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**Ph. D. Dissertation in Engineering**

**Study on Strategic CSR and Managerial  
Innovation Performance**

전략적 CSR 과 경영혁신성과에 관한 연구

**August, 2017**

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## **Abstract**

# **Study on Strategic CSR and Managerial Innovation Performance**

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A company should be concerned about social responsibility as well as economic profit for sustainable growth. CSR(Corporate Social Responsibility) has become an issue recently as concepts of strategic CSR or creating shared value(CSV), not only creating social value but also affecting corporate profit, has been important. However, the impact of changed direction of CSR on business strategy management and its various outcomes have not been studied much yet. Thus, this paper aims to suggest a frame for CSR strategy by developing a hypothesis on sustainable corporate growth mechanism and verifying it through empirical analysis.

Firstly, the study verifies the relation between main causes of CSR and financial result by using structural equation and factorial analysis. A company chooses R&D and technical commercialization among business management strategies as well as CSR for

sustainable growth. Thus, it tries to analyze the impact of main management strategies, such as CSR, R&D capability and technical commercialization capability on corporate management result in multiple perspectives. The correlation among management strategies, CSR and business results are analyzed through factorial analysis and path analysis. It tries to suggest strategic management direction for corporate sustainable growth by grasping positive and negative relations, affecting business results, at the same time, based on the analysis result.

According to the result, it is analyzed that traditional CSR might have a negative impact on business results, among various management strategies, and organization learning of R&D capability, technical strategy planning and technical process capability of technical commercialization capability have positive impacts on the result. Furthermore, it is analyzed that internal motivation of CSR, organization learning of R&D capability, technical strategy planning of technical commercialization capability positively affect traditional CSR and R&D concentration and external cause of CSR negatively affect it. In addition, analysis result on strategic CSR shows that R&D concentration of R&D capability and technical strategy planning of technical commercialization and external motivation of CSR of CSR motivation might have positive impacts on business results.

This study discusses implication, affecting decision making on CSR, R&D, directivity and impact of technical commercialization and future business results, based on empirical results, for corporate sustainable business.

In the second study, the relation between CSR, CSR fitness and business results is analyzed. One of the methods for judging whether CSR is strategically fulfilled is to discuss whether CSR activity is suitable or not. The concept on whether CSR activity is suitable is CSR fitness and, if CSR fitness is high, corporate result would be positively affected. Most studies on CSR and various corporate outcomes have studied relation between CSR and economical result or financial product and few studies have analyzed them synthetically. Through this study, relations among corporate financial result, social outcome, innovative fruit and organization performance are synthetically analyzed. The analyzed result shows that CSR fitness has a positive impact on all of financial result, social outcome, innovative fruit and organizational performance and economical result of CSR also positively affect financial, social, innovative and organizational outcome and philanthropic responsibility and ethical responsibility of CSR has a positive effect on innovative performance.

In the third study, we analyzed the R&D and financial performance using the KEJI index, a substitute for CSR activities from 2012 to 2014. First R&D intensity had a positive effect on ROA. Corporate R&D and CSR are very important resources. This resource not only enhances the competitiveness of the firm, but also positively contributes to society. Second, we analyze the impact of CSR and R&D on each industry. Manufacturing firm's R&D has had a positive impact on CSR, and non-manufacturing firm's R&D has not found any particular impact. In manufacturing firm's R&D activities consist of product and manufacturing innovation, and CSR-related activities are affected

by these products and services. Third, the impacts on CSR and financial performance were analyzed by dividing the CSR as a whole and individual evaluation items. As a result, although the total value of CSR did not have a meaningful result, soundness and fairness among CSR factors influenced financial performance.

Examples of strategic CSR of main companies are analyzed in the third study. The implication of strategic CSR is drawn through Vodafone, foreign carrier, and KT, domestic carrier, which are selected as excellent cases of strategic CSR.

This paper suggests followings for corporate management, through three studies. This paper provides a few political and business implications. Firstly, for corporate sustainable business, financial, social, innovative and organizational outcome can be improved through static CSR. For strategic CSR, technical commercialization capability and R&D concentration should be improved.

This paper has a great significance of academically suggesting a frame of main factors and outcomes for corporate sustainable growth and helping companies' understanding on value of CSR strategy and providing philosophical base.

**Keywords: CSR, Strategic CSR, Technology Commercialization, R&D, Financial Performance, Social Performance, Innovation Performance, Organization Performance**

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# **Chapter 1. Introduction**

## **1.1 Research Background**

As a role of a company has been extended from pursuit of profits to social responsibility, the discuss on Corporate Social Responsibility(CSR) has been increased. It is basically thought that a company contributes to a society through donation, returning profits to society or community service for its corporate image. However, this approach has its limitation. The discuss on social responsibility activities, utilizing corporate core competence, in a dimension of community service or donation have been increasingly done now. At initial state of CSR, ethical responsibility of a company was highlighted but CSR came to affect corporate profitability and durability with the concept of sustainability. This study will be a chance for corporate CSR activity to be recognized as a necessary condition for a company and business strategy for all companies, not for just only a few.

The most frequently cited scholar, related to CSR, is Carroll. Carroll(1979) suggests 'Pyramid model for corporate social responsibility' by dividing CSR into economic, legal, ethical and philanthropic responsibility. The 1st stage is an economic responsibility, producing, providing good products and service and selling them to consumers and creating profits. The legal responsibility, 2nd stage, is about business

activity in fair rules and doing business while observing the law.

The 3rd stage, ethical responsibility, means a company should act, according with basic values of all the persons concerned, such as consumers, employees and local residents, as a part of a society, even though it is not regulated by the law. The 4th stage of philanthropic responsibility means a company should do social contribution activity by using its resources to regional community, education and culture, which are not directly related to business management. Carroll insists that economic responsibility is done for own survival of a company and three other responsibilities are done for others. Economic and legal responsibilities should be taken by a company but ethical and philanthropic responsibilities are voluntary and, especially, philanthropic responsibility can be done in various forms by a company. The figure 1 is the pyramid model on corporate social responsibility.



Figure 1 CSR Pyramid model

Note: Three dimensional conceptual map of corporate performance(Carroll, 1979)

Related to CSR forms, insisted by Carroll, CSR methods have been evolved and diversified over time. The only social responsibility of a company during 1950~1960 was to maximize economic profits of stockholders. In 1960~1970, a consumer movement on product safety as well as economic profits started and corporate legal responsibility came to reinforced. The exploitation of labor of Nike and environment problems were on the rise during 1970~90 and enactment of ethics charter was accelerated by companies. During 1990~2000, studies and activities on strategic CSR, pursuing corporate and social profits, started and international standard of sustainability was established.

To classify strategic CSR, a business can be divided into 4, based on corporate and social profits. The company with low corporate and social profits is a stupid company



but if the company has high corporate profits but low social profits, it would be considered to selfish. Furthermore, the company with low corporate profits but high social profits is a good company and if the company has high corporate and social profits, it would be considered to be smart. For a company to do sustainable business, a smart company should be accomplished through strategic CSR, achieving corporate and social profits at the same time.

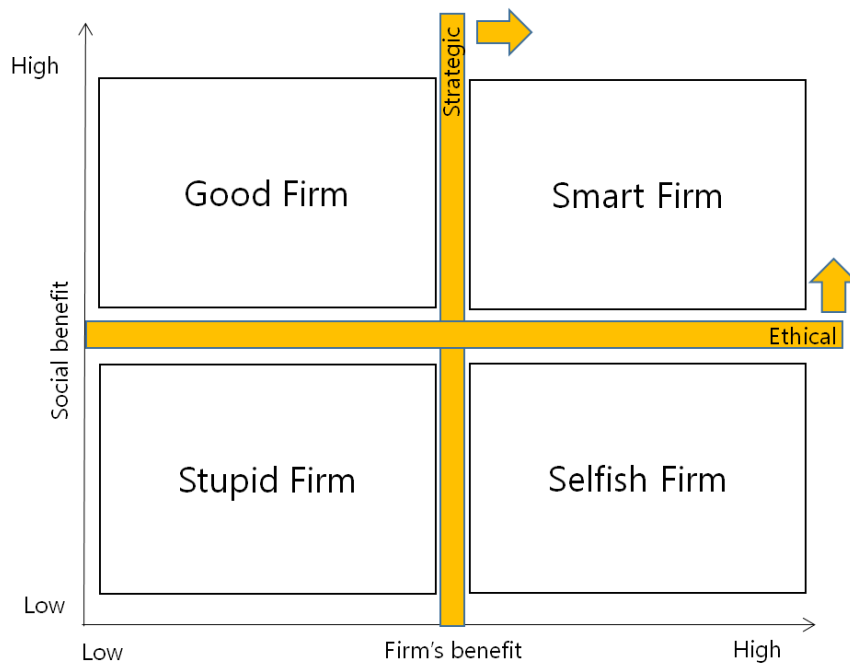


Figure 2 Firm classification

With this trend of CSR and big interest on strategic CSR, necessity of effects and main factors of CSR and strategic CSR have increased. In addition, firms are trying to know the extent of the outcome of CSR.

