An Analysis of Huawei’s Comprehensive Innovation Model and Its Enlightenment

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Keywords: Huawei’s Comprehensive Innovation, Customer demand, Value-oriented.

Abstract. In recent years, Huawei has formed huge influence in the world, and has occupied many high points. Huawei’s success is fundamentally the success of innovation, is the success of customer demand-based, value-oriented comprehensive innovation. Through the analysis and research, Huawei’s comprehensive innovation includes strategic innovation, technological innovation, organizational innovation, system and cultural innovation. The enlightenment Huawei brings to us is that in the context of the new era, we must transform the development momentum, from investment-driven, factor-driven to innovation-driven.

Introduction

In recent years, Huawei has formed huge influence in the world, and has occupied many high points. Its innovation model has attracted worldwide attention. In 2016, Huawei was selected into "The World's Top 50 Innovation Companies" in March, ranked 13; in November, it officially released the high-end smart phone Mate9, and overcome the world's major communications providers to achieve 5G core technology breakthrough; in December, it announced a major breakthrough of realizing graphene lithium ion battery. The analysis shows that Huawei's success is not only the success of technology and market, but also the success of the comprehensive innovation model which takes technological innovation as the core.

Huawei Company Profile

Founded in 1987 and headquartered in Shenzhen, Huawei is a leading global provider of information and communication technology solutions (ICT). Its products mainly involve switching networks, transmission networks, wireless and wired fixed access networks and data communications in communications networks, and wireless terminal products, intelligent terminal equipment, etc., to provide hardware equipment, software, services and solutions for the world communications operators and professional network owners.

Innovation supports the rapid development and high market share of Huawei, therefore Huawei can occupy many of the world commanding heights, and becomes one of the world's top innovative enterprises. In November 2016, Huawei officially released Mate9 mobile phone, whose foreign price exceeded 10,000 yuan, making its high-end smart phone brand image more solid. In December, the dominant Polar Code program defeated Qualcomm's LDPC and the French Turbo2.0, became the final program of 5G controlling channel eMBB scene coding. This technology is 5G core technology, which greatly enhance Huawei and China's international voice. In December, Huawei Central Research Institute announced to the world that lithium-ion battery technology had achieved a major breakthrough and the world's first graphene-based batteries would be applied in business field. Till June 2016, Huawei has received 50,377 patents, of which overseas patents accounted for about 40%, including 5052 of the United States, 11474 of the Europe. Huawei's patent licensing in China ranked first, the US patent licensing volume ranked top 50, the European patent licensing volume ranked top 15.
An Analysis of Huawei's Comprehensive Innovation Model

Huawei's success is fundamentally the success of innovation, is the success of customer demand-based, value-oriented comprehensive innovation. Through the analysis and research, Huawei's comprehensive innovation includes strategic innovation, technological innovation, organizational innovation, system and cultural innovation.

Lead by strategic innovation. In the early development, Huawei has been pursuing technology-driven innovation, and strive to capture market by perfect technology. In the process of development, they gradually realized that they must shift from technology-driven to market-driven, that all innovation should be market-oriented and user-oriented, with new technologies to better meet the needs of users, that they need continue to innovate and create value in the process of serving customers.

Value concept of leading innovation. Huawei's core values are "Focus on customers, based on laborers, long-term adherence to hard work, adhere to self-criticism." Focus on customers means that value creation should innovate focusing on customer needs. Based on laborers is the standard of Huawei's value evaluation and distribution. Under the guidance of the concept of "giving priority to the workers", the distribution system of "workers have their shares" is established, so that employees really want to make enterprises their home. Long-term adherence to hard work is the model of adding Chinese traditional spirit into the enterprise development, supporting the employees to continue innovation and entrepreneurship in the world's most difficult place. Adhere to self-criticism, that is able to self-criticism, self-correcting, and constantly warned that their own risk crisis in the eyes, we must continue to innovate to eliminate the crisis.

