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國際學碩士學位論文

**Effect of internal resources empowerment strategy to
telecommunication firm's growth
: The case of Huawei Technologies**

내부자원 강화전략이 통신기업의 성장에 미치는 영향:
화웨이 기술 유한 회사의 사례연구

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**Effect of internal resources empowerment strategy to
telecommunication firm's growth
: The case of Huawei Technologies**

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Abstract

Since successful economic reform and opening-up policy in 1978, Chinese firms have made great process in and outside of China. Telecommunication industry has been a weak point for China during the 1990s, but in less than 20 years' time, Chinese indigenous mobile phone companies have made a quick catch-up in recent years. Chinese mobile phone firms such as Huawei, Xiaomi and Lenovo has made great progress and these firms have already dominated its domestic market for few years, exceeding incumbent leaders such as Apple and Samsung. Nonetheless, these rapid grown Chinese mobile phone companies tend to suffer from sustainable growth. Of these firms, Huawei not only showed the most achievements but also tends to sustain and further develop its growth at the international level. Based on current trend, under the same external environment such as changes in market demand and government support and restrictions, Huawei differentiates itself from other indigenous competitors. This study examines the underlying internal resources and empowerment strategies that Huawei implemented in order to gain sustainable competitive advantage.

Keyword: Huawei, Telecommunication industry, Internal resources, Mobile phone, Empowerment strategy

Student Number: 2014-24228

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Abstract

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Chapter I . Introduction

1. Research Background

Since the beginning of the opening-up and reform policy in China in 1978, the Chinese economy has been growing at a rapid speed. With the rapid development of the Chinese economy, the Chinese government and firms have tried many means to enter the globalized market. This “internationalized” and rapid development is supported by the development of Chinese multi-national companies (MNCs), especially those in high-tech industries. Telecommunications has been one such sector that the Chinese government has been trying to develop for more than 30 years. Chinese telecommunication firms—the present research is focused on the specifically mobile phone firms—have indeed made a big progress in the last decade. Nonetheless, it is an inconvertible fact that many of those Chinese indigenous telecommunication firms have succeeded in the domestic market, but have shown somewhat limited development in the global market. Chinese mobile phone companies such as ZTE, TCL, Lenovo, Xiaomi, and Huawei entered the top 10 of smartphone vendors worldwide since 2014. However, most of these firms’ market share is due to their domestic market size (population and subscribers wise).

Among those who have shown success in the domestic market but failed in the world market, there is a firm that is not only catching-up but also becoming one of the leading global mobile phone companies: Huawei Technologies. It has been only 9 years since Huawei started its mobile phone manufacturing business, and only 6 years since it entered the smartphone market. At the initial stage of its entry into the smartphone business in 2010, Huawei's worldwide market share was only 1.5%, but in less than 5 years, Huawei has become world's third largest smartphone vendor, after Samsung and Apple, with a 9.3% share (Data provided by Trend Force, January 2016). In the Chinese domestic market, of course, Huawei's market share topped other indigenous competitors from the first quarter of 2015. In the *Wall Street Journal's* interview of Chen Li-fang, the head-vice president of Huawei, he mentioned that 65% of Huawei's sales come from overseas sales.¹ In less than 10 years of experience as a smartphone vendor and less than 30 years since its foundation, it is surprising how Huawei has succeeded, both domestically but especially in the international market. In such circumstances, the question of how Huawei became successful in both domestic and international markets, differentiating itself from peer Chinese indigenous firms, is of great interest.

¹ *The Secret of Huawei's Success*. (2016). *WSJ*. Retrieved 30 June 2016, from <http://www.wsj.com/articles/the-secret-of-huaweis-success-1414963782>

- **Research Question 1:** What are growth-enhancing determinants (internal resources) that made Huawei successful both in domestic and international markets?
- **Research Question 2:** What kinds of strategies were implemented to empower these internal resources?

2. Research Outline

In the next chapter, the theoretical background of how and why core internal resources (human resources, technological resources, and structural-cultural resources) affect a firm's growth will be elaborated. On this basis, the analytical framework of this research will be suggested. For the next chapter, a brief overview of Chinese telecommunication industry will be given. Based on the theoretical background and analytical background, the next part of this research will analyze the case study of Huawei. Huawei's firm profile and its history will be explained, followed by Huawei's current achievements and internationalization process. Then, what kinds of strategies were made by Huawei to empower its internal resources and how these strategies affected Huawei in terms of successful catch-up with the incumbents and internationalization in the

fierce competition in the world mobile phone market will be explained. Based on the analytical results, there will be a discussion on compared to Huawei, why other large Chinese mobile phone companies (in this case, Xiaomi) have not been successful in maintaining their growth. In the final chapter, concluding remarks and limitations for this research will be elaborated.

Chapter II. Theoretical Background and Analytical Framework

1. Literature Review

There exist many empirical studies on determinants of firm growth. Resource-based theories emphasize that internal resources are crucial factors for sustainable competitive advantage. In a study by Grillitsch and Nilsson (2014), they contend that; *“A firm’s competitive performance is based on its internal resource constellation, coupled with accessible external resources, and its ability to apply these resources productively.”*² Based on Grant (2001),³ internal resources include financial resources (cash, retained earnings), physical resources (geographic location and equipment), human resources (skills and abilities of individuals), and organizational resources (reporting structures and relationships). Internal capability can be defined as *“a subset of resources that enable a firm to take full advantage of other resources.”*⁴ A firm’s internal capacities establish strategies that will further develop its competitive advantage.

² Grillitsch, M., & Nilsson, M, “Technological competencies and firm performance: Analyzing the importance of internal and external competencies.”, *Proceedings in Food System Dynamics*, 26-41. (2014) Pp. 26

³ Gilmore, A., Carson, D., & Grant, K, “SME marketing in practice.”, *Marketing intelligence & planning*, 19(1), 6-11. (2001)

⁴ Barney, J.B., & Hesterly, W.S. *“Strategic Management and Competitive Advantage”*, (Upper Saddle River, NJ: Pearson/Prentice Hall, 2006), Chapter 3

In this study, among many internal resources, human resources, technological resources, and organizational resources will be considered. Huselid (1995) contended that human resource management affects a firm's productivity and financial performance.⁵ He also argued that human resource management practices can motivate employees, and that this motivation can encourage employees to work more efficiently. Regarding motivating employees, many studies highlighted this specific factor. Among these, Pinnington and Edwards (2000) categorized motivation into two types: that of individuals and that of groups.⁶ The former focuses on needs of individuals, and the later emphasizes on the equity principal. In the extension of encouragement of employees, Employee Stock Ownership Plans (ESOPs) are utilized by many successful companies worldwide. Zhu et al. (2013)⁷ explain that because of China's special institutional structure, ESOPs in China can be seen as "*pure results of the ESOPs themselves.*" According to their framework, ESOPs will give employees financial

⁵ Huselid, "The impact of human resource management practices on turnover, productivity, and corporate financial performance.", *Academy of Management Journal*, 38(3),(1995) pp 635–672.

⁶ Pinnington, A., & Edwards, T. "*Introduction to human resource management.*"(Oxford: Oxford University Press, 2000), pp. 160–162.

⁷ Zhu, Z., Hoffmire, J., Hoffmire, J., & Wang, F, "Employee stock ownership plans and their effect on productivity: The case of Huawei", *International Journal of Business and Management Invention*, 2(8),(2013) pp17–22.

incentives, which will lead to motivation and commitment to the company and reduce employee turnover, which will eventually increase productivity and profitability.

Technology resources are another factor to consider in firm growth. In order to gain technological resources, the most common activity for firms is Research and Development (R&D). There are many studies on the relationship between R&D and firm growth. Stam and Wennberg (2009)⁸ asserted that in the case of high-tech firms, a firm's R&D efforts positively affect new product development, which enhances its growth rate. Parkes et al. (1985) and Deng et al. (1999)⁹ argued that there exist positive relationships between R&D expenditures and patents, and that patents and firm performance are positively related. From these previous researches, it is clear that a firm's R&D efforts, which can be shown as R&D expenditures, affect the firm's growth by new product development and new patent developments.

Many studies have been conducted related to organizational culture and firm performance. According to studies by Deal and Kennedy (1982) and Peters

⁸ Stam, E., & Wennberg, K, "The roles of R&D in new firm growth," *Small Business Economics*, 33(1), (2009) pp 77-89

⁹ Deng, Z., Lev, B., & Narin, F, "cience and technology as predictors of stock performance", *Financial Analysts Journal*, 55(3),(1999) pp 20-32.

and Waterman (1982),¹⁰ organizational culture can be defined as a complex set of values, beliefs, assumptions, and symbols that define the way in which a firm conducts its business. Barney (1986) asserted that when a firm has a valuable, rare, and imperfectly imitable culture, a firm will retain sustained competitive advantages and enjoy the positive economic consequences of its cultures.¹¹

Moreover, a firm's culture is not easily transferred; thus, it is important for a firm to build an organizational culture of its own. Organizational structure is defined as the set of means and processes devoted to formal organization of the firm.¹²

Duane et al (2001) claimed that integrating entrepreneurship and strategic management actions is crucial to creating firm's wealth. Likewise, Zahara and Covin (1995) suggest that corporate entrepreneurship and company's financial performance are positively related. They also assert that empowerment of entrepreneurship can be a mean for a company to improve its long-term financial performance.