## **1.2 Problem Description**

Usually, knowing little about CSR methods and being uncertain to CSR effect hinder CSR promotion. According to research on the actual condition of CSR in 2009 by the Federation of the Korean Industries, lack of knowhow and information takes 36.3%, lack of certainty to progress result takes 26.3%, conflict with sales result takes 25% and uncertainty to CSR outcome takes 51.3% among factors, disturbing CSR progress. Furthermore, importance of strategic CSR is overlooked, CSR is being done substantially the same and in defensive or passive perspective and CSR is greatly influenced by personal preference of CEO. As examples and methods of CSR are around large companies, small businesses just imitate simple donation form or some of CSR activities of large companies.

Most existing CSR studies have been done on general CSR or financial outcome. It has been done by analyzing the whole with CSR as a unit, connecting to 4 stages of CSR of Carroll and doing empirical analysis with K.L.D index. As strategic CSR concept was introduced not long ago, most studies have been done on concept and directivity for strategic CSR and few studies have been done on outcome and main factors of strategic CSR. In addition, there was a limitation in explaining correlation among CSR, strategic CSR and various outcomes as most studies have been done on financial and social outcome, depending on various forms of CSR.

### **1.3 Research Objective**

This research tries to study direction of CSR change and analyze relation among factors of related business strategy management for corporate sustainable growth. Furthermore, it tries to prove CSR effect by verifying the relation between CSR and various business outcomes. For this, it aims to provide a frame for CSR strategy by suggesting the hypothesis on CSR as a corporate growth mechanism and verifying it through empirical analysis.

First, it tries to analyze the impact of main factors of strategy management, such as CSR, R&D capability and technical commercialization capability, on business outcome in multiple perspectives. Furthermore, it analyzes the effect of R&D and technical commercialization as main factors of strategic CSR.

Next, it analyzes correlation with various corporate performances to verify CSR effect. In addition, it verifies relevance between CSR fitness and various corporate outcomes for strategic CSR. Through this, the relation among CSR, CSR fitness, corporate financial, social, innovative and organization results can be studied.

Finally, it tries to draw implications by analyzing how actual strategic CSR is applied and analyzing its features with strategic CSR examples.

## 1.4 Research Model

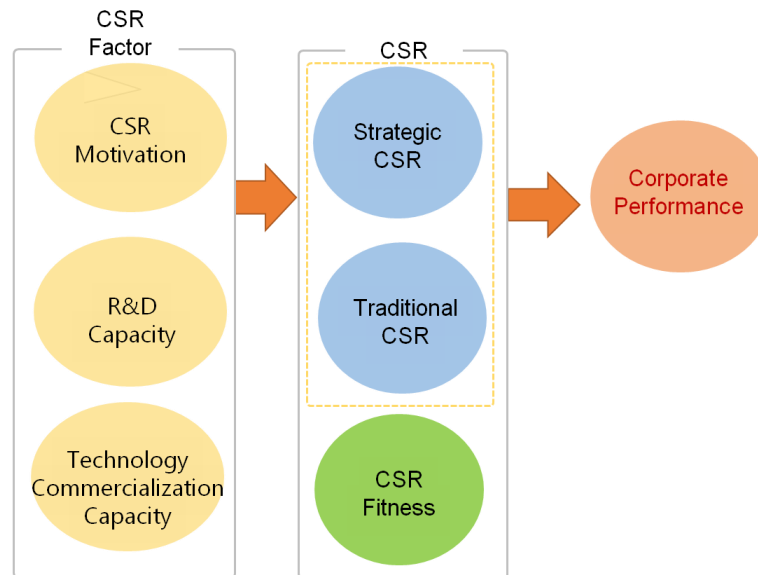


Figure 3 Research Model

This study tries to analyze the impact of CSR factors on CSR and impact of CSR on result, based on 3 axis of CSR factor, CSR and result. The main hypotheses are as follow.

Hypothesis 1) Strategic CSR has a positive impact on result.

Hypothesis 2) CSR motivation has a positive impact on CSR.

Hypothesis 3) R&D capability has a positive impact on strategic CSR.

Hypothesis 4) Technical commercialization capability has a positive impact on strategic CSR.

Hypothesis 5) CSR fitness has a positive impact on result.

## 1.5 Thesis outline

We have structured this paper in the following manner. In chapter 1, we introduce the paper. In chapter 2, we include literature research on CSR. In chapter 3, we analyze CSR and CSR factors, CSR and financial performance. In chapter 4, we analyze CSR and various corporate performances. In chapter 5, we analyze the R&D and financial performance using the KEJI index, a substitute for CSR activities from 2012 to 2014. In chapter 6, we introduce major strategic CSR case study. In chapter 7, we include discussion and application and in chapter 8, we provide our conclusion.

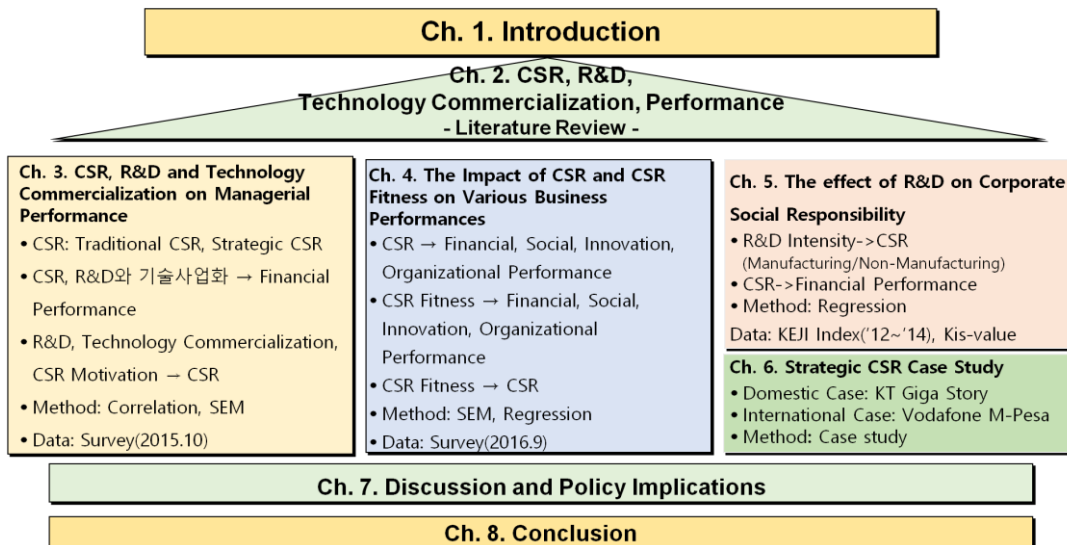


Figure 4 Research Outline

## **Chapter 2. Theoretical Background**

### **2.1 CSR**

Although there are various opinions about CSR, it can be summed up as an activity conducted by businesses to satisfy societal values and goals that go beyond the profit motive. Bowen(1953) introduced the concept of CSR in business and defined it as the “obligation of businessmen to pursue desirable policies from the perspective of society's goals and values and make decisions or conduct within the context of them.”Providing a broader definition, McGuire(1963) explains that CSR obligations towards society extend beyond economic and legal obligations. Carroll(1991) divided it into five stages: first stage includes economic responsibility (maximization of profit), second stage covers legal responsibility (observation of regulations), third stage covers ethical responsibility (observation of ethical standards), fourth stage focuses on altruistic responsibility (conducting charitable deeds regardless of profits earned),and final stage includes strategic responsibility (making profits through charitable deeds). Lantos(2001) classifies corporate economic, legal and ethical responsibility among CSR into ethical responsibility, which should be done obligatorily, altruistic responsibility, philanthropic responsibility, not related with creation of business profits, and strategic responsibility, which is done with creating profits..

Table 1 Definition of variables

	Neo-classical view	Corporate citizenship	The persons concerned	Strategic CSR view
Researcher	Friedman(1962)	Preston(1975)	Freeman(1984)	Porter&Krammer (2002)
Role of company	Maximize interest of shareholders	Hold competitive advantage through social participation activity	Create long-term corporate value by combining interest of the persons concerned	Create differentiation, competitive advantage, long-term profit by establishing strong corporate intangible asset
CSR	Economic result Deny CSR itself	Social responsibility for improving social evolution	Satisfying various needs of the persons concerned	Satisfying various needs of the persons and pursuing social evolution

## 2.2 Strategic CSR

The strategic CSR is business activity, providing products or service, contributing to a society, with knowledge and knowhow from management activities. Fry et al(1982) insists that strategic philanthropy is a management strategy, part of philanthropic contribution, and helps a company contribute to a society at the same time. Lantos(2001) and Porter&Kramer(2006) define strategic CSR as CSR activity, beneficial to a company and good to a society and Quester&Thompson(2001) explain that strategic CSR is a help

to a society and company and, eventually, becomes a financial profit. Furthermore, Porter&Kramer(2006) assert that strategic CSR is not a concept of cost but it is a chance, innovation and source of competitive advantage and corporate competitiveness and social welfare could be improved through shared value of a company and society. They define the concept of Creating Shared Value(CSV), related to strategic CSR, and explain re-recognition of product and market, re-definition of productivity at value change and development of industrial cluster at a community are needed.