Strategic cogitation of leading innovation. As the ideological leader of the enterprise, Ren Zhengfei only play the role of a leader, always judges the direction of development of enterprise. Therefore, Huawei has a strong sense of crisis, when the situation is good and the business is optimistic, he often warns risks and deficiencies; when the situation is confusing, he will encourage employees and boost confidence. Full of strategic vision and forward thinking, in 2016 National Science and Technology Innovation Conference, Ren Zhengfei thought that in the next 20-30 years, humans would enter the intelligent society. Huawei is gradually stepping into the no man's land. Huawei not only concerns about the engineering innovation, but also pays more and more attention to basic research, and specifically establishes Noah's Ark laboratory (also known as "2012 laboratory").

Taking Technological Innovation as Core. Huawei takes technological innovation as the core of comprehensive innovation. More than 45% of the 170 thousand employees are R&D personnel. For many years, Huawei put at least 10% of sales revenue into research and development. Over the past
decade. R&D investment accumulated more than 190 million yuan, and will gradually be increased to 10-20 million US dollars / year over the next few years.

Technical resource allocation: global layout. Establish capacity centers and research institutes in the strategic resource gathering area and Establish research institutes in front line market and resource-rich areas (such as Silicon Valley). Huawei has established 26 capacity centers around the world (and is increasing year by year). Germany and Japan has become important overseas R&D bases. The global layout not only make full use of global scientific and technological resources, but also gathers a group of world-class outstanding scientists.

Technological innovation system: open innovation system. On the basis of independent research and development, widely absorb the power of all parties, establish a fully inclusive open innovation system. To establish an open platform for scientific and technological discussion, Ren Zhengfei called "Absorb the positive energy of the universe through a cup of coffee", that requires researchers to use coffee and other communication mechanism to stimulate creativity.

Unite endogenous innovation and the introduction of external. Insist on their own advantages to carry out independent research and development. For the disadvantaged areas, make full use of the world of scientists resources, human resources, technical resources and other external resources, and carry out joint innovation with customers, competitors, partners, universities and so on, establish joint innovation center.

R&D organization model: hierarchical classified architecture. Driven by customer needs and advanced technology, establish pyramid R&D architecture. The top of the pyramid is a science and technology thought research group. There are 17 fellows now, whose main task is to participate in the forum around the world, extensive exchange, bring back advanced ideas, and then competitive research and development by multiple teams on the basis of discussion. The second layer of the pyramid are scientists or engineering businessman, who will form development goals and implement. The third layer of the pyramid is the customer, the customer all dominant, technology and products Development ideas are carried out on the basis of full research on customers explicit and hidden demand. Based on the classification, carry out specialized research and development. The R&D institutions are divided into basic research, application of technology research, product technology research, specialized research and development will be respectively carried out.

Supported by Organizational Innovation. Huawei's technological innovation is supported by organizational innovation. From 2009, Huawei carried out customer-oriented and results-oriented organizational changes based on front-line operations.

Organizational Structure: Front and rear line mode of combat troops.

In the early development, Huawei formed a five-level pyramid organizational structure, however in the development of globalization it increasingly felt uncomfortable, therefore from 2009, Huawei started vigorously reform, try to change to the elite combat troops, so that organizations can better meet customers and market changes. Based on the military combat mode, Huawei actively established the organizational structure of the front battlefield (market and customer) and rear support services (R&D and manufacturing).

Management System: Rotational Leadership Model. Breaking the traditional management system, Huawei establishes the rotational leadership model. At present, Ren Zhengfei plays the role of thinking leaders more often, concerns about the strategic direction of the enterprise. On the basis of successful practice of rotating COO, Huawei further establishes the rotating CEO management system, which can better avoid business errors and strategic bias, guard against decision-making risks.

Process system: Comprehensive study of Western advanced experience. Huawei hires the world's leading consulting firm, introduce foreign advanced management processes, such as the early IBM-led process changes, and later the supply chain changes, human resources changes, financial system changes, market system changes, which laying the foundation for Huawei to become a global company.