2. Analytical Framework

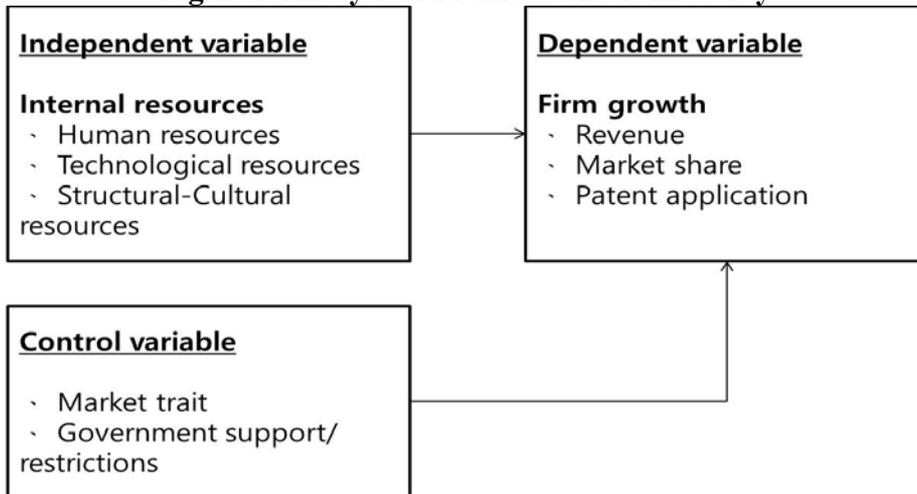
¹⁰ Deal, T. & Kennedy, A, "Corporate cultures", Reading, Mass.: Addison-Wesley Pub. Co., 1982

¹¹ Barney, J. B. "Organizational culture: can it be a source of sustained competitive advantage?", *Academy of Management Review*, 11(3),1986, pp 656-665.

¹²

This study will focus on the determinants of Chinese telecommunication firm- Huawei Technologies' growth in terms of its internal resources. Based on the theoretical backgrounds mentioned in the previous section, independent variables in the present study are human resources, technological resources, and structural-cultural resources. The dependent variable is firm's growth. This research will analyze how the independent variables influence the dependent variable; external factors such as market conditions and government support will not be discussed, since this study only focuses on the internal elements of the firm. Thus, market conditions and government support or restrictions are considered as control variables. The core question of how these independent variables affect the dependent variable is to be answered in Chapter 4. The analytical framework is shown in the figure below.

Figure1. Analytical Framework of this study



Source: Author (2016)

The reason Huawei was chosen for the case study subject in this research is as follows. Some contend that Huawei's high performance in such a short period comes from the benefit of the giant-sized domestic market. Nevertheless, of all 91 Chinese firms listed in the global top 500 companies represented by *Fortune Magazine*, Huawei was the only one of which its overseas sales were more than half of its whole sales.¹³ Besides, one of Huawei's biggest domestic competitors, Xiaomi, used to achieve higher revenue growth, market share in and out of China. However, in 2015, while Huawei's YoY (Year-on-Year) revenue growth was 73%, Xiaomi's performance in YoY revenue growth was only 5%.

¹³ *Fortune 500*. (2015). *Fortune*. Retrieved 25 June 2016, from <http://beta.fortune.com/fortune500/list/>

Huawei ranked no. 228 in 2015 and no. 285 in 2014.

From this performance proofs, it is clear that Huawei distinguishes itself from the other domestic-market driven telecommunication firms that are showing limits in their growth. Therefore, this paper will focus on how Huawei's internal resources have affected its success in globalized catch-up and growth.

Chapter III. Overview of the Telecommunication Industry in China

The Ministry of Industry Information and Technology (MIIT) of China defines telecommunication firms as electronics companies with high technology that pursue both R&D and show good management performance, as well as township and village enterprises (TVEs) manufacturing electronics products. These latter companies are generally small-sized and scattered over the country; they deliver products to large-sized firms or independently produce their own brands. The category also includes FDI firms in the form of wholly foreign-owned enterprises, equity joint ventures, and contractual joint ventures.

Cited from Chen and Wen, “The communications industry is a landmark sector for China in terms of innovation.”¹⁴ Mobile phone service started in 1987 in the Chinese market. At the initial stage of this service, the annual average growth rate of mobile phone service was 200%. This skyrocketed growth in demand for mobile telecoms was due to low fixed-line telephone penetration and high costs for fixed-line telephones. At that period of time, fixed-line telephone penetration was only 5% due to the difficulty of constructing fixed-line

¹⁴ Chen, S. H., & Wen, P. C. “The Evolution of China’s Mobile Phone Industry and Good-enough Innovation.”, *China As an Innovation Nation*, (2016), pp 261

infrastructure all over the Chinese mainland.¹⁵ Therefore, the Chinese government chose to extend wireless telecommunications instead of fixed-line telephones. This provided great entry opportunities for the world's leading mobile phone firms such as Motorola, Ericsson, and Nokia. During the 1990s, the Chinese mobile phone market was dominated by foreign firms with their high-end brand image and high technology. A few years later, Chinese indigenous mobile phones emerged in the Chinese market. With the development of local brands, the Ministry of Information Industry (MII) was established, which provided a basic framework for growth of Chinese local mobile phone brands. The MII enforced licensing regulation for those who wanted to enter the Chinese market. Licenses were first given in 1999 to local Chinese companies such as TCL and ZTE. From then on, indigenous brands' market share increased enormously. In 2003, 30 GSM and 19 CDMA mobile phone manufacturers received licenses, and of 37 enterprises receiving this license, 24 were local Chinese enterprises.¹⁶

¹⁵ 洪性範. (1996). [중국] 중국의 이동통신시장과 기술발전전략. *과학기술정책*, (92), 9-12. P9-10

¹⁶ Zhu, H., Yang, Y., Tintchev, M. T., & Wu, G, "The interaction between regulation and market and technology opportunities: A case study of the Chinese mobile phone industry. ", *Innovation*, 8(1-2),(2006), pp 102-112.

Table1. Summary: Chronological review of China’s telecommunication industry

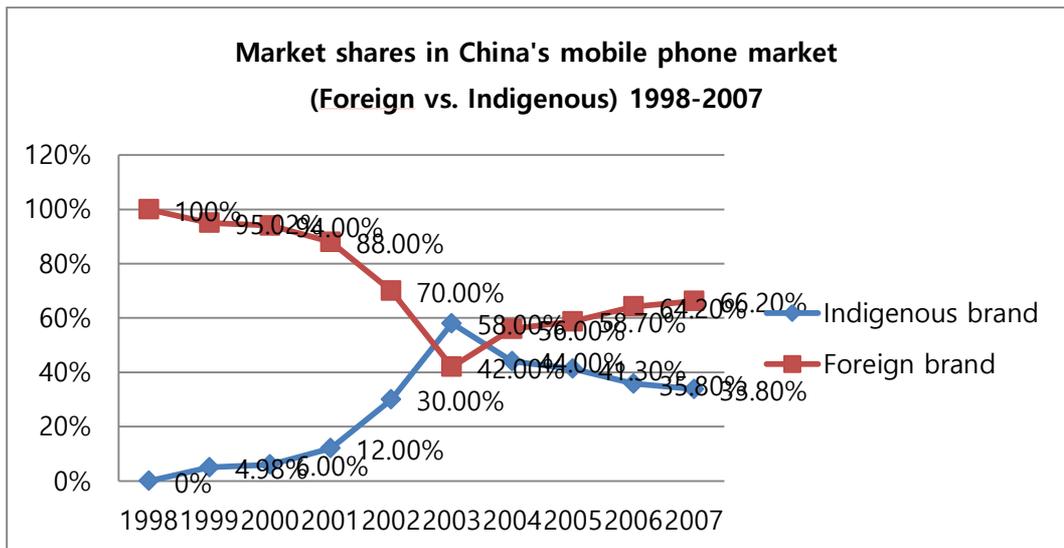
1987	<p>Start of mobile phone service</p> <ul style="list-style-type: none"> - Average annual growth of industry=200% - Fixed-line telephone penetration 5% (due to land size) - Easier for government to extend wireless telecommunication system
Early 1990s	<ul style="list-style-type: none"> - Dominated by global mobile phone companies - Ministry of Information Industry (MII) enforced licensing regulations toward foreign companies
Late 1990s	<ul style="list-style-type: none"> - First license was given to local Chinese companies (ZTE, TCL) - Share of indigenous brands increased
Early 2000s	<ul style="list-style-type: none"> - 2003; GSM and CDMA licenses were given (24 out of 37 were local enterprises)
Late 2000s	<ul style="list-style-type: none"> - 3G licenses boosted low-cost smart phone market in China - Chinese local brands started dominating domestic market by low-end market targeting strategies
2010s	<ul style="list-style-type: none"> - China became world’s fastest growing and largest mobile phone market - Chinese local brands (Huawei, Xiaomi, Lenovo etc.) emerged as strong players both in local and international market

Source: Summarized by Author (2016)

Though indigenous firms’ market share declined in 2003 (Figure 2.), in 2009, with issuance of 3G licenses, low-cost smart phones started dominating Chinese mobile phone market. With indigenous mobile firms’ low-cost smart phone marketing, in 2012, local smart phone brands became leading players in the

Chinese mobile phone market.¹⁷ As can be seen from Table 2, it is visible that after year 2012, more than 3 of 5 top mobile phone vendors in Chinese mobile phone market have been Chinese domestic firms. From this, it is clear that Chinese local brands are outperforming foreign firms in contrast to what it used to be in the 1990s.

