol. 22, No. 1, 31-36

doi: 10.17265/1537-1506/2023.01.004



Reflections on Research and Development Management Innovation in Huawei Enterprises

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As an advanced global provider of information and communication technology solutions, Huawei has always maintained a leading position in the ICT field and is committed to achieving a future information society and building a better fully connected world. Looking at the rapid development of Huawei, it is inseparable from its comprehensive and advanced enterprise management innovation concept, which is also one of the main reasons for helping Huawei become a world-class enterprise. "Huawei has not succeeded, it is just growing" is a famous quote from Ren Zhengfei, the main founder and president of Huawei. In the context of the rapid development of the Internet industry and information technology, enterprises must establish the concept of innovative development, implement innovation management, and create a good production and development environment. This paper analyzes the content of Huawei's enterprise management innovation, including Huawei's management philosophy, management mode, management status quo, and management innovation suggestions, understands and grasps the choice of enterprise management mode, learns advanced enterprise management experience, and provides reference for other enterprises to practice innovation management.

Keywords: Huawei R&D, management model, organizational structure, process management

Introduction

Huawei Technology Co., Ltd. (referred to as Huawei) has internationally advanced 5G technology and has become an industry leader with its strong technical strength, constantly developing in a new direction. Huawei, as the leading private enterprise in China, tries to innovate and transform to adapt to the market development situation, sets up innovative development concepts, further innovates the innovation management mode, management system, and enterprise organization, so as to create a good enterprise management atmosphere and realize the development and growth of enterprises through management innovation. The development and implementation of enterprise management innovation work is conducive to optimizing the internal environment, improving efficiency, promoting economic efficiency, better adapting to market changes, and ensuring long-term and stable development of enterprises.

Acknowledgement: This work was supported by MOE (Ministry of Education in China) Project of Humanities and Social Sciences (No. 20YJC630022), Shandong Province Natural Science Foundation (No. ZR2017MG033), Fundamental Research Funds for the Central Universities (No. HIT.HSS.201875).

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Huawei Management Mode

Organizational Management Mode

Huawei's strong matrix project team cooperation and management model effectively enhances the core competitiveness of the enterprise and achieves sustained high-speed operation of the company. This organizational structure model can maintain the relative stability of internal business within the enterprise and quickly adjust to meet the ever-changing needs of the front-end market, thus constructing a process that quickly responds to customer needs. It plays a strong supporting role in the company's high-speed operation and continuous acquisition of competitiveness, making Huawei a qualitative leap in research and development innovation in recent years. At the same time, this organizational structure model can also fully utilize human resources, allowing enterprises to quickly allocate talents and establish project teams for product development in the shortest possible time, greatly improving work efficiency.

Employment Management Mode

The recruitment management model with Huawei's excellent R&D personnel quality model as the main thread quickly and efficiently selects people who meet the research and development needs, ensuring that the needs of new product development and research are constantly supplemented, providing a good starting point for enterprises to build a quality based human resource management system. This quality model based on innovative thinking, goal orientation, teamwork, learning ability, perseverance, and initiative has selected a large number of high-quality R&D talents for Huawei, and created a number of high-performance R&D teams. It is the root of Huawei's technological innovation and product innovation, and the most effective capital for Huawei to stand on the international frontier market and compete with communication giants. At the same time, by comparing the quality model of excellent R&D personnel, it can effectively encourage R&D personnel to continuously train and learn, strive to improve their abilities in various aspects, actively improve their job qualification requirements, and continuously create a space for R&D personnel to improve their career.

Performance Management Mode

The performance management model of Huawei's R&D personnel is related to the company's performance and employee development. This performance evaluation model, which is closely integrated with the company's R&D strategy and focuses on key performance indicators, ensures the development of new products guided by market demand. This model balances the relationship between long-term and short-term indicators, as well as performance indicators and skill indicators, based on research and development strategies. It leads to an assessment mechanism centered on key performance indicators, which combines individual and organizational goals through the success of project team performance goals. At the same time, this model attaches great importance to employee development and emphasizes that improving employee abilities is the foundation for promoting enterprise performance development. Therefore, in the process of performance evaluation, communication and coaching should be strengthened to help employees continuously improve their work methods and skills, improve work efficiency, strive to achieve the company's strategic business goals, continuously enhance the company's core competitiveness, and promote sustainable development of the enterprise.

Salary Incentive Model

The competitive salary incentives and training incentives for Huawei R&D personnel ensure the stability of the R&D team and the improvement of technical capabilities. R&D personnel are Huawei's most important human resources, mastering the core technology of the enterprise, and serving as the driving force and source of the company's core competitiveness. Therefore, Huawei has always tilted its compensation policies towards R&D personnel and adopted a series of incentive measures. If R&D personnel in the same industry have relatively high salaries, coupled with long-term incentives from internal stock options, Huawei has effectively avoided the loss of R&D talents and attracted countless external R&D talents to join. The broad salary offered by Huawei R&D personnel effectively combines the qualification standards of Huawei R&D personnel, allowing them to receive substantial salaries in the same salary level based on their outstanding performance and contributions to the team, ensuring that R&D personnel continuously improve their job skills while receiving high salaries. Thus, it greatly meets the self actualization needs of R&D personnel and works more efficiently.