Guaranteed by System and Cultural Innovation. Huawei's comprehensive innovation is guaranteed by system and cultural innovation, summed up as the following aspects:
Incentive assessment system: performance guidance. Huawei believes in "let pullers than the car people get more" incentive mechanism, adheres to the results-oriented and responsibility-oriented assessment, constantly increases the distribution of bonuses, establishes the holding mechanism of "workers have their shares", so that employees have dual identities as both labor and shareholder, and have higher enthusiasm of entrepreneurs. In the incentive mechanism design aspect, Huawei adheres to the "majority" principle, so that the majority of employees can be inspired.

Talent Construction System: Focus on Selection and Post Rotation. At early stages, Huawei asked the "excellent talents cultivates more excellent talents". Talents are sent to the most difficult front line to get training, where they can train quality, enhance ability. In recent years, Huawei starts to change strategy from training talents to select talents. Ren Zhengfei thinks that there are many talents in China and around the world, and they can directly select talent for Huawei. He advocated to select excellent talents on the battlefield. In the staff's career arrangements, Huawei implements large-scale, large-span transfer and rotation, so as to cultivate complex talents, to promote the organization’s empathy, mutual coordination.

Cultural atmosphere creation: self - correction and fault - toleration. Huawei has established a red and blue confrontation mechanism with internal rebuttal as the main task, to eliminate the development crisis by simulating the imaginary enemy. Huawei establishes self-criticism and correction mechanism, develops the "community of mind" in the company's website, accepts all kinds of sharp criticism, reflects and improves from it. Huawei creates such a kind of culture that encourage innovation, tolerate failure, encourage trial and error, not judge a hero according to success or failure, encourages special madman. Ren Zhengfei called it "gray theory". It is in such open and inclusive innovative culture atmosphere that encourages trial and error, that countless people dare to innovate, and creates a great achievement of Huawei today.

Enlightenment of Huawei ‘s Comprehensive Innovation Model
Huawei’s comprehensive collaborative innovation has achieved remarkable results, and there are a lot of practice worth learning and thinking. In the context of the new era, we must transform the development momentum, from investment-driven, factor-driven to innovation-driven.

First, adhere to the correct value orientation, promote the group strategy to take root. Huawei innovation has always been market-oriented and customer-oriented, adhering to the value creating ideas, facing market and customer, actively changing and innovating, creating value and contributing to efficiency. At the same time, Huawei timely adjust and optimize enterprise development strategy actively based on changes in environmental conditions.

Second, adhere to the principle of dynamic adaptation, promote the continuous optimization of institutional mechanisms. Enterprise development has stages, in different stages of development, we must establish appropriate institutional mechanisms. In different stages of development, according to changes in internal and external situation, Huawei timely adjusts organizational structure, to adapt to the needs of enterprise development and innovation. In the context of deepening the reform, we must constantly change the institutional mechanism according to the changing conditions and establish the organizational structure suited to the reform and development, and adapt to the market development requirements.

Third, adhere to strategic thinking, enhance the crisis awareness of enterprise development. Huawei accurately predicts the development trend of intelligent society, always alert the development of enterprises with "crisis awareness". This forward-looking strategic vision and crisis awareness is worthy of our learning. We must cite it as a warning, enhance the sense of crisis, continue to learn, build a learning organization, accurately predict the crisis and opportunities with forward-looking strategic vision, make a plan of business development in advance, to prompt enterprises to keep up with changes in the situation, and to construct evergreen foundation.

Fourth, adhere to a comprehensive collaborative innovation, enhance corporate innovation. Huawei's innovative practice shows that innovation is a systematic project. We need to cooperate with
each other in order to achieve the desired results. Therefore, to achieve key technological breakthroughs, technological innovation should be taken as the core, to promote the strategy, organization, system and other comprehensive innovation to co-supporting.

Five, adhere to open innovation ideas, integrate and use innovative resources. Huawei has established an open innovation system, and a lot of innovative achievements are from joint innovation with customers and other aspects. In the era of knowledge and information big bang, through the construction of open innovative systems, extensive use of internal and external innovation resources is essential. Therefore, we should further establish or strengthen the exchange and cooperation with the world's top research institutions, domestic and foreign universities, industry R&D enterprises, well-known scientists, and form the normal working mechanism of innovation cooperation.

References