**Figure2. Mobile phone market share in China;
Foreign vs. Indigenous firm (1998- 2007)**



Source: adapted from Kushida (2008)

¹⁷ Chen, S. H., & Wen, P. C, The Evolution of China's Mobile Phone Industry and Good-Enough Innovation., P261

**Table2. Top 5 vendors in terms of market share in
Chinese mobile phone market (2008-2016)**

		2008	2010	2012	2013	2015	2016 Q1
Foreign	Nokia	39.4%	29.3%				
	Samsung	16.5%	18.7%	17.4%	19.8%		
	LG	8.5%					
	Sony	8.1%					
	Motorola	8.4%	16.4%				
	Apple		5.4%	9.8%		13.4%	11.2%
Indigenous	Lenovo			11.0%	13.2%		
	ZTE			9.1%			
	Huawei			8.7%	10.1%	14.5%	15.8%
	Coolpad				11.4%		
	Xiaomi					15.1%	12.3%
	OPPO					8.1%	13.1%
	VIVO					8.0%	12.0%

Source: Arranged by author cited by variety of sources (2016)

Development of the Chinese mobile phone industry started in 1987, introduced by China Mobile Communications Corporation (CMCC). The first generation of wireless telecommunication used standards of Advanced Mobile Phone System (AMPS), Total Access Communication System (TACS), and Nordisk Mobil Telefoni (NMT). However, this generation of China's telecommunication equipment industry can be seen as a failure due to unstable signals and eavesdropping problems. The second generation mobile phones started using Global System for Mobile Communications (GSM) and Code-

Division Multiple Access (CDMA), enabling data transfer function in addition to the simple call function. The third generation mobile phones combined the wireless communication function with multimedia communication ability, making a huge improvement in data transmission. Then, in the next phase, China used three standards: CDMA2000 (the U.S. standard), WCDMA (European standard), and TD-SCDMA (China's own unique standard).¹⁸ In 2008, the MII¹⁹ launched 3G licenses, then, in December 2013, issued 4G LTE licenses.

China currently owns one of the world's fastest growing telecommunication markets and operates the world's largest fixed and wireless telecommunication networks. In February 2016, China had approximately 1.29 billion mobile subscribers and became the world's biggest smartphone market in terms of subscribers. Chinese mobile sector is still expanding at 5~10% per annum while the number of fixed line subscribers are declining. According to International Data Corporation (IDC), China has nearly 1 billion mobile phone users, roughly 40% of whom are currently using smartphones. China's

¹⁸ Chen, J. & Xiaorui, H, "Smartphone market in China: Challenges, opportunities, and promises", *Mobile Services Industries, Technologies, and Applications in the Global Economy*, ed. In Lee, 120-132 (2013), accessed July 03, 2016.

¹⁹ The Ministry of Information and Industry (MII) later became the basis of establishment of the Ministry of Industry and Information Technology (MIIT) in 2008. The MIIT is responsible for postal, internet, wireless, broadcasting, communications, production of electronic and information goods, software industry, and promotion of knowledge economy.

smartphone penetration rate reached 62% in 2014 among people between 16 and 59 year-old according to a Nielsen survey. The smartphone penetration rate in Chinese rural areas among this same age group was only 32% in Q4 2014. Chinese growth in the mobile phone market had been surprisingly robust until 2014, but mobile phone sales in China mainland fell by 4 percent during the second quarter of 2015.²⁰ This downturn in sales may mean that the Chinese domestic mobile phone market has matured.

Table3. Overview of current Chinese telecommunication market

Population	1,367,485,388 (July,2015)
Mobile subscribers	1283.74 million (Feb, 2016)
Transaction volume of smartphone market	98.9 million (2Q, 2015)
Smartphone Users	525.8 million (Dec. 2015)
Smartphone penetration	38.6% (Oct. 2015)

Source: Arranged by Author, data adapted from The World Fact Book

In less than 20 years' time, Chinese indigenous firms' caught up quickly, outperforming international premium brands. Chinese indigenous mobile phone vendors such as Huawei, Lenovo, and Xiaomi are improving their positions in competition with high-end smart phone firms such as Samsung and Apple in the

²⁰ Source: Gartner

world mobile phone market. Moreover, Chinese mobile phone firms are engaging in merger activities. For instance, Lenovo took over Motorola in 2014 and absorbed Motorola into Lenovo, due to Motorola's strong brand awareness and to enter into the high-end mobile phone market. Chinese indigenous mobile phone vendors have dominated Chinese domestic market and have been showing comparatively good performances in the past few years. Nonetheless they still lag behind Samsung and Apple in the world mobile phone market, which have been the leading company for many years in this market. However, considering Huawei's rapid growth, how the market will change in the foreseeable future is unclear.

Chapter IV. Case Study: Huawei Technologies

1. Firm Profile

In the early phases of opening-up and reform in China, telecommunication infrastructure was exceptionally weak, which made it crucial for the Chinese government to adopt a three-pronged strategy of importing foreign equipment, encouraging joint-venture (JV) equipment manufacturing, and promoting indigenous R&D.²¹ At the end of 1987, as the push for the telecommunication switch technology became more of a priority, Ren Zhengfei, a former member of the People's Liberation Army (PLA), established Huawei Technologies, producing switches at the end of 1987.

In 1990, Huawei started to develop its own simple switches. To differentiate itself from other domestic firms, Huawei opposed to choose the international joint-venture route, and decided to develop its own technology by doing in-house R&D. At this period, Huawei had approximately 500 R&D staffs to develop own products. Huawei released its first major product developed in-house in 1993, which was the large-scale switch (C&C08 program) that helped

²¹ Ahrens, N. *"China's Competitiveness: Myth, Reality, and Lessons for the United States and Japan: Case Study: Huawei."*, 2013

Huawei to receive a key contract to supply the PLA's first national telecommunication network. This was the first success made by Huawei's in-house R&D.

With this first success and success and through Ren Zhengfei's strategy of 'surrounding the cities with the countryside' inspired by Mao Zedong, Huawei started to deploy small cities in rural areas, and emphasized customer service and customizability. With this strategy, it gained domestic market share and started entering mainstream market. Huawei started to develop into a large-scale telecommunication firm supported by Chinese government and signed a key contract of building telecommunication network for People's Liberation Army of China. By 1996, Huawei's market share in the Chinese domestic switch market increased up to 20%; a couple of years later with low-cost and aggressive marketing strategies, Huawei was able to overtake Shanghai Bell, which had been the leading switch company.

In 1997, Huawei first made its way to overseas gaining first overseas contract with Hong Kong's firm. Two years later, Huawei built a overseas R&D center in India to develop telecommunication software. From 2000, Huawei started its internationalization by entering Asia, Mid-east, and North African markets. In 2001, Huawei entered Europe and U.S markets. Huawei's

internationalization strategy matches its domestic market strategies, following Mao Zedong's strategy of 'surrounding the city with the countryside'. Huawei started its internationalization with markets where telecommunication strategies were comparatively poor, then proceeding to the advanced markets.²²

In 2007, Huawei first started its mobile phone manufacturing business, and in 2010, Huawei started to enter the smartphone market. Huawei now has 16 R&D centers around the world, including countries as China, India, Russia, Italy, France, U.S.A, Germany and Sweden. With successful performance in both indigenous and international mobile phone markets, Huawei became one of the leading mobile phone vendors worldwide, and continues to grow.

2. Performance

1) Revenue

Started as an indigenous switch firm, approximately two-thirds of Huawei's revenue now comes from international markets, Huawei has become a global company at the current stage of its development. Since Huawei first started

²² Ahrens, N, *China's Competitiveness: Myth, Reality, and Lessons for the United States and Japan: Case Study: Huawei*, P. 24.

its mobile phone manufacturing business in 2007, Huawei's revenue has grown at an average rate of 17.7% per year. Even with the 2008 financial crisis, Huawei continued to grow, compared to other global telecom equipment competitors, like Ericsson, which underwent difficulties in regaining their footing in the global market. In 2012, Huawei came very close to catching-up with Ericsson, and surpassed it in the second quarter of 2012 in terms of sales revenue.