Sharma&Vredenburg(1998) assert that strategic business activity creates competitive advantage and creation of value requires innovation, as value comes from the union of new and corporate resource, and CSR provides the chance to create this innovation. Bryan&David(2007) define strategic CSR in resource-based perspective. They classify strategic dimension into Centrality, Voluntarism, Proactivity, Visibility, and Appropriability and compare traditional CSR, traditional strategy and strategic CSR. Munilala&Miles(2005) classify CSR into CSR, which should be observed, strategic CSR and forced CSR. The CSR, which should be observed, means CSR activity, considered to existing cost, and forced CSR is CSR done by the demand from social organization or shareholders. The strategic CSR is a particular competitiveness, where CSR is used as a target of investment.



Table 2 CSR and Strategy Differentiation approach

Strategic dimension	CSR and differentiated strategy approach		
	Traditional CSR	Traditional strategy	Strategic CSR
Visibility	Do good things for its profits	Recognize its product and brand to consumer	Recognize product and CSR value to the persons concerned and shareholder
Appropriability	Do good things for its profits	Get value, related to supplier, customer, competitor	Get value, related to the persons concerned, for company
Voluntarism	Participate in social activity beyond corporate interest and demand from the law	Corporate innovation, based on learning ability	Participate in social activity beyond demand from the law
Centrality	Do good things for tie for social needs but not for core business activity	Create value through product and service innovation	Create value through product service, related to social issue
Proactivity	Expect change in social issue	Expect leading advantage	Expect change in social issue of current market

Byun(2011) classifies CSR into traditional and strategic CSR and analyzes the impact of CSR on business outcome by dividing main factors of traditional CSR into responsibility activity of creating profits and legal-ethical responsibility activities among 4-stage CSR pyramid model of Carroll(1991) and separating strategic

CSR into responsibility activity of social contribution from 4-stage CSR pyramid model of Carroll(1991) and social innovative responsibility activity through studies by Porter(2011) and Mituo Junichi(2004).

Table 3 Traditional CSR and Strategic CSR

Traditional CSR	Responsibility of creating profits	Carroll(1991): Economic, legal, ethical responsibility
	Legal, ethical responsibility	Porter&Krammer(2006): Responsive CSR Mituo Junichi(2005): Preventive ethics Ibuki Eiko(2006): Defensive ethics
Strategic CSR	Social-contribution responsibility	Carroll(1991): Philanthropic responsibility Porter&Krammer(2006): Strategic CSR
	Social-innovative responsibility	Mituo Junichi (2005):Active ethics Ibuki Eiko (2006): Aggressive ethics

\*It is re-quoted from “Strategic CSR activity and business outcome”, by Byun(2011) & Kim(2011).

Porter&Kramer(2011) defines concept of strategic CSR as CSV(Creative Shared Value) and insists that existing CSR is a response to external pressure for improving business reputation but CSV is creating shared values by strategically pursuing economic and social values together.

Table 4 CSR and CSV

Compared Item	CSR	CSV
Target value	Doing good things	Cost-effectively economic and social value,
Core value	Corporate citizen, charity, sustainability	Creating shared value of company and community
Motivation	Discretionary or response to external pressure	Main factor of securing competitiveness
Relation with economic profit	Separate from maximizing profits	Main factor of maximizing profits
Contents	Decided for report to outside or by personal preference	Internally decided, depending on company
Influence range	Restricted by environmental, social outcome and CSR budget of company	Re-adjust overall corporate budget
Example	Fair trade	Switch of purchase process for improving quality and retention

### 2.3 CSR motivation

James(2012) analyzed the internal factors that motivate firms to conduct CSR activities. These factors include CEO's willingness to conduct altruistic activities, active communication within organization, voluntary participation of workers, financial capacity, and satisfaction level of workers. Kim(2010) divided the external factors that motivate

CSR activities into social atmosphere, understanding social needs, international CSR standards, government incentives, and collaboration with NGO. From the perspective of stakeholders, Kim(2013) divided factors that motivate CSR into a firm's internal capacity, hierarchy system, and environmental factors. The internal capacity comprises debt ratio, cash flow, productivity and profitability, and advertising and training expenses; hierarchy system includes shareholders, CEO, board of directors, foreign investors, and institutional investors; and environmental factors comprise industrial features, welfare and improvement in working environment of workers, and influence of unseen factors, competitors, customers, debtors, regulations, tax policies, and local communities

Breitbarth, Hovemann, & Walzel(2011) suggest business image, reputation, brand improvement, crisis management, resource efficiency, innovation to new thinking method, access to new market, response to political, legal and regulatory pressure and establishment of continuous relation with shareholders as business motivation of CSR.

Some studies have dealt with main factors of CSR at small businesses, recently. Kusy&Lozano(2007) classifies CSR motivation of small businesses into internal and external causes and insists that internal reasons are based on internal decision making and external causes are based on external pressure on CSR activity. The example of internal motivation is personal ethics or value of a manager and that of external cause is pressure from a regional community.

Coppa&Sriramesh(2013) asserts that moral motivation of CSR is more important than internal motivation from small businesses. Garay&Font(2013) says ethical motivation,

such as environmental protection or social contribution, is more important than economic motivation.

Table 5 CSR motivation

Researcher	Motivation factor
Buehler and Shetty(1974)	Improving own profit, observing law, creating image, profits, preventing violence
Wood(1991)	Economic, legal, ethical, philanthropic motivation
Becker-Olsen, Cudmore and Hill(2005)	Beneficial, social motivation
Ven van de and Graafland(2006)	Strategic, moral motivation
Ellen, Webb and Mohr(2006)	Value-centered, the persons concerned-centered motivation, selfish and strategic motivation
Vlachos, Tsamakos, Vrechopoulos, and Avramidis(2009)	Value-centered, the persons concerned-centered motivation, selfish and strategic motivation

\* Kim(2013) Study on corporate social responsibility as an enterprise business activity: management perspective

## 2.4 Stakeholder Perspectives on CSR

The stakeholder-oriented approach is divided into the following categories: normative, instrumental, and visually descriptive (Donaldson, 1995). The normative perspective is related to the level of motivation of CSR from the management position and their concerns with whether or not to make a sound and moral business decision; the instrumental perspective is a question of how CSR can play a key role in generating

corporate performance. Meanwhile, the explanatory perspective relates to the attempt to understand CSR's emergence, and how it is perceived alongside the reality of corporate management. This approach has the advantage of utilizing CSR strategically according to the CSR type, the targets, and the priorities after theorizing and systematizing CSR (Hillman and Keim, 2001).

## **2.5 CSR and Performance**

A company should consider CSR as an important measure for corporate sustainable growth and competitive advantage not as cost for promoting a company or improving its image. For this, an objective result, showing CSR has a complex impact on other results as well as financial outcome, is needed.

The measurement of CSR performance has an important impact on vitalization of CSR. If the impact of CSR on performance can be accurately judged, CSR could take its place as an actual factor for business management system. Furthermore, CSR performance can be used as an indication of future corporate value or sustainability. The research on the relation between CSR and performance is about CSR and financial performance, CSR and social outcome, financial and social result. Recently, TBL(Triple Bottom Line), combining financial index and external effect concept, is used to measure social performance, sustainability report is expanded. Elkington(1997) suggests TBL, uniting financial, environmental and social performance, as a corporate performance report mechanism.

CSR performance was only connected with financial result in a lump, thus the impact of CSR on financial performance was shown consistently positive or negative before. Therefore, if performance is divided into various results, not into only financial outcome, the correlation between CSR and performances can be studied.

### 2.5.1 **Financial Performance**

The study on CSR has focused on the impact of CSR on financial performance. It was done to use the study as a data, making shareholders and the persons concerned recognize CSR as an investment not as cost. CSR uses CSP(Cooperate Social Performance) as a variable and financial performance uses CFP(Cooperate Financial Performance) as a variable. Studies have mainly focused on investigating whether CSR or CSP has a positive or negative or no relation with CFP. The study by Moskowitz(1972) is the initial study, analyzing the relation between CSP and CFP, and it says that CSR and business stock price has a positive relationship.

Margolis&Walsh(2003) analyze 127 researches, studying CSP and CFP, done during 1972~2002. The number of studies, setting CSP as an independent variable, is 109 and 54 studies see it's positive, 7 studies say it's negative, 28 researches analyze it is not significant and other 20 insist it is unclear relation. Among 22 studies, making CSP as a dependent variable, 16 analyze it is positive relation. As shown above, majority of

existing studies show CSR has a positive impact of financial performance.

### **2.5.2 Social Performance**

In the research on CSR and performance, the performance is mainly classified into financial and non-financial or economic and social performance. Among these, non-financial performance is analyzed as the similar concept with social performance. The study on social performance and CSR is as follows. Kim&Park(2001) insists that CSR has a positive impact on socioeconomic performance, such as local employment, local income and quality of education. The study by Byun&Kim(2011) classifies strategic CSR into social-innovation and social-contribution responsibility and profit-making responsibility and shows strategic CSR improves social performance. Furthermore, social performance is defined as pro-social activity of a company, related to CSR activity, as the concept of CSP(Corporate Social Performance) and is the performance, protecting a society, such as social contribution and green marketing of a company. (Varadarajan & Menon, 1988; Luo & Bhattacharya, 2006)

### **2.5.3 Innovation Performance**

The innovation in a company means an active activity in business, trying to make a novel idea, new products and business process, by members of a



company(Kheng&Mahmood, 2013). Borger(2006) analyzes CSR effectively leads the organizational atmosphere and has a positive impact on innovative action by employees. It is analyzed that CSR has a positive impact on employees in a company as well as draws economic profits by improving external business image.