Huawei Organizational Structure

Huawei has established a clear and comprehensive organizational structure, with an audit committee under the board of directors to ensure the independence and authority of the audit. At the same time, external auditors and a supervisory board are established to supervise the board of directors. In terms of organizational structure, the allocation of powers and responsibilities among functions, regions, and public institutions is clear, promoting the rational operation of the group. Moreover, unlike traditional organizational structures with a single dimension, Huawei adopts a two-dimensional matrix structure, which is divided into regional organizations composed of development, production, and sales from two dimensions: region and product line. At the same time, Huawei has established business units and regional organizations as profit centers, each responsible for profits. Regional centers are associated with business units, and indicators such as product revenue, profit, and cash flow have an inclusive and inclusive relationship. Product line optimization brings cost savings and demand growth, contributing to regional organizations. The profit center adopts joint and several liability, which can combine production and sales incentives, avoid defects caused by the organizational structure of the unit, and clarify the responsibilities of each organization to avoid the phenomenon of responsibility shifting.

Huawei's strategic orientation is to lean towards both ends of the smile curve, research and development, and the market. Its organizational structure is a reflection of this orientation, with a large R&D and market, small production, and a dumbbell shaped structure. Research and development and marketing are two key points to ensure a company's profitability. Huawei's organizational structure effectively ensures that the company's business always has good profits, as shown in Figure 1.

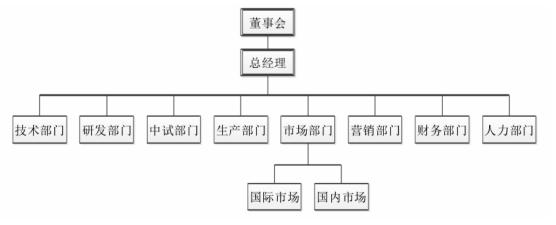


Figure 1. Huawei organizational structure chart.

Many companies emphasize the stability of their organizational structure, while Huawei is different. Everyone in Huawei is prepared to adapt to changes, and its organizational structure is also a matrix structure that can adapt to changes. Alternatively, it can be said that any product innovation at Huawei must be accompanied by changes in organizational structure, while major technological innovations occur at Huawei every three months. Just like entrepreneurship, once a department identifies an opportunity, it will lead the organization of a new team with the aim of seizing the opportunity and creating benefits. At this point, the organizational structure has changed, but the new team still follows the original process. All members of the new team only temporarily left the original department for this project, and after the project is completed, they will return to the original department. One transformation ends.

Huawei Process Management

Huawei advocates a process oriented enterprise management approach, with clear structured processes guiding any business activities such as product planning, product development, and supply chain.

The Integrated Product Development Management Model (IPD) integrates theoretical and practical achievements such as gate management, PACE (Product and Cycle Time Excellence) management, and concurrent engineering, based on solving practical problems in enterprises. For several years, IPD has helped Huawei establish a world-class R&D management system and optimized Huawei's overall operation, which has been proven to be an effective R&D management system. It enables Huawei to better integrate various fields for parallel product development, focus on investment decision-making and analysis, shorten development cycles, and reduce development costs. According to relevant statistical results, the launch cycle of parallel development of new products has been shortened by more than 40% compared to traditional serial development methods, and the development cost has been reduced by more than 30%. The main business process of Huawei's IPD includes business strategy and BP/SP management process, market demand management process, and integrated product development process, as shown in the following figure:

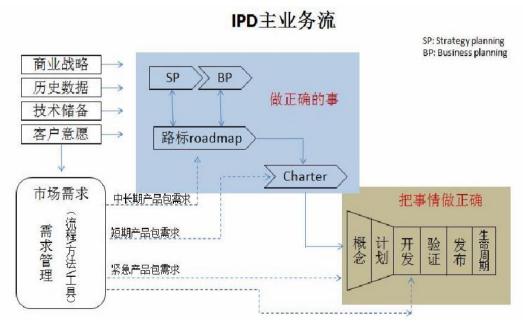


Figure 2. Huawei IPD main business flow.

Conclusion

We use meta-analysis to analyze 63 literature, and the results show that the relationship between firm's social capital and innovation performance is positive and significant. Therefore, investing in the construction of social capital can help companies improve their innovation performance and achieve long-term development.

The analysis of the moderating effects of situational factors shows that cultural background and the age of the firm have an important impact on the relationship between firm's social capital and innovation performance, the effects of collectivism and new enterprises are more significant, and positive impact of the relationship between industry characteristics and firm's social capital and innovation performance is not significant. Therefore, for enterprises, the impact of different cultural backgrounds on corporate attitudes and behavior patterns is profound and significant, and it should be used to coordinate the development of corporate innovation activities; Although new enterprises have their own unfavorable conditions, they are better at using relationship networks to exert their value. Although the industry has different technological content and different resource elements required for innovative activities, enterprises can use their own advantages to achieve innovations that meet their conditions.

This paper also has some important practical implications. The meta-analysis in this paper has certain limitations that need to be improved in the future. Firstly, the literature collection only focuses on the research that directly addresses social capital and innovation performance, and ignores similar descriptions such as network structure. At the same time, no unpublished papers have been collected. In the future, it may join to enhance universality. Secondly, when selecting situational factors, due to the lack of literature data itself, the author does not analyze other variables that may have an impact on the relationship between social capital and innovation performance, such as the size of the enterprise, which can be analyzed in the future.

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