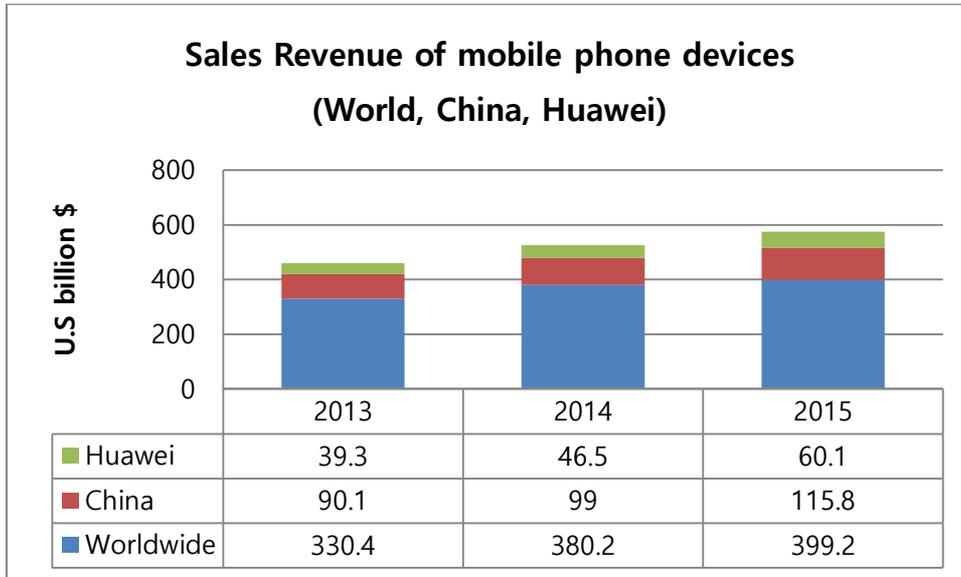
Table4. Huawei's Sales Revenue growth (2007-2015)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Sales Revenue (CNY mil)	93,792	125,217	149,059	185,176	203,929	220,198	239,025	288,197	395,009
YoY Growth Rate	-	33.0%	19.0%	24.0%	10.0%	7.9%	8.5%	20.0%	37.0%

Source: Data adapted by *Huawei Annual Report 2007-2015*, calculated by Author (2016)

In 2015, Huawei took 15% of worldwide smartphone devices sales revenue and 51% of the Chinese domestic market. Thus, not only was Huawei the leader in the Chinese mobile phone market, it also became the world's third largest mobile phone vendor. As of January 2016, Huawei's revenue overseas comprises about 65% of its total revenue.

Figure3. Sales Revenue of mobile phones; World, China, Huawei (2013- 2015)



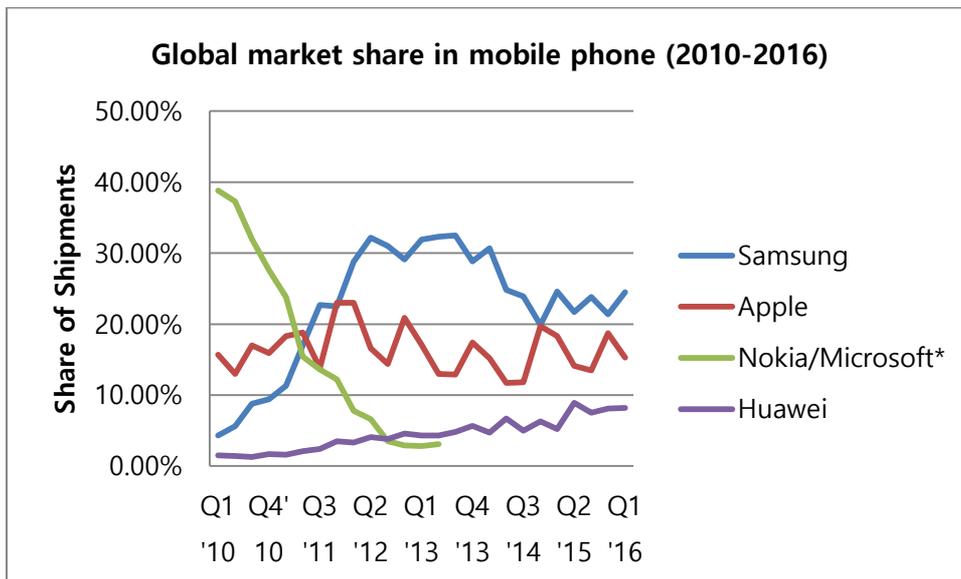
Source: Data adapted by *Huawei Annual Report 2007-2015 and Statista Data*, arranged by Author (2016)

2) Market Share

At the initial stage of 3G technology, Huawei’s market share in the worldwide mobile phone market was only 1.5%. With its low-cost, high-quality telecom products, Huawei was able to become the third biggest mobile phone vendor in terms of shipments, after Samsung and Apple, in 2105. Huawei takes up about 9% of the world mobile phone market share. Huawei showed its skyrocketing performance not only globally, but also, naturally in the Chinese domestic market. In 2012, Huawei’s domestic market share was 8.7% but in the

first quarter of 2016, Huawei's market share grew to be 15.8%, becoming the indigenous mobile phone firm holding the largest market share in the Chinese mobile phone market.

Figure4. Worldwide mobile phone market share (2010–2016)



Source: Data adapted by IDC, arranged by author (2016)

3) Government support

Huawei is a private-owned company, unlike many other state-owned enterprises (SOEs) in China. As it is a privately owned company, it is quite unclear how much support Huawei is given by the Chinese government. Ren Zhengfei, the founder of Huawei, had had a career in the People's Liberation Army (PLA) Engineering Corps, which may lead to Huawei's secretive relations

with the government. Nonetheless, there are no concrete facts concerning this relation. Therefore, in this study, only official support of the Chinese government to Huawei will be discussed.

- Geographical advantage

At the foundation of Huawei in 1988, Huawei headquarter was set up in Shenzhen, which was designated a Special Economic Zone (SEZ) by the Chinese government. In this period, in order to enhance its open-up and reform policy, the Chinese government supported firms that are located in SEZs. Due to this location advantage, Huawei was able to get preferential construction loans and tax reductions.

- Telecommunication Industry Policy

As mentioned in Chapter 2, the Chinese government started to execute policies to enhance domestic Chinese telecommunication companies. In 1998, in order to protect the industry before entering WTO, the MII and State Council issued policies that can increase the growth of indigenous telecommunication firms. They pushed the promotion of domestic firms over foreign firms and set

market share targets.²³ The State Council and MII regulated investment of foreign firms, and “Buy Local” campaigns. Moreover, coming at a time of rapid market growth and demand, Huawei’s performance was influenced by this type of government policy at the initial stage of its development.

- Foreign Policy

The Chinese government supported high technology enterprises by priority of access to capital resources and raw materials and preferential tax policies, such as the “Go Out (or Go Global) Policy.” Moreover, in the 2006 Sino–African Summit, the Chinese government included telecommunication firms as Huawei in the country’s foreign policies. In this summit, Huawei was able to sign many contracts with African countries.

²³ Harwit, E, “Building China's telecommunications network: industrial policy and the role of Chinese state-owned, foreign and private domestic enterprises”, *The China Quarterly*, 190, (2007), pp 311–332.

Chapter V. Analysis and Findings

1. Human Resources

1) Overview of Huawei's Human resources

Huawei, officially, is an employee-owned company. Today Huawei has about 170,000 employees, including more than 40,000 non-Chinese employees; about 75% of employees outside China are local.²⁴ Based on the information given in Huawei's official website,²⁵ as of 2014, 36.9% of Huawei employees were aged <30, 61.6% were aged from 30 and 50; and 1.5% were >50 years old. As can be seen from this, Huawei is a "young" company, since it operates in the ICT industry. Moreover, Huawei tries to employ quality workers by employing employees from incumbent leading firms in the telecommunication industry, offering them higher wages or better working conditions. For instance, in 2015, Huawei employed User Experience (UX) designers from Apple and in order to enter the Korean telecommunication devices market, Huawei employed Alcatel-

²⁴ David De Cremer and Tian Tao, "Harvard business Review : Case of Huawei", <https://hbr.org/2015/09/huawei-a-case-study-of-when-profit-sharing-works> (Access Date: July 3rd, 2016)

²⁵ Huawei, "Caring for Employees - Huawei Sustainability", http://www.huawei.com/en/sustainability/win-win-development/develop_love#en5 (Access date: June 24th, 2016)

Lucent's entire staff who had been in charge of SK Telecom, a Korean telecommunication service firm.

2) Employee Encouragement Strategy

- Employee Stock Ownership Plan (ESOP)

It is well-known fact that having a dedicated and committed work force makes a company more competitive. Encouragement and motivations are one of the important factors in a firm's growth. Allen (1958)²⁶ claimed that motivation of employees is clearly important for the firm. As have many researchers, he contended that there exists a positive correlation between the motivation and performance. Motivated employees are more efficient than the unmotivated group, which will influence the firm's growth and performance. Moreover, Radha Raj (2007) claimed that a motivated workforce can help the enterprise take advantage of opportunities. From previous researches, it is clear that motivation of employees has a certain influence on firm's growth. One of Huawei's motivation strategies of employees is its ESOP.

²⁶ Maertz, C. P., Griffeth, R. W., Campbell, N. S., & Allen, D. G., " The effects of perceived organizational support and perceived supervisor support on employee turnover.", *Journal of Organizational Behavior*, 28(8), (2013),pp1059-1075.

Huawei's CEO, Ren Zhengfei, said that:

*“Huawei belongs to its employees. If Huawei becomes bigger and creates more profit, employees will acquire benefits more from ESOP and they will get huge motivation to work hard to enhance productivity.”*²⁷

He designed its ESOP only three years after Huawei's foundation. Ren Zhengfei was not familiar with the stock option system as types of incentives systems, which was developed in the West. Moreover, considering the periodical background of China at the time, being an owner of a private firm was an “ugly thing,” since the private owner was a symbol of capitalism. In such circumstances, Ren decided that “not owning” his own company was the best decision for him to make.²⁸ For this reason and others, Huawei went through difficult times finding financial support for marketing and expansion, due to the reason that it was a private-owned enterprise. Therefore, Huawei implemented its ESOP to solve this funding problem.