In addition, Grayson&Hodges(2004) say CSR can lead an innovation as the driver for creating new product, work process and market and Mendibil(2007) finds that innovation of progressive small businesses has a positive impact on CSR. Krammer(2007) also discovers that companies achieve a result through innovation, creating social effects, through studies, targeting 50 small businesses, doing CSR.

#### **2.5.4 Organization Performance**

The organization performance means the performance, shown while an organization progresses a task.(Rainey&Steinberg, 1999) The organization performance is sometimes classified into organizational efficiency(output effect against input cost), productivity(organizational achievement) and form characteristic of member(job satisfaction, organizational commitment, turnover intention) .(Katz&Kahn, 1978) The measurement index of organization performance is various but, generally, it can be divided into financial performance of growth rate, earnings rate and stock price and non-financial performance of turnover rate, job satisfaction and organizational satisfaction. Some studies on the relation between CSR and organization performance investigate how

employees, the persons concerned in a company, evaluate CSR activity. In the study on CSR and organization study, the organization performance is analyzed with the performance variable of organizational commitment, member commitment and emotion, attitude and act to an organization.(Peterson, 2004; Rupp et al.,2006; Vlachos et al.,2010)

## **2.6 CSR Fitness**

The CSR fitness means relation or similarity between corporate CSR activity and main social agent, supported by a company, or business and CSR activity (Menon&Kahn, 2003). If CSR activity does not correspond to the information and expectation about/to a company, customers might recognize CSR negative, thus, CSR fitness is an important concept(Sen, 2001). Furthermore, CSR fitness is recognized as a strategic measure for effectively performing CSR activity.(Bigne et al., 2012)

There are studies, showing CSR fitness has a positive impact and no impact. For its positive impact, one study suggests a company image can become positive, if business type corresponds to CSR activity(Drumwright, 1996) and another study shows that the high CSR fitness has a positive impact on corporate credibility and image(Rifon et al., 2004). For its negative impact, one study insists that there is little difference in purchase intention between cases with high CSR fitness and low CSR fitness(Lafferty&Goldsmith, 2005).

The studies, classifying CSR fitness, are as follow. The fitness between CSR and corporate core business, CSR and image on CSR, felt by consumers, CSR and support to

related community is classified in the study(Drumwright, 1996) and the fitness among image, corporate product, CSR activity and target market of CSR activity and target market of product is divided in the study(Varadarajan&Menon,1988).

## **2.7 R&D**

Firms try to develop new technology through R&D investments for acquiring continuous success, maintaining comparative advantage, and achieving market success with innovative products. The R&D capacity is a dynamic capacity for maintaining comparative advantage, conducting R&D, and creating knowledge to reinforce firm power (Zahra and George, 2002).

The learning mechanism in a firm plays an important role in maintaining the R&D capacity (Lucas and Bell, 2000). Effective organizational learning through knowledge and knowledge-creation is good for improving the performance of the firm and maintaining comparative advantage. The use of external resources through an external network plays an important role in technological innovation that is facilitated by R&D (Bell&Albu,1999). Yam(2004) described R&D capacity as the capacity to combine R&D strategy, project execution and management, and R&D expenditures. In addition, Yam (2004) refers to R&D intensity as one of the factors of R&D capacity.

The studies mentioned in this section describe the relationship between R&D and CSR. Hull and Rothenberg(2008) maintained that CSR with lower innovation intensity and lower degree of product differentiation has a high influence on managerial

performance. Innovation intensity uses R&D expenditure and differentiation degree uses advertisement expenditure, while social performance uses the KLD(Kinder, Lydenberg, Domini) index and managerial performance uses ROA(Return on Assets). Padgett(2010) found that the R&D intensity significantly influences social responsibility in the manufacturing industry; however, the findings did not show a significant effect of the R&D intensity on the non-manufacturing industry. As per Padgett's(2010) analysis, the pressure from government and stakeholders in the manufacturing industry is higher, and hence the influence of R&D intensity on CSR is higher in this industry. Jo(2011) discovered that the probability of implementing CSR activity has positive relationship with corporate governance variables, such as leadership and independency of board of directors, and share of institutional investors. In addition, CSR implementation has a positive relationship with corporate characteristics variables, such as size of the firm, R&D expenditure, profitability, and diversification; however, it has negative relationship with debt ratio. McWilliams and Siegel(2000) indicated the theoretic and empirical limitation of existing studies that analyze the correlation between CSR and managerial performance without taking into consideration the R&D intensity. R&D intensity is an important variable, and a lack of emphasis on this variable affects the accuracy of explanations in these studies.

## 2.8 Technology commercialization

There are cases in which the results of successful R&D could not be connected with the performance of firm, and the capacity to commercialize technology considering strategic, institutional, and environmental factors is necessary to overcome this inability.

Among the various models suggested for the technology commercialization process, the major ones are described in this section. Cooper's (1986) technology commercialization process model described the process as the development of concept, examination of feasibility, field test, and determining the size of commercialization; Jolly(1997) divided it into technological observation, cultivation, realization, stimulation, and continuation stage; and Goldsmith(2003) divided it into initial inspection stage, development stage, commercialization, technology, marketing, and firm perspective.

About the technology commercialization capacity, Nevens *et al.*(1990) maintained that it is the capacity to acquire comparative advantage through cost reduction, quality improvement, and acquisition of new technology. To this end, CEOs should prioritize technology commercialization and set clear goals about technology commercialization; and, the managerial decision-makers should participate in the technology commercialization process. Concerning the strategic plan of increasing the technology commercialization capacity, Adler and Shenbar(1990) suggested that the capacity must satisfy market needs, facilitate the manufacture of products, satisfy future needs, and provide against utilizing unexpected technology. Cooper and

Kleinschmidt(2007) emphasized the importance of technologic strategy, technologic process, and technologic organization.

We used the study of Yam(2004) that analyzed the relationship between technological innovation and firm performance to substitute technology commercialization capacity and analyze the relationship with technologic innovation capacity. Zahra and Nielsen(2002) argued that a firm should consider managerial performance measurement for successful technology commercialization. Camison and Villar-Lopez(2015) analyzed the effect of business performance on technological innovation capacity and divided technological innovation capacity into process innovation capacity and product innovation capacity.

# **Chapter 3. CSR, R&D and Technology Commercialization on Managerial Performance**

## **3.1 Introduction**

Today, the circumstances under which environment changes and technology improves, firms are making various efforts to reinforce competitiveness through change and innovation.<sup>1</sup> At the backdrop of this kind of a business environment, CSR is considered a necessary factor, and not an optional one, for enabling businesses to meet the demands of the changing times and achieve sustainable growth. Recently, CSR became one of the most important business trends for building reputation and image. In addition, firms have been continuously considering means of simultaneously pursuing economic profits and contributing towards society for achieving sustainable growth. The CSR concept recently became an important subject because of the creation of social value through CSR and the growing popularity of the strategic CSR or creating shared value (CSV) concept.

However, less research has been done to analyze the effects of applying CSR's demands to the field of business strategic management. Through this thesis, we would

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<sup>1</sup> This manuscript is revision of the author's paper from Sustainability, 2007, 9(6)

analyze the effect of the relationship between CSR and business strategic management. In order to create win-win results for strategic CSR, it would be necessary to ensure that both the firm and society acquire shared common value. The factors of innovation should be used as inputs for creating common value and achieving positive results. Therefore, we would discuss how research and development (R&D) and technology commercialization, which represent the innovation input factors, influence traditional and strategic CSR.

Through empirical results, we can understand the manner in which managerial performance is influenced by technology-research development, technology commercialization, and CSR. In addition, the research will help us to understand the relationship among CSR, R&D, technology commercialization, and managerial performance. A research on the correlation between each factor will suggest a basis for setting the direction of strategic management for sustainable growth of firms.

## **3.2 Research Model and Hypothesis**

### **3.2.1 Hypothesis**

To set hypothesis for firm's long-term strategy through CSR's essential factors. This study set the hypothesis of CSR, R&D, and technology commercialization as strategic factors of management and managerial performance based on earlier studies mentioned above. CSR is divided into traditional CSR and strategic CSR based on the study of Porter and Kramer(2006) and Byun(2011). The traditional CSR is based on Carroll's (1991) CSR pyramid model and divided into economic responsibility, legal responsibility,



and ethical responsibility; and, strategic CSR is partly based on Carroll's (1991) CSR pyramid model and includes Philanthropic responsibility and partly includes the socio-innovative responsibility of Porter's (2011) CSV factor. Strategic CSR creates new values for a firm and society, and innovation is considered as an important factor for value creation. Here, we investigate the relationship between traditional CSR and strategic CSR by setting R&D and technology commercialization capacity as variables. Based on the study of Yam *et al.* (2004), Cohen and Levinthal (1989), Dutta *et al.* (1999), and Hagedoorn(1993),R&D capacity is composed of organizational learning, R&D intensity, and external networks. The technology commercialization capacity is composed of strategic technology planning, technological process capacity, and organizational capacity, based on the study of Nevens *et al.*(1990) and Cooper and Kleinschmidt(2007). In addition, based on Hoopes (2012) and Kim (2010),the factors motivating CSR are divided into internal CSR motivation factors, such as CEOs and leaders of an organization, and external factors, such as socio-environmental factors and the government. Therefore, structural equation modeling(SEM) is used in this study for setting CSR, R&D, and technology commercialization as variables that influence traditional CSR and strategic CSR.