²⁷ Zhu, Z., Hoffmire, J., Hoffmire, J., & Wang, F, “Employee stock ownership plans and their effect on productivity: The case of Huawei”, pp22

²⁸ David De Cremer and Tian Tao, “Huawei: A Case Study of When Profit Sharing Works”, *Harvard Business Review*. Retrieved 25 June 2016, from <https://hbr.org/2015/09/huawei-a-case-study-of-when-profit-sharing-works>

Huawei sets “Huawei Basic Law” (华为基本法) that premises ESOP regulations. The company laws related to ESOP are as follows:

Table5. Huawei Basic Law

(Form of Value Distribution) (价值分配形式)

第十八条 华为可分配的价值，主要为组织权力和经济利益；其分配形式是：机会，职权，工资，奖金，安全退休金，医疗保障，股权，红利，以及其他人事待遇。我们实行按劳分配与按资分配相结合的分配方式。

Article 18. Values that Huawei can distribute, are mainly consisted of organizational rights and economic interests; Other forms of distributions are: Opportunities, Authorities, Wage, Incentives, Security Pension, Medical Insurance, Stocks, Dividend and other personal treatments. We implement this based on combination of labor and capital distributions method.

(Principles of Value Distribution) (价值分配原则)

第十九条 效率优先，兼顾公平，可持续发展，是我们价值分配的基本原则。

Article 19. Efficiency comes first, and equality and sustainable development is the basic principle of our value distribution.

Source: Full text of Huawei Basic Law, adapted from 中华人才网 (2007)

Regarding the share of stock ownership, Ren retains only a 1.42% (including 0.21% of retirement pension) share of Huawei. According to Huawei's 2014 Annual Report (December 31, 2014), 82,471 employees are holding the rest of the shares. This ESOP system reflects Ren's vision. As Ren mentions in the interview with De Cremer, he wants every employee to act like a boss in Huawei.²⁹ Instead of IPO, Ren decided to share company's profits with its employees and he believes that with employee stock ownership program, Huawei will eventually maintain a 'strong collective fighting spirit' just like wolves- 'the wolf spirit' which Ren puts emphasis on.

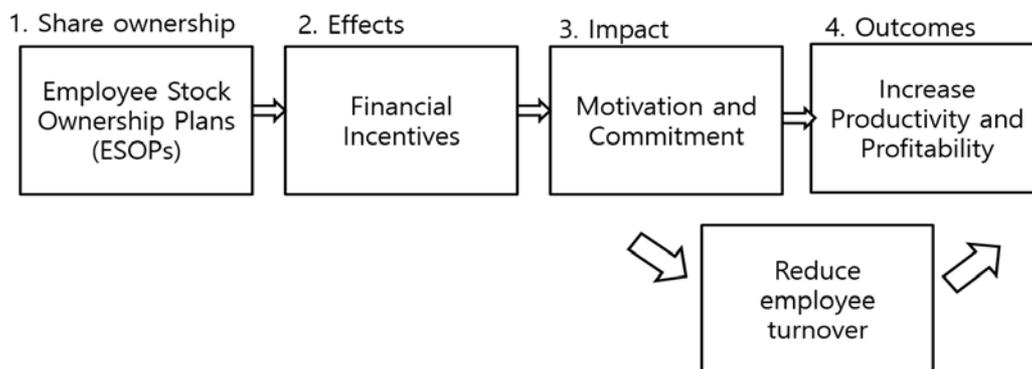
Not only ESOP system can motivate employees and increase their dedication which reduces employee turnover, it can also be related to company's productivity and eventually enhance firm's growth. Based on research by Zhu et al. (2013)³⁰ on the relation between Huawei (ESOP Company) and ZTE's (Non-ESOP Company) ESOP with the productivity during the period of 2006 to 2010, their framework imply that implantation of ESOPs will give employees financial incentives, which will lead to motivation and commitment of them. With this

²⁹ David De Cremer and Tian Tao, "Huawei's Culture Is the Key to Its Success", *Harvard Business Review*, Retrieved 12 July 2016, from <https://hbr.org/2015/06/huaweis-culture-is-the-key-to-its-success>

³⁰ Zhu, Z., Hoffmire, J., Hoffmire, J., & Wang, F. "Employee stock ownership plans and their effect on productivity: The case of Huawei", *International Journal of Business and Management Invention*, 2(8),(2013) P 17–22.

impact, it will reduce employee turnover and increase productivity and profitability at last. (Figure5) According to their results, Huawei’s total asset turnover (Tato) grew, and productivity growth also increased. This explains that there is a positive co-relationship between performance and productivity. A stronger performance leads to a stronger ESOP, eventually affecting productivity positively. Additionally, Heskett et al (2007)³¹ showed that employee turnover is correlated to customer turnover and also lower turnover rate can save costs for recruitment that can be caused by the high turnover rate. As can be seen from the results of their research (Table6), productivity affects firm’s performance, and the stimulus between them is ESOP.³²

Figure5. Framework of the study by Zhu et al (2013)



³¹ Heskett, J. L., Sasser Jr, W. E., & Schlesinger, L. A. (1997). The service profit chain: How leading companies link profit to loyalty, satisfaction, and value.

³² Zhu, Z., Hoffmire, J., Hoffmire, J., & Wang, F. "Employee stock ownership plans and their effect on productivity: The case of Huawei", *International Journal of Business and Management Invention*, 2(8),(2013) P 17–22.

Source: Adapted from Zhu et al (2013)

**Table6. Results of study of Zhu et al (2013):
Huawei and ZTE's productivity growth (unit: million RMB)**

Huawei (ESOP)	Employees	Sales	Adjusted productivity growth	ZTE (Non-ESOP)	Employees	Sales	Adjusted productivity growth
2006	62,235	66,365	1	2006	39,266	26,917	1
2007	83,609	93,792	1.05	2007	48,261	34,777	1.05
2008	87,501	125,217	1.34	2008	61,350	44,293	1.05
2009	95,106	149,059	1.45	2009	70,345	60,272	1.33
2010	111,290	185,176	1.56	2010	85,232	70,263	1.24
2006-2010	+78%	+179%	+56%	2006-2010	+117%	+161%	+24%

Source: Data adapted from Zhu et al (2013)

3) Profit-sharing vision and cost efficient employees

Quality of employees and firm performance is closely related. Huawei has advantages in hiring high-quality local employees at a comparatively lower price than other multi-national telecommunication firms. Huawei implemented big salary raise plan in year 2011 and 2013. In 2011, salary increase plan was implemented to 40,000 of its lower and mid-level employees by 11 percent and

the rest of employees' salary raised by 5 to 10 percent.³³ In 2013, Huawei again raised its salary by 25 to 30 percent, depending on the type of work.³⁴ Huawei's big salary raise can be seen as one of the empowerment of human resources strategies that are implemented by Huawei. Based on the fact that Huawei is an employee-owned company, its core value lies in the profit-sharing with its employees. Batt (2002)³⁵ contended that human resource incentives, in this case a high relative pay, help a firm to build trust and induce employee attachment and commitment. With these two times salary raise, Huawei was able to upstage its salary close to multinational telecommunication companies such as Ericsson, Nokia, Siemens and Samsung in China. Moreover, in contrast to Huawei, one of its domestic competitors, ZTE, only shared its stock option incentives to only selected employees in 2013. This differentiated Huawei from its competitors, emphasizing its image of employee-owned company, and with this wage raise in 2013, it is said that 'a number of people' from ZTE moved to Huawei.³⁶

³³ Sasin, J. (2016). "Huawei Employees to Receive Ten Percent Salary Increase," Retrieved 25 June 2016, from <http://www.shenzhen-standard.com/2011/06/21/huawei-employees-received-ten-percent-salary-increase>

³⁴ 친민 외 "IT 업계 정상 노리는 화웨이의 승부수.", (2016). *Economyinsight.co.kr*. Retrieved 25 June 2016, from <http://www.economyinsight.co.kr/news/articleView.html?idxno=2001>

³⁵ Batt, R, "Managing customer services: Human resource practices, quit rates, and sales growth", *Academy of management Journal*, 45(3), 587-597, (2002), pp 589

³⁶ Qin Min, "At Huawei, Reality Check Pushes Wages Higher." . Retrieved 25 June 2016, from <http://english.caixin.com/2013-08-29/100575465.html>

Currently, of approximately 170,000 employees, there are 10,000 employees with doctoral degrees and 60,000 employees with master's degree, accounts for 5% and 35%, respectively, of all employees in Huawei. Huawei employees' wage is categorized based on different level, and the wage gap between each level is 4000 Yuan. As in 2015, Huawei's wage status is as in the following table.

Table7. Huawei Employee Wages Status

级别 (Level)/CNY	C	B	A
13	5500	6500	7500
14	7500	9000	10500
15	10500	12500	14500
16	14500	17000	19500
17	19500	22500	25500
18	25500	29000	32500
19	32500	36500	40500
20	40500	44500	49500
21	49500	54500	59500
22	59500	Unknown	Unknown

Source: Data from <华为 2016 员工工资标准>, (中国招生考试网)

Huawei's low-cost center of China gives it a significant marginal cost advantage over its peers. When a job applicant with master's degree enters Huawei, they are included in level 13, and applicants with doctoral degree are

included in the level 14. Assistant engineers are classified as level 13; ‘Normal’ engineers, who are class B, are classified as level 14; those who are class A are in level 15; ‘Highly skilled’ engineers who are B class are classified as level 17. Huawei’s salary is regarded as comparatively high in the telecommunication industry in China, but in the case of whole TMT (Technology, Media, and Telecommunication) industry, it is placed in the medium-level. Therefore, it can be said that Huawei has cost efficiency advantages of quality employees.

▪ **Sub conclusion:** In the aspect of human resources, Huawei has two ways of empowering its internal resources:

By encouraging its employees by implementing an employee-ownership stock plan to increase dedication of employees (lower turnover rate)

Huawei also implemented two times of wage raise to show its vision of ‘employee-ownership Company’. However, even with these raise, Huawei has advantages of comparatively lower wages. With this, Huawei is able to hire more high quality employees (engineers with MAs and PhDs in engineering) compared to its global competitors, which gives Huawei a comparative advantage.

2. Technological Resources

- R&D Intensity

Huawei is a telecommunication firm, a part of high-tech industry that can be also seen as knowledge-based industry. R&D can be defined as activities done by companies to develop new knowledge on new or existing products, processes and services (Beld, 2014). According to Jones and William (2000), “Research and development is a key determinant of long-run productivity and welfare.” Many studies have been conducted regarding relation between R&D and firm’s development (Stam & Wennberg, 2009; Grillitsh & Nilsson, 2014; Parkes et al., 1985; Yang & Huang, 2005). These studies show that higher R&D expenditure leads to higher rate of development of new products and patents, which will eventually positively affect a firm’s performance.

Huawei is well known for high R&D expenditure. It is known that Huawei spends an average of 10% of its revenue on R&D. According to the 2015 Annual Report by Huawei, approximately 79,000 employees were engaged in R&D, comprising 45% of the total workforce. Employees in Huawei have comparatively high level of education. More than 70% of employees have masters and doctoral degrees, and more than 90% of employees have bachelor’s

degrees.³⁷ With the basis of high-quality employees, Huawei has cumulatively spent more than CNY 240,000 million on R&D over the past decade. In 2015, Huawei spent approximately 59.8 billion CNY (9.2 billion USD) alone on R&D. Compared to global leading high-tech firms such as Google (8 billion USD), Microsoft (10.4 billion USD) and Intel (10.6 billion USD), it is visible that Huawei is spending enormous amount of money on R&D. Below is the table of Huawei's R&D intensity (R&D expenditure/ Revenue * 100) compared to one of its potential competitors, Samsung. From the figure, it is apparent that Huawei is expanding its amount of spending in R&D, in order to strengthen its technological resources.

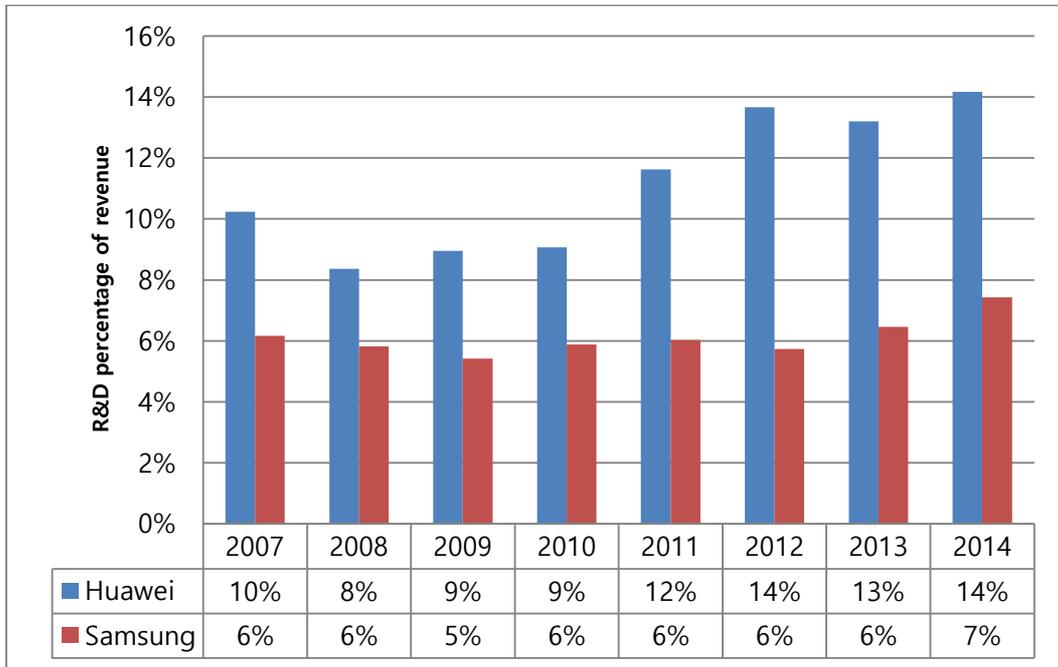
Table8. R&D intensity of Huawei (2007- 2014)

CNYmillion	2007	2008	2009	2010	2011	2012	2013	2014
Revenue	93,792	125,217	149,059	182,548	203,929	220,198	239,025	288,197
R&D expenses	1,285.77	10,469	13,340	16,556	23,696	30,090	31,563	40,845
R&D intensity	0.10237	0.083607	0.089495	0.090694	0.116197	0.13665	0.132049	0.141726

Source: Data adapted from *Huawei Annual Report, 2007-2014*, calculated by Author (2016)

³⁷ 华为企业文化. (2016), *Bdfqy.com*. Retrieved 25 June 2016, from <http://www.bdfqy.com/qita/48535.html>

Figure6. Comparison of R&D intensity of Huawei and Samsung (2007-2014)



Source: Huawei and Samsung Annual Report 2007-2014, calculated by Author (2016)

As a result of investment in R&D, Huawei is consistently developing new products that meet consumers' needs as well as increasing product quality. Stam and Wennberg (2009)³⁸ contended that, with R&D efforts, new product development will occur and will enhance growth rate. Huawei has been developing new products at a frequent rate in order to satisfy customer feedbacks and meet changeable needs of consumers. In the first quarter of 2016, Huawei launched P9 and P9 Plus model, collaborating with Germany's one of the high-

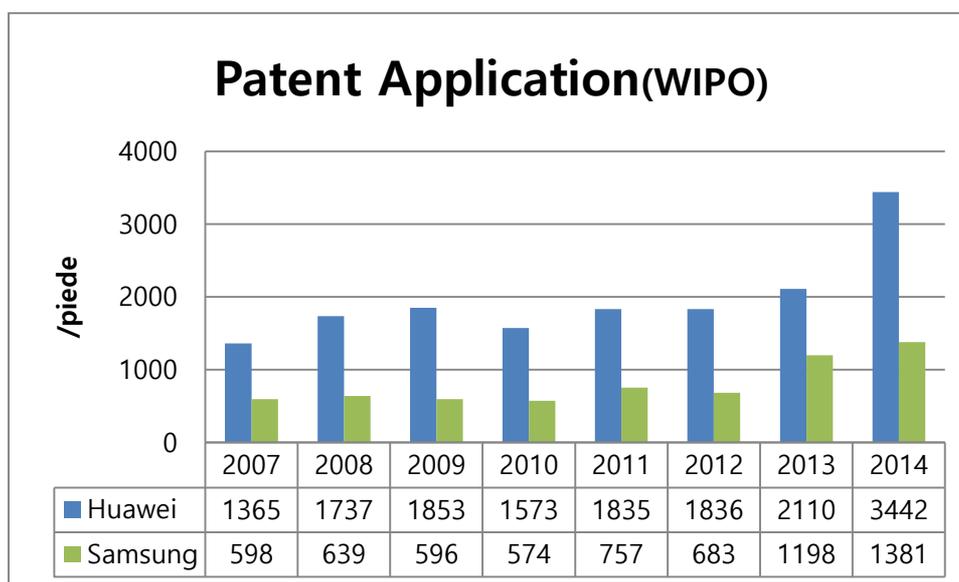
³⁸ Stam, E., & Wennberg, K, "The roles of R&D in new firm growth" pp. 77-89.

end camera equipment companies, Leica. At the initial stage of entering mobile phone market, Huawei, same as other Chinese mobile phone firms, targeted low-end market, selling cheaper mobile phones with low quality. Nonetheless, with increasing amount of R&D expenditures, it seems that Huawei is now developing more high-quality products, aiming for the high-end market including Europe and other parts of the world.

The most important result of R&D expenditure would be patent application. From the initial stage of Huawei's foundation, Ren emphasized the importance of in-house R&D. As a result of spending an average of 10% of its sales revenue on R&D, Huawei is now a leading company in terms of patents worldwide. In 2015, based on the World Intellectual Property Organization (WIPO) patent data, Huawei topped the global list of patent applications. (Figure 6.) Other than aggressive investment in in-house R&D, Huawei is preempting any "patent wars" by ratifying cross-licensing contracts with other telecommunication competitors (Apple, Nokia, Ericsson, Qualcomm, DoCoMo, Alcatel-lucent, etc.) and by developing competitive patents. By signing cross-licensing contracts with global telecommunication companies, Huawei could gain entry to international market more easily than other Chinese domestic telecommunication firms. This

strategy of Huawei distinguishes itself from other Chinese indigenous mobile phone companies.