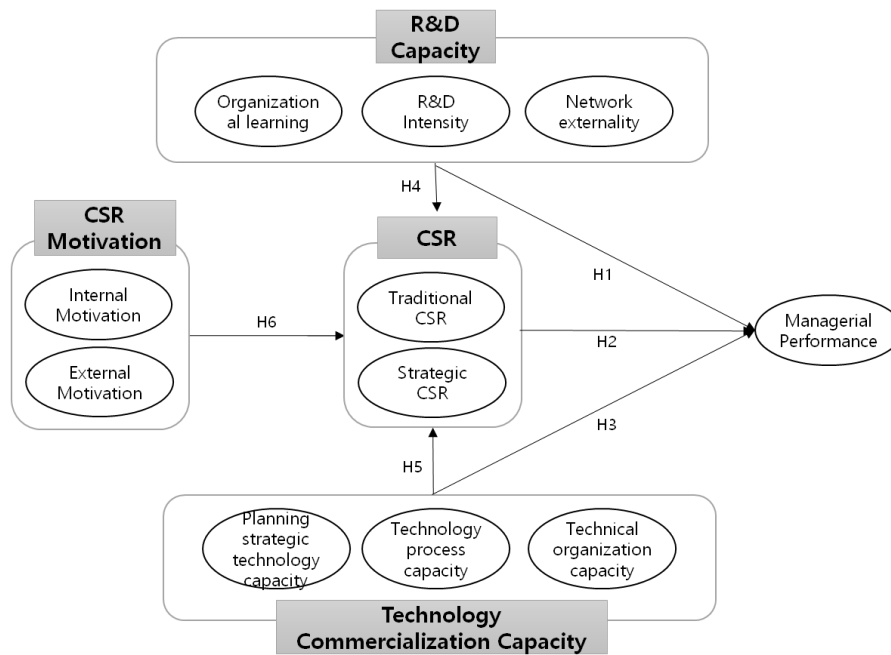


Figure 5 Research Model

H1: CSR is positively related to a firm's performance.

H2: R&D capacity is positively related to a firm's performance.

H3: Technology commercialization capacity is positively related to a firm's performance.

H4: R&D capacity is positively related to CSR.

H5: Technology commercialization capacity is positively related to CSR.

H6: CSR Motivation is positively related to CSR.

### 3.2.2 Definition of variable

The following variables are used for operational definition structure model.

Table 6 Variables and Measurement parameters

Variable	Measurement parameter	Researcher
CSR motivation	Internal variable Firm will of CEO for charity Motivation provided by leaders of organization Organizational network communication	Hoopes (2012)
	External variable Socio-environmental variable Government motive NGO motive	Kim(2010)
Traditional CSR	Economic responsibility Profit maximization Quality improvement Operating expense reduction Strategy for long-term growth	Carroll(1979), Brown and
	Legal responsibility Law-abiding management Compliance to relevant laws Compliance with legal demands	Dacin (1997), Maignan et al (2001)
	Ethical responsibility General principles of ethics Ethical norms Effort for ethical trust	
Strategic CSR	Philanthropic responsibility Donation Resolution of social problems Contribution to local community	Carroll(1991)
	Socio-innovative responsibility Re-recognition of product and market Redefinition of productivity in the value chain Industrial cluster development for local community	Porter and Kramer(2006)
R&D capacity	Organizational learning Capacity to monitor technological trend continuously Capacity to absorb knowledge acquired externally Recognition of importance of tactical knowledge (intangible knowledge)	Yam et al.(2004), Cohen and Levinthal (1989)

	R&D Intensity	Ratio of R&D investigation in the total sales Ratio of R&D human resource in the total employee Expected R&D expenditure in accordance to growing sales	Yam et al.(2004) Dutta et al.(1999)
	Network externality	Developing new markets through technology cooperation with external institutions Creation of synergy effect through technology cooperation with external institutions Effectiveness of technology cooperation with external institutions	Hagedoorn (1993)
Technology commercialization capacity	Planning strategic technology capacity	Clear goal for technology commercialization Degree of understanding customer demand for developing new markets Benchmarking competitors	
	Technology process capacity	Standardized technology commercialization process Systemized feedback Staged management and risk management	Nevens et al. (1990) Cooper and Kleinschmidt (2007)
	Technical organization capacity	Operation of specialized department for technology commercialization Degree of human resource participation in commercialization Collaboration for technology commercialization	
Managerial Performance		Increased revenue Increased profit Increased growth rate trend	Arora(2002)

### **3.2.3 Research data and method of analysis**

To verify the hypothesis of this study, survey method has been used. To analyze the influence of individual recognition on decision-making of organization, employees of a company who are familiar with CSR were chosen for the questionnaire survey. Based on the preliminary analysis of survey questions, the questionnaire was revised and confirmed. Survey was conducted from October 28, 2015, to October 31, 2015, via an e-mail method that was designed by a specialized company. The responses of 212 participants, out of a total of 1,408 respondents who work in an office and are familiar with CSR were used as valid statistics data.. For the empirical analysis, the variables were composed of 3 ~ 4 questions based on the previous research analysis and the 7 - step likert scale was used as the measurement method.

## **3.3 Empirical Analysis**

### **3.3.1 Technical statistics**

The general features of the population surveyed are as follows:

- (1) Gender: The ratio of female participants was higher (female 50.5% and male 49.5%).
- (2) Age: The ratio of respondents that were 50 years of age was highest (31.6%). The

participants of 20, 30, and 40 of age comprised 22.6 percent, 23.1 percent, and 22.6 percent of the study, respectively.

- (3) Level of education: Respondents with university degree, high school degree, master's degree, and doctorate degree accounted for 76.4 percent, 9.4 percent, 9.9 percent, and 9 percent, respectively.
- (4) Position: Respondents holding deputy, section chief, deputy head of the department, head of department, and board member positions comprised 52.8 percent, 19.5 percent, 19.5 percent, 11.8 percent, and 7.5 percent, respectively.
- (5) Working Period: The ratio of work experience less than 5 years was highest (46.7%); 5–10 years, 10–20 years, and more than 20 years were 22.2 percent, 18.4 percent, and 12.7 percent, respectively.
- (6) Number of employees: The ratio of 101 to 500 employees was the highest (30.2%); less than 50, 50 to 100, and more than 500 employees were 27.8 percent, 15.1 percent, and 26.9 percent, respectively.
- (7) Revenue (Korean won (₩)): The ratio of less than 10 billion was the highest (53.3%), 10.1 to 50 billion, 50.1 to 100 billion, 100.1 to 500 billion, and more than 500 billion were 17.5 percent, 8 percent, 10.8 percent, and 10.4 percent, respectively.
- (8) Years of entrepreneurship: The ratio of 10–20 years was the highest (30.7%), less than 10 years, 20–30 years, 30–40 years, and more than 50 years were 15.6 percent, 18.4 percent, 15.6 percent, and 9.4 percent, respectively.

The mean and standard deviation for each variable are shown in Table 7. The mean value for the traditional CSR was the highest, and there was no significant difference between the standard deviation variables

Table 7 Statistics of Variable

Variable		Number of Question	Average	Standard deviation
CSR motivation	Internal variable	3	4.93/4.71/4.76	1.23/1.17/1.13
	External variable	3	4.91/4.33/4.39	1.12/1.38/1.25
Traditional CSR	Economic responsibility	4	5.21/5.42/5.49/ 5.23	1.28/1.16/1.18/ 1.14
	Legal responsibility	4	5.51/5.16/5.35/ 5.37	1.10/1.20/1.12/ 1.10
	Ethical responsibility	4	5.35/5.48/5.52/ 5.17	1.18/1.11/1.16/ 1.24
Strategic CSR	Philanthropic responsibility	4	4.79/4.95/4.67/ 4.97	1.37/1.27/1.30/ 1.21
	Socio-innovative responsibility	3	4.68/4.72/4.63	1.22/1.23/1.21
R&D capacity	Organizational learning	3	4.87/5.14/5.11	1.18/1.06/1.11
	R&D Intensity	3	4.36/4.28/4.71	1.26/1.28/1.30
	Network externality	3	4.71/4.68/4.72	1.25/1.15/1.19
Technology	Planning	3	4.95/4.92/4.80	1.17/1.15/1.20

commercialization capacity	strategic technology capacity			
	Technology process capacity	4	4.88/4.80/4.92/4.81	1.16/1.20/1.14/1.15
	Technical organization capacity	3	4.64/4.67/4.71	1.39/1.30/1.23
	Managerial Performance	3	4.64/4.51/4.54	1.20/1.09/1.11

### 3.3.2 Verification of the validity of variable and reliability

Four questions on CSR variables that were inconsistent with internal consistency were deleted after conducting a factor analysis of each variable. Subsequently, factor analysis was conducted on the remaining questions. The findings revealed a factor-loading index higher than 0.7 for all questions. This score proves the internal and external validity of the questions.