Figure7. Patent Application comparison Huawei vs. Samsung (2007-2014)



Source: Data adapted from WIPO (World Intellectual Property Organization), arranged by Author (2016)

Table9. Top 5 patent applicants in WIPO

Overall Rank	APPLICANT'S NAME	ORIGIN CODE	2015 PCT APPLICATIONS
1	HUAWEI TECHNOLOGIES CO., LTD.	CN	3,898
2	QUALCOMM INCORPORATED	US	2,442

3	ZTE CORPORATION	CN	2,155
4	SAMSUNG ELECTRONICS CO., LTD.	KR	1,683
5	MITSUBISHI ELECTRIC CORPORATION	JP	1,593

Source: Data adapted from WIPO (World Intellectual Property Organization)

Since Huawei has started manufacturing mobile phone devices in 2007, Huawei has filed two or three times more patents in WIPO (World Intellectual Property Organization) than its competitor, Samsung. Huawei was the top applicant to WIPO in both 2014 and 2015. This implies that Huawei is showing a different attitude from other Chinese high-technology firms, who are very defensive when it comes to patents and “copying.” In May 25th, 2016, Huawei even sued Samsung for patent infringement of LTE technology related patents. This shows that Huawei is now a company not only with the low-cost advantage mobile phone manufacturer, but is a company with innovative and competitive technologies.

- **Sub Conclusion:** For technological resources,

Huawei enhances its technological resources by investing a large amount (10% of its sales revenue) in R&D. To add on, more than 40% of Huawei’s employees

are engaged in R&D; this means that Huawei is using and allocating more resources on research and development than many other indigenous telecommunication firms.

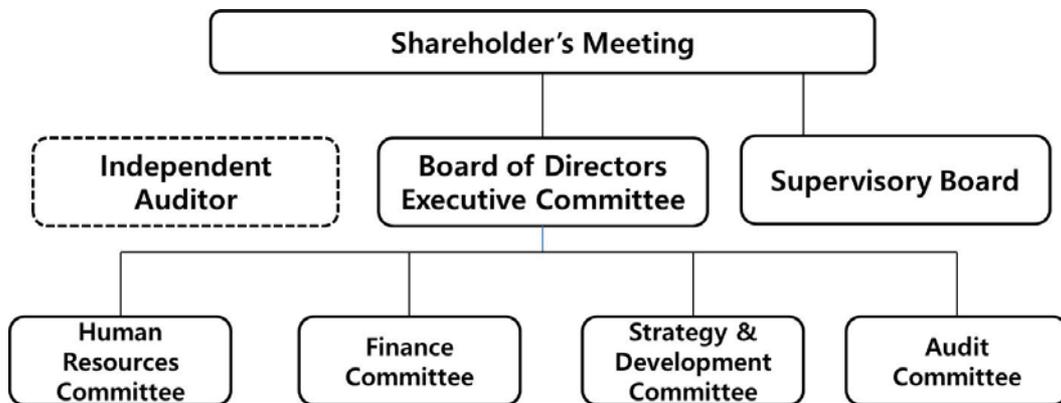
As a result, Huawei became the top patent applicant, and this created Huawei's patent (intellectual property rights) nuclear umbrella. Apparently, Huawei is now a company that is a leader in a fierce patent war in the mobile phone industry. Moreover, with its effort to empower its technological resources, Huawei is able to develop more quality products at a speed that meets consumers' needs.

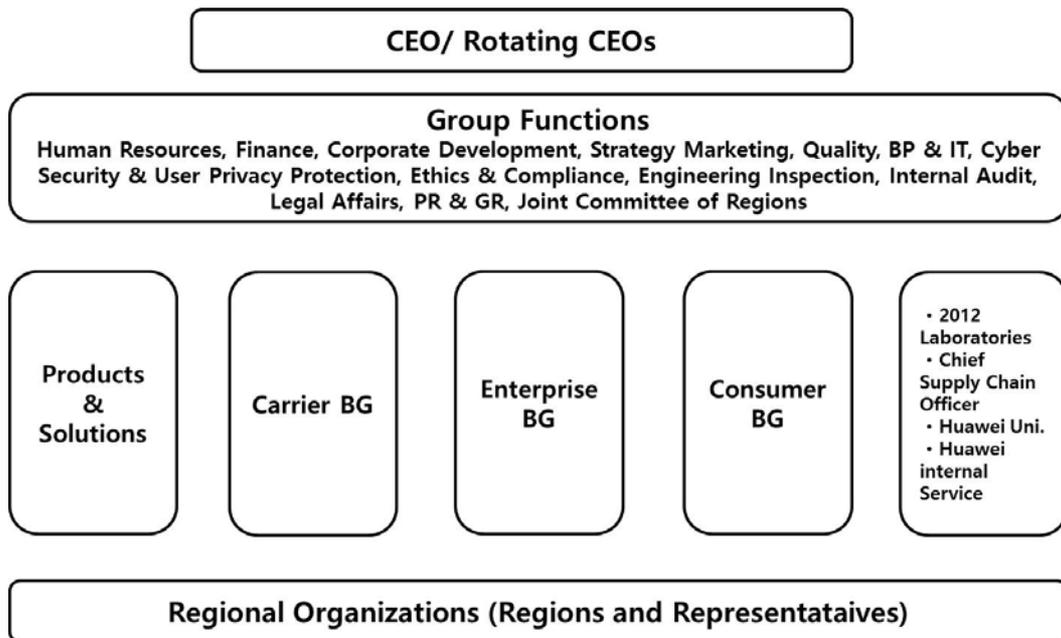
3. Structural-Cultural Resources

It is quite apparent that for firms in the contemporary world, structural-cultural resources are important. Structural-cultural resources can be seen as a unique set of company traits; since it is not easy to imitate these “traits,” this also distinguishes a company from others.

1) Structural resources

Figure8. Huawei’s organizational structure





Source: Adapted from *Huawei Annual Report* (2014)

Huawei has a unique firm structure, called the “Rotating CEO” system. Ren stated: “Traditionally, one person was authorized to act as a company CEO, and the fate of the company rested with this single person.”³⁹ It is said that this unique system that Ren brought up was inspired by a book on new leadership called *Flight of the Buffalo* by James Belasco and Ralph Stayer. For big companies like Huawei, leadership structure should be stable and it involves many risks to change it. Though, Ren chose to take this risk. This system of

³⁹ Ren Zhengfei’s Interview (2011); *Articles - Huawei Press Center. Pr.huawei.com*. Retrieved 25 June 2016, from http://pr.huawei.com/en/executives/board-of-directors/ren-zhengfei/article/hw-u_202685.htm#.V5T9sLRJnIU

“Rotating CEO” was adopted in 2011. At Huawei, three senior executives (Mr. Hu Houkun; Xu Zhijun and Guo Ping) are taking turns and rotate every six months as CEO. The CEO, during his tenure, is in charge of the firm’s operations and crisis management as well as chairing the meetings of the Board of Directors’ executive committee.⁴⁰ These rotating CEOs also are required to bring about knowledge from various sectors in the firm, and their normal duties do not waver while they act as CEO in an effort to keep stability.⁴¹

While there are three rotating CEOs, the founder of Huawei, Ren Zhengfei, maintains his role as a CEO. His role is distinguished from these rotating CEOs, and he retains the right to veto decisions made by the board. The rotating-CEO system is implemented under the Board of directors’ leadership. According to a *Wall Street Journal* interview of Chen Lifang, senior vice president and board director,⁴² Ren Zhengfei has not exercised this right to date.

Ren’s innovative management structure helps Huawei to achieve long-term and gradual decision making. Most companies, even in or outside of

⁴⁰ Osawa, J. (2016). *Huawei Innovates With Rotating CEO System*. *WSJ*. Retrieved 25 June 2016, from <http://blogs.wsj.com/digits/2013/10/14/huawei-innovates-with-rotating-ceo-system/>

⁴¹ Smith, R, *Why Huawei swaps CEO every six months*. (2016). *Managementtoday.co.uk*. Retrieved 25 June 2016, from <http://www.managementtoday.co.uk/article/1389976/why-huawei-swaps-ceo-every-six-months>

⁴² Osawa, J. (2016). *Huawei Places Big Deals on Hold*. *WSJ*. Retrieved 25 June 2016, from <http://www.wsj.com/news/articles/SB10001424052702304520704579127091011678138tp://www.wsj.com/news/articles/SB10001424052702304520704579127091011678138>

telecommunication industry, it is the norm to plan only considering short-term development. (Based on financial quarter or year) However, Huawei is planning and working on 10-year plans. Regarding external market fluctuations and other variations, this structural trait will make the company's management more stable and less vulnerable in the case of sudden resign of CEO.

In addition, this system helps support a gradual and more democratic and diversified decision-making process. Due to the uniqueness of Huawei's governance structure, it keeps decision-making power under company control, which helps Huawei to avoid outside investor's control over the company. Furthermore, since Huawei is under an employee-owned company structure, therefore ideas are communicated frequently and freely to every employee by both senior executives and Ren Zhengfei. It is well-known fact that idea-sharing is important for a firm, since it will ultimately help develop the future vision of the company. In this matter, it is possible to predict that Huawei's structural inimitability will stimulate idea-sharing of employees to leaders of the company.

2) Cultural Resources

Some say that Huawei's culture is a key factor of Huawei's success. According to Huawei's annual report, it has a clear vision of "enriching life

through communication.” It focuses on its customers’ challenges and needs, and strives to create maximum value through excellent service.⁴³ Under this vision, Huawei is trying to build a continuous customer-centric innovation and win-win cooperation.

There are many companies that say that they value customer-oriented attitudes. Nevertheless, most of these companies have a tendency not to live up to this attitude. In terms of customer-oriented culture, it is clear that Huawei distinguishes itself from its competitors. According to Huawei’s Annual Report in 2014, more than 21.2% of employees are engaged in customer service, which takes up second largest portion of its employees after ratio of research and development employees. This indicates that Huawei considers customer one of their core values.

Likewise, there is a famous episode of Huawei’s early years regarding this customer-oriented attitude. Harvard Business Review’s article⁴⁴ explains an episode regarding Huawei’s customer-centric culture. At the initial stage of Huawei’s development, in desert and rural areas in China, rats often gnawed the telecom wires, severing customers’ connections. Other multi-national

⁴³ *Huawei Annual Report* (2013)

⁴⁴ David De Cremer and Tian Tao, *Huawei’s Culture Is the Key to Its Success*. (2015). Harvard Business Review. Retrieved 12 July 2016, from <https://hbr.org/2015/06/huaweis-culture-is-the-key-to-its-success>

telecommunication firms that were providing services in that region disregarded this problem as their own. Though, Huawei viewed this problem as their responsibility to solve. In order to solve this problem, Huawei acquired extensive experience in developing sturdier equipment and materials, such as chew-proof wires. This helped Huawei to gain several big business accounts in the Middle East, where similar problems had stymied the multi-national firms.⁴⁵ Other than this, Huawei has experienced severe climate challenges, such as building the highest wireless communication base station in the world, on Mt. Everest, and building the first GSM network within the Arctic Circle.

In the case of mobile phone business, in 2014, Huawei established the telecommunication industry's first Customer Experience Transformation Center.⁴⁶ Huawei's CEM solution provides customers with end-to-end service solutions through on-line services. Moreover, Huawei is considering Operation Excellence Center (OEC) as their core strength regarding smartphone services. Huawei plans to provide on and off line services for customers and pursue its customer experience management. These means helped and will help Huawei to

⁴⁵ David De Cremer and Tian Tao, "Huawei's Culture Is the Key to Its Success" (2015). Harvard Business Review. Retrieved 12 July 2016, from <https://hbr.org/2015/06/huaweis-culture-is-the-key-to-its-success>

⁴⁶ "Huawei Announces the Industry's First Customer Experience Transformation Center Enabling Experience Centric Operation". (2016). Newswire.telecomramblings.com. Retrieved 25 June 2016, from <http://newswire.telecomramblings.com/2014/04/huawei-announces-industrys-first-customer-experience-transformation-center-enabling-experience-centric-operations/>

not only improve operational efficiency and effectiveness, also help strengthen user loyalty, create a high-quality brand, and ultimately improve Return on Investment (ROI).

In the case of Korea, where Huawei's market is not yet quite developed, Huawei is working on improving after-service (A/S) provision, unlike other multi-national mobile companies that have entered Korea. From January 2015, Huawei started its A/S service through quick service and postal services. For A/S customers, Huawei provides mobile phone rental services. Moreover, Huawei has started a one-to-one messenger solution service to meet customers' needs.⁴⁷

• **Sub conclusion:** As for empowerment of structural- cultural resources,

For structural resources: Huawei has implemented an innovative management system, the “rotating-CEO” system, making the company's environment more stable. Moreover, this system allows Huawei to make long-term plans. This helps firm to attain structural stability, will eventually positively affect economic performance.

⁴⁷ 최선웅, “중국산 스마트폰에 대한 의심을 불식시키다 - 한국 화웨이 덩녕 대표.” (2016). *앱스토리 매거진*. Retrieved 25 June 2016, from <http://monthly.appstory.co.kr/interview8164>

For cultural resources: Huawei has a “customer-oriented” culture that prioritizes customers’ needs. This enhances brand image and customer loyalty, which can be related to firm’s growth.

Chapter VI. Conclusion and Limitations

This study has analyzed how Huawei has implemented its own unique internal resources empowerment strategies in order to achieve sustainable growth of the firm. While other Chinese mobile phone companies are struggling to sustain their growths, in order to achieve further growth Huawei enforced empowerment strategies of strengthening its human resources; technological resources and structural-cultural resources.

For the empowerment of human resources; Huawei implemented Employee-Stock Ownership Plans (ESOPs) to motivate employees, which can lead to higher productivity and lower turnover rate. Huawei also implemented wage raise plans to collect quality employees. Huawei's motivation strategy and low-cost efficiency (even with the wage raise) of employees helped Huawei to have comparative advantage over its peers.

For empowerment of technological resources; Huawei invested average 10% of its revenue on research and development. Moreover, by putting large amount of work force (approximately 45% of whole employees) on R&D, Huawei became a leading firm in patent application, creating a patent nuclear umbrella to protect itself from the fierce 'patent war'. Furthermore Huawei no

longer has to target only the low-end market and is enables to develop products that can satisfy changeable consumer needs.

For empowerment of its structural-cultural resources; Huawei implemented unique system of “Rotating CEOs”, which stabilizes organizational structure and helps it to attain long-term decision making. Additionally, Huawei’s customer-centric culture is practiced by different means to satisfy customers. This allows Huawei to gain customer loyalty, operation efficiency which will eventually help enhance firm’s growth.

This study advises that so as to keep up firm’s growth, it is important for firm to empower its internal resources, rather than relying on external factors and external opportunities. With strong internal resources that are inimitable, it makes it possible for a firm to have a trait that is not easily hindered by other external factors. Therefore, it is recommended that when entering markets, growing firms in the developing regions should first empower its internal strengths, by implementing their own strategies of empowering internal resources. In this way, they will not only benefit from “late-comer effect”, but they will not be easily influenced by external environment and keep up their growths.

There exist certain limits of this study. First of all, although this study considered government support of the government as the control variable,

regarding that Chinese telecommunication companies receives the same amount of government support from Chinese government. Nevertheless, there are on-going doubts about government relations between private company- Huawei and Chinese government due to the fact that Huawei's founder Ren Zhengfei has former career as PLA officer. In this study, we only restrict government support that is officially opened to the public. Secondly, Huawei is a comparatively young firm with only less than 30 years of history. It is clear that Huawei has been showing sustainable growth compared to its domestic competitors with similar period of history. However, compared to its global competitors with as strong internal resources, it is not easy to say that Huawei will sustain its current growth and development status in the fierce competition in the global mobile industry. Lastly, Huawei's strategies researched in this paper, such as the cultural and structural factors, cannot be exactly measured as it only a conceptual factors. It would have been better, if this study had insider's opinion or views on these matters.

Overall, Huawei's growth has been skyrocketing in the past few years and is also expected to keep growing in the future. Not only with the empowerment strategies, Huawei should also adjust existing strategies redeem its loopholes, moreover, according to the changeable external environment and make

further growth in the foreseeable future. Huawei's further growth will give out hopes for those companies in the developing economies as well as giving the incumbent leaders wakeful awareness in order for them not to fall in the 'incumbent trap.'

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국문초록

1978 년 개혁개방 정책 이후, 중국의 경제는 성공적인 결과를 거두었고, 그 과정 속에서 중국 기업들 또한 중국 국내는 물론 국제 시장에서 성공을 거두고 있다. 1990 년 대 통신 산업은 중국의 취약점이라고 치부되었으나, 불과 20 년이 채 지나지 않은 최근 중국의 휴대폰 기업들은 빠른 속도로 기존 기업들을 추격해왔다. 화웨이, 샤오미 그리고 레노보 등 의 통신기업들은 지난 몇 년간 과거 통신분야가 취약했기에 외국 기업들에 의해 지배당했던 중국 시장 대부분의 점유율을 차지하게 되었다. 하지만, 기존의 시장 선두주자였던 애플과 삼성을 국내 시장에서 따돌리고 빠른 성장 추세를 보이던 중국 휴대폰 기업들은 성장의 유지에 어려움을 겪고 있다. 이들 중 화웨이는 지속적인 성장세를 보이고, 국내 시장뿐 아니라 국제 시장에서도 선두 주자 중 하나로서 성장했다. 외부 환경, 즉 시장 변화 및 정부 지원과 규제가 같다고 가정했을 때, 현재 중국 통신기업들의 부진을 통해 화웨이는 중국 내 경쟁자들과 차별화된 특징이 존재한다고 볼 수 있을 것이다. 이 연구는 화웨이의 어떤 내부역량들이 타 중국 통신장비 회사들과 차별화가 되었으며, 이

역량들을 강화시키기 위해 어떤 전략들을 세웠는지에 대해 분석하였다. 이를 통해 향후 중국 내 혹은 성장 중에 있는 다른 통신 회사들이 어떤 전략을 통해 성장할 수 있는지에 대해 주목할 만한 가치가 있을 것이다.

주제어: 화웨이, 통신산업, 내부 자원, 휴대폰 시장, 강화전략

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