Validity analysis was conducted through Cronbach's alpha coefficient. Cronbach's alpha coefficient is used to measure validity or consistency between variables. Alpha coefficient that is higher than 0.8 implies a highly strong consistency and alpha coefficient that is higher than 0.6 implies acceptable consistency. In this analysis, all the variables scored higher than 0.7, and therefore the respondents answered the questions with consistency.



Table 8 Summary of Factor Analysis and Feasibility Analysis

Variable		Initial Number Question	Final Number Question	Factor Loading	Cronbach's alpha
CSR motivation	Internal variable	3	3	0.8082 0.8967 0.8845	0.8291
	External variable	3	3	0.7334 0.8595 0.8083	
Traditional CSR	Economic responsibility	4	2	0.7507 0.7047	0.7156
	Legal responsibility	4	4	0.8261 0.8094 0.7794 0.8117	
	Ethical responsibility	4	3	0.8380 0.8328 0.8562	
Strategic CSR	Philanthropic responsibility	4	3	0.7308 0.7049 0.7096	0.8730
	Socio- innovative responsibility	3	3	0.7178 0.7144 0.7610	
R&D capacity	Organizational learning	3	3	0.8200 0.8658 0.8343	0.7915

	R&D Intensity	3	3	0.9162 0.9152 0.8927	0.8936
	Network externality	3	3	0.7322 0.8943 0.9104	0.8927
Technology commercialization capacity	Planning strategic technology capacity	3	3	0.8708 0.8817 0.7121	0.7441
	Technology process capacity	4	4	0.8208 0.8992 0.8669 0.9005	0.8949
	Technical organization capacity	3	3	0.8689 0.9283 0.8652	0.8653
Managerial Performance		3	3	0.9021 0.9164 0.9153	0.8979

### 3.3.3 Verification of hypothesis

We analyzed the influence of CSR, R&D, technology commercialization, and CSR motivation on CSR, and the results of this analysis are shown in figure 6 and table 9. The model of study is to understand the correlation between multiple independent and dependent variables, and hence the study uses SEM to verify the route of the model. The

SEM is composed of structure model and measurement model; the structure model indicates a correlation between latent variables and measurement model indicates a correlation between latent variables and observation variables.

As a result of SEM route analysis, research hypothesis verification can have a significant influence on the correlation between variables, if the non-standardized regression significance value (P) is smaller than 0.05. As a result of hypothesis verification, the managerial performance path coefficient of organizational learning for R&D capacity was 0.3297 (H2-1), strategic technology plan for technology commercialization capacity was 0.3197(H3-1), technology process was 0.2452(H3-2), and traditional CSR was -0.4291(H1-1). Therefore, the above hypotheses were considered effective and others theories were nullified. Strategic CSR showed positively effective value; however, due to a high p-value the hypothesis has been rejected.

With respect to traditional CSR, path coefficient of organizational learning for R&D capacity was 0.3297(H4-1), R&D intensity was -0.1356(H4-3), strategic technology plan of technology commercialization capacity was 0.3114(H5-1), external CSR motivation was 0.0241(H6-3). Therefore, the above hypotheses were considered effective and others were rejected.

Concerning the strategic CSR, path coefficient of R&D intensity was 0.1332(H4-4), strategic technology plan of technology commercialization capacity was 0.2406(H5-2), external motivation was 0.4603(H6-4). Therefore, the above hypotheses were considered effective and others were rejected.

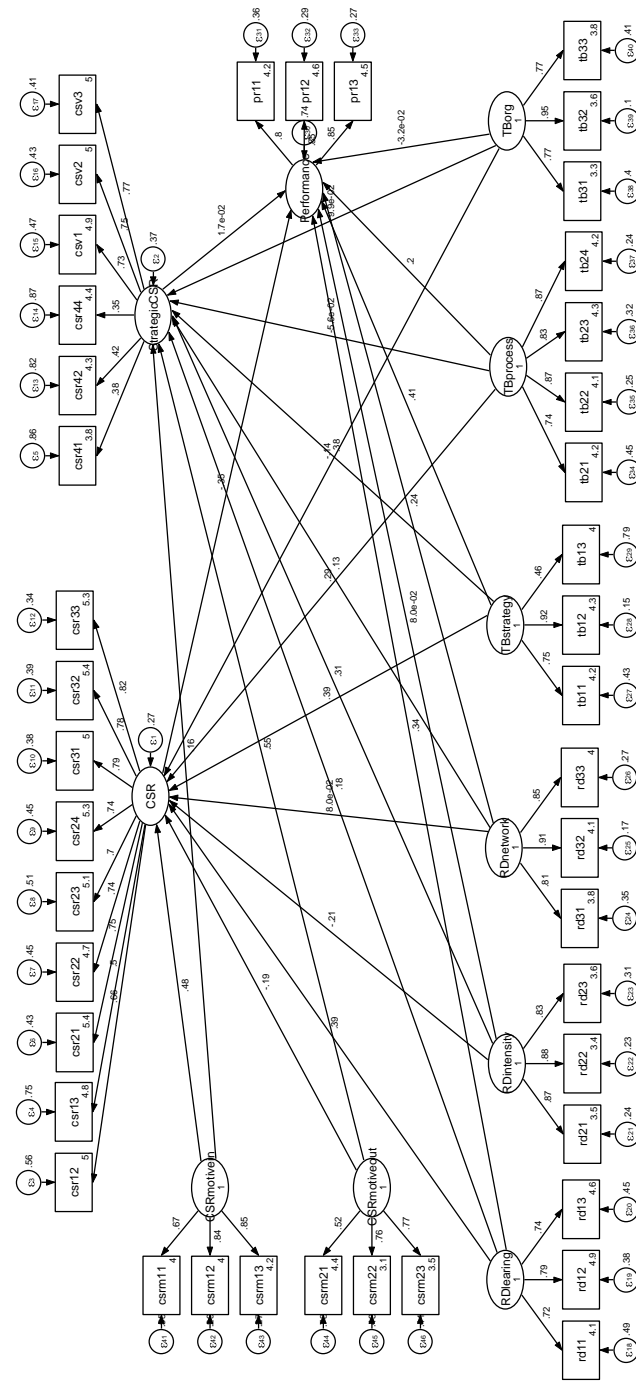


Figure 6 Structural equation model

Table 9 Path analysis summary

Hypothesis	Path name	Coefficient	p-value	Ad/Re
H1-1	Traditional CSR → Performance	-0.4291	0.018	adopt
H1-2	Strategic CSR → Performance	0.0316	0.864	reject
H2-1	Organizational learning → Performance	0.3297	0.000	adopt
H2-2	R&D Intensity → Performance	0.1355	0.034	reject
H2-3	Network externality → Performance	0.0564	0.033	reject
H3-1	Planning strategic technology → Performance	0.3197	0.000	adopt
H3-2	Technology process → Performance	0.2452	0.008	adopt
H3-3	Technical organization → Performance	-0.094	0.152	reject
H4-1	Organizational learning → Traditional CSR	0.3297	0.000	adopt
H4-2	Organizational learning → Strategic CSR	0.0996	0.096	reject
H4-3	R&D Intensity → Traditional CSR	-0.1356	0.024	adopt
H4-4	R&D Intensity → Strategic CSR	0.1332	0.010	adopt
H4-5	Network externality → Traditional CSR	0.0565	0.334	reject
H4-6	Network externality → Strategic CSR	0.0609	0.206	reject
H5-1	Planning strategic technology → Traditional CSR	0.3114	0.000	adopt
H5-2	Planning strategic technology → Strategic CSR	0.2406	0.008	adopt
H5-3	Technology process → Traditional CSR	-0.0870	0.179	reject
H5-4	Technology process → Strategic CSR	-0.0312	0.671	reject
H5-5	Technical organization → Traditional CSR	-0.0937	0.152	reject
H5-6	Technical organization → Strategic CSR	0.0441	0.401	reject
H6-1	CSR Internal Motivation → Traditional CSR	0.4199	0.000	adopt
H6-2	CSR Internal Motivation → Strategic CSR	0.0945	0.134	reject
H6-3	CSR External Motivation → Traditional CSR	-0.0241	0.017	adopt
H6-4	CSR External Motivation → Strategic CSR	0.4603	0.000	adopt

### **3.4 Conclusions**

Is CSR really essential factor for sustainable growth? The CSR practices are considered necessary, rather than optional, in recent times. However, internally, firms consider it as a normal Philanthropic activity. In other words, it is considered as an expensive practice. To overcome this mindset, it is important to conduct a research that studies the relationship among corporate image, social performance, and profit motive. Therefore, this study categorized CSR as traditional CSR and strategic CSR, and empirically analyzed the effect of R&D capacity and technology commercialization capacity based on previous studies. It analyzed the influence of core strategic management factors, such as traditional CSR, strategic CSR, R&D capacity, and technology commercialization, and the manner in which these factors influence traditional and strategic CSR. According to the results of analysis, traditional CSR can have negative effect on managerial performance factors and organizational learning for R&D capacity, whereas the technologic strategy plan of technology commercialization capacity can have a positive effect. Besides, internal factors of a firm that motivate CSR, organizational learning for R&D capacity, and technologic strategy plan have a positive effect on traditional CSR. Contrarily, factors that can have a negative effect include R&D intensity and external factors that motivate CSR activities in a firm. The results of strategic CSR analysis reveal that the factors exercising a positive influence include R&D intensity of R&D capacity, technology strategic plan of technology commercialization capacity, and external factors motivating

CSR. These results are based on empirical analysis.

First, the negative effect of traditional CSR is because firms still recognize CSR as an expensive activity. They need to employ differentiation strategy for developing CSR activities. This strategy can boost social and economic performance (instead of increasing costs) and broaden perception of strategic CSR, focusing on its potential to create value for society and firm at the same time.

Second, to advance firm's performance, the firms need to use differentiated technology for expanding organizational learning capabilities and implementing a strategic plan for developing technology commercialization capacity and process.

Third, R&D intensity has negative effect on traditional CSR because R&D and traditional CSR are considered as expensive investments. While R&D intensity has negative effect on traditional CSR, it can have a positive effect on strategic CSR. This is because businesses can execute effective strategic CSR for creating new value-added services and product through R&D intensity.

Fourth, the strategic technology plan for technology commercialization capacity influences strategic CSR in a positive way. This factor helps us to understand that the effective use of existing technologies can help businesses to execute strategic CSR.

Fifth, if firms possess capabilities for technological learning, technology commercialization, and systemized technology commercialization process, then they can

effectively execute traditional CSR.

Sixth, traditional CSR is influenced more by internal factors, such as the willingness of CEOs and CSR motivation by the leaders of an organization. Contrarily, strategic CSR is influenced more by external factors, such as socio-environmental, governmental, and non-governmental organization(NGO) factors.

Despite the implications of above results, this study includes some limitations. If the survey target and analysis target of CSR, R&D, and technology commercialization comprised decision makers, the nit would have been possible to analyze the implications with greater accuracy. In addition, the CSR factors were based on the study of Carroll(1991) and Porter et al.(2011). However, future study is needed to develop and use persuasive strategic CSR and CSV factors for analyzing the influence these factors on social and managerial performance



# **Chapter 4. The Impact of CSR and CSR Fitness on Various Business Performances**

## **4.1 Introduction**

A Corporate has been doing various efforts to improve competitiveness through change and innovation under the situation where the business environment shifts dramatically and technology develops rapidly. In this business environment, CSR is a new paradigm for corporate sustainable growth not just a charitable activity of a company. Recently, CSR has been one of the important business trends for business reputation and brand image. Furthermore, a company is concerned about the direction, pursuing social contribution as well as corporate economic profits through CSR for sustainable growth. CSR has been an issue as the concept of strategic CSR, not only affecting corporate profits but also creating social value, has become more important. One of the methods, done to investigate strategic fulfillment of CSR, is to discuss whether CSR activity is right or not. The concept on whether CSR activity is right is CSR fitness and the high CSR fitness has a positive impact of business performance. (Drumwright, 1996) Besides CSR fitness, the relation between CSR and performance has received lots of attentions to investigate whether CSR is fulfilled strategically and what the impact of CSR is. CSR The CSR performance is divided into social performance, improving social welfare, and

economic performance, increasing corporate profits.(Porter&Krammer, 2002; Windsor, 2006). The economic and social performances can be classified into details but a few studies have synthetically analyzed various corporate performances. Most studies analyze the relation between CSR and economic performance or financial outcome. This paper tries to analyze the relation among CSR, CSR fitness and financial, social, innovative and organization performance through existing CSR, corporate outcome and this study. It tries to suggest grounds for setting strategic business for corporate sustainable growth by analyzing correlation among CSR, CSR fitness and business outcome thorough empirical study.

## **4.2 Research design**

### **4.2.1 Research model and hypothesis**

This study formulates the hypothesis on CSR, CSR fitness and various corporate outcomes, based on advanced researches, mentioned above. As the accurate measurement of subordinate dimension is needed, rather than unitary measurement of CSR, to understand CSR activity, legal and ethical responsibility of 4-stage CSR pyramid model of Carroll(1991) are united to legal-ethical responsibility. Thus, CSR is divided into economic responsibility, legal-ethical responsibility and philanthropic responsibility.

The economic performance is divided into tangible and intangible

economic outcome in the study, related to CSR performance. Financial performance includes ROI, sales increase and increased profitability as tangible economic performance and it is found that CSR has a positive impact on the financial performance.(Abbott &Monsen,1979; Korschin&Sen, 2009; Mackey&Barney, 2007; Weber, 2008) It is also discovered that CSR positively affects intangible economic performance of customer satisfaction, purchase intention, image, organization satisfaction, innovative performance.(Sen&Bhattacharya, 2001; Gupta&Grau,2007; Becker-Olsen, Taylor&Yalcinkaya, 2011; Rupp et al.,2006; Vlachos et al.,2010)

A financial performance sets tangible economic performance as a variable and organizational and innovative performance of intangible economic performances are made variable. Furthermore, it is known that CSR has a positive impact on social performance of local employment, local income and quality of education (Kim&Park, 2011). Based on the existing research results, the hypotheses 1 and 2 are developed.

H1. CSR will have a positive(+) impact on economic performance.

H2. CSR will have a positive(+) impact on social performance.

As discussed in advanced researches, the higher CSR fitness is, the more positive the impact on corporate performance would be. (Drumwright, 1996; Rifon et al., 2004, Sen, 2001). The economic and social performance, most frequently used in the

study on CSR and corporate outcome, are used as variables for corporate performance. The economic performance is divided into financial, organizational and innovative outcomes, as discussed in the above hypothesis 1 and 2. Based on these advanced research results, the hypotheses 3 and 4 are set.

H3. CSR fitness will have a positive(+) impact on economic performance.

H4. CSR fitness will have a positive(+) impact on social performance.

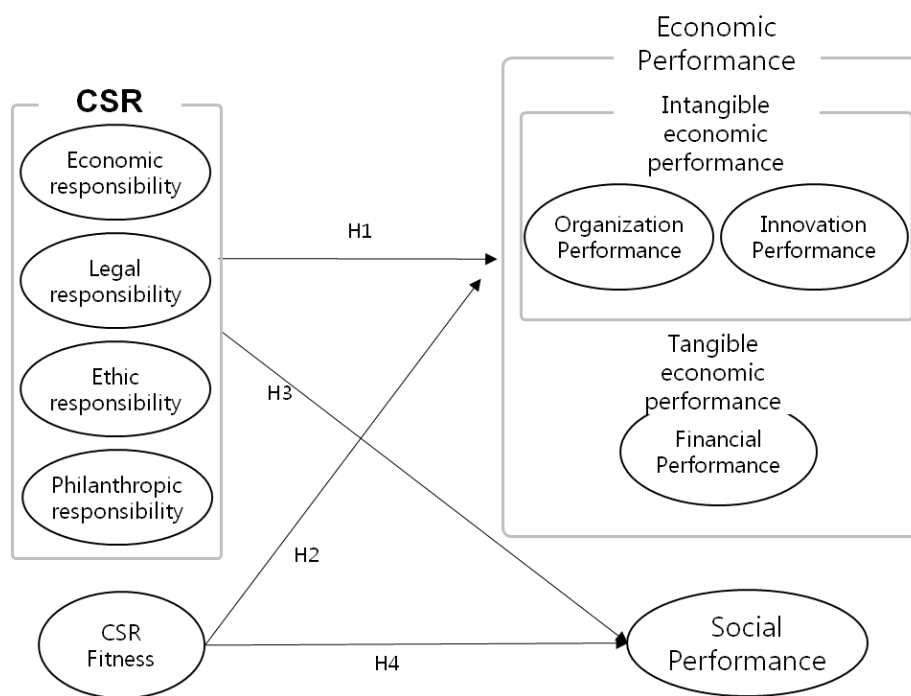


Figure 7 Research Model

#### 4.2.1 Manipulative definition of variables and measurement parameter

This study does manipulative definition on variables to verify research model and hypotheses, set based on the advanced researches. To verify the hypotheses, survey is done and the survey is composed of questions, whose validity is accepted in advanced researches. Variables of measurement item are measured with 7-point Likert scale and the response is composed of ‘Strongly disagree(1)’ to ‘Strongly agree(7)’. The manipulative definition of variables and measurement items, used in the structure model are as follow.

Table 10 Variable and Measurement parameter

Variable	Measurement parameter	Previous research	
CSR	Economic Responsibility	Profit maximization Quality improvement Operating expense reduction Strategy for long-term growth	Carroll(1979), Brown&Dacin (1997), Maignan et al (2001)
	Legal Responsibility	Law-abiding management Compliance to relevant laws Compliance with legal demands	
	Ethical Responsibility	General principles of ethics Ethical norms Effort for ethical trust	
	Philanthropic Responsibility	Donation Resolution of social problems Contribution to local community	Carroll(1991)

CSR fitness	Conformity of CSR and business feature Relevance between CSR and business feature Similarity between CSR and business feature	Berens (2005), Speed & Thompson (2000)
Financial performance	Sales increase Profits increase Trend of increasing growth rate	Arora (2002)
Social performance	Rate of increase in creation of jobs Employee satisfaction Improvement of social service	Borzaga & Deforuny (2001) Peattil & Morley (2008)
Innovative performance	Impact on organizational management through innovation Impact on performance through innovation Impact on accomplishment of sales through innovation	Damanpour & Evans (1991)
Organization performance	Level of business success Growth level Profitability Innovation	Campbell (1977)

#### 4.2.1 Method of data collection and analysis

To verify the hypotheses, survey is done. The survey targets people, who have positions over team leaders in a company with over 100 employees. The questionnaire items are revised and fixed, based on the result of preparative analysis on questions. The survey was done from 12th to 22th of September, 2016 through emails through agency,

specialized in survey. The 192 responses from people, over team leasers, are utilized as effective statistical data. In this study, SPSS 22.0 is used for reliability and internal validity analysis and AMOS 22 is used for path analysis.

## **4.3 Empirical result**

### **4.3.1 Technical statistic**

The general features of target are as follow. For sex, the ratio of men is bigger than that of women as 60.5% and 39.5%. For age, people in forties take 44.3%, in thirties take 44.1% and in fifties take 11.6%. For academic background, college graduates are 80.2%, Masters are 14.0%, high school graduates are 3.4% and Doctors are 2.4%. For position, team leaders take 98.8% and executives take 1.2%. For continuous service year, 5~10yrs take the biggest part, 40.7%, and 10~20yrs take 39.5%, 1~5yrs take 10.5% and over 20yrs take the rest, 9.3%. For the number of employees, 101~300 take the largest part, 43.0%, 301~500 take 25.6%, 501~1,000 take 14.0%, 1,001~5,000 take 10.4% and over 5,000 take the rest, 7.0%. For sales, over 100 billion take the largest portion of 25.6%, 10.1~30 billion take the next large portion of 30.2%, 50.1~100 billion take 16.3%, below 10 billion take 16.3% and 30.1~50 billion take 11.6%. For business history, 30~50yrs take the biggest part, 36.0%, 20~30yrs take 20.9%, 10~20yrs take 18.6%, over 50yrs take 12.8%, 5~10yrs take 9.3% and less than 5yrs take 2.3%.

### 4.3.2 Exploratory factor analysis

Before progressing exploratory factorial analysis, sampling adequacy of KMO, Bartlett's test of sphericity and size of correlation coefficient matrix are investigated to judge whether sample is adequate for factorial analysis. First, KMO value, measuring sampling adequacy of KMO and Bartlett, is .900 and Bartlett's test of sphericity shows statistical value of 1221.938(df=153,  $p < 0.001$ ), meaning correlation matrix is suitable for factorial analysis as it is significant at .001 of significance level(Seong, Tae-je, 2007; Song, Ji-joon, 2008).

Some items of measured variables are removed through criterion purification process. Firstly, exploratory factorial analysis is done to verify validity. The principal component analysis was done to all measured variables to draw components and orthogonal rotation method was used for simplification of factor load value. The basis of factor was over 0.8 of characteristic value and factor load value was over 0.4.

The difference between loading amount, stacked at each factor, and loading amount, stacked at different factor, is used to judge convergent validity and discriminant validity in exploratory factor analysis. It is said that the convergent validity judges the question has a convergence if factor loading amount of factor, united into one factor, is over 0.50. by Hai., et al(2006).

Table 11 is the result of exploratory factor analysis. As loading amount of factor is over 0.5 for all questions, it is shown that the convergent validity of variables, measuring each theory factor, is high.



The discriminant validity is about whether the measured factor is separate from the other items, measuring different concepts, as a special factor. The factor loading amount of each question shows that the relevant has more stacked loading amount than other factors and, as a result, it is discriminant and explains 76.80% of overall dispersion. Cronbach's  $\alpha$  value, explaining internal consistency of questions is over 0.8 for every question, thus it means reliability of questionnaire is secured.

Table 11 Result of Exploratory factor analysis

		Component			
		1	2	3	4
Legal·Ethical responsibility	Legal3	.812	.140	.109	-.063
	Legal2	.799	.247	.195	.115
	Ethical4	.777	.331	.135	.090
	Legal1	.775	.069	.271	.071
	Ethical2	.765	.259	.137	.323
	Ethical1	.743	.309	.153	.236
	Legal4	.726	.047	.268	.124
	Ethical3	.672	.324	.208	.240
Corporate Performance	Financial	.204	.908	.130	.153
	Organization	.163	.864	.166	.200
	Social	.314	.794	.126	.313
	Innovation	.344	.783	.147	.295
Economic responsibility	Economic3	.100	-.027	.833	.307
	Economic1	.299	.279	.761	-.169
	Economic2	.469	.232	.697	.018
	Economic4	.457	.315	.573	.281
Philanthropic	Philanthropic1	.202	.414	.109	.792

responsibility Philanthropic2	.185	.421	.113	.790
Eigenvalue	9.359	2.238	1.334	.893
Distributed Description (%)	30.594	21.435	13.849	10.924
Cumulative dispersion (%)	30.594	52.028	65.878	76.801
Number of Question	8	4	4	2
Cronbach $\alpha$	.932	.943	.839	.888

### 4.3.3 Confirmatory factor analysis

When evaluating model fitness, chi-square test usually has a weakness that the hypothesis is too strict and sensitively affected by the number of samples. To solve this problem, relative fitness index of NFI(Normed Fit Index), TLI(Tucker-Lewis Index), CFI(Comparative Fit Index) and absolute fitness index of GFI(Goodness-of-Fit Index), AGFI(adjusted goodness-of-Fit Index), RMSEA(Root Mean Square Error of Approximation) have been developed and evaluated(Seong, 2006). Thus this study is trying to evaluate fitness around relative and absolute fitness index. If p value is over 0.05 in chi-square, over 0.9 in GFI, AGFI, NFI and CFI, under 0.5 in SRMR(Standardized Root Mean Residual), under 0.08 in RMSEA and under 3 in  $\chi^2/df$ , it could be evaluated as a good model(Bae, 2007). During confirmatory factorial analysis, 1 question, whose standardized regression cardinal number, connecting to measured variable, is under 0.5, is deleted and 5 questions, impeding fitness, are additionally deleted and, as a result, measuring model with 5 factors and 16 questions is selected.

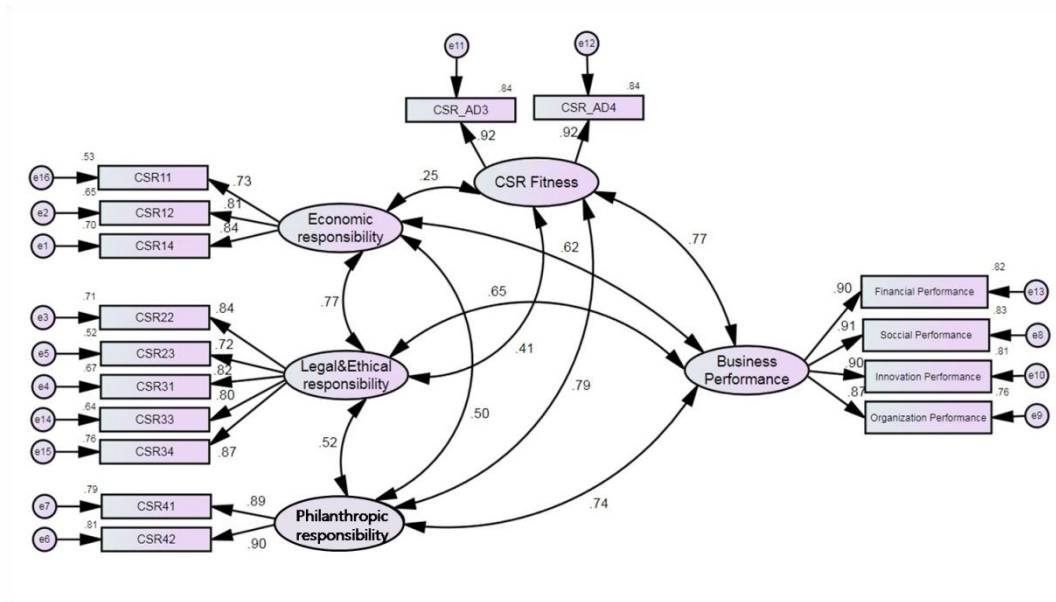


Figure 8 Measurement model for CSR, CSR fitness and corporate performance

According to the analysis result, CSR is over 0.7, which is the standard, with 0.895 of legal, ethical responsibility, 0.800 of economic responsibility, 0.786 of philanthropic responsibility, 0.862 of CSR fitness and 0.936 of corporate performance and AVE value is also over 0.5, the standard, with 0.631 of legal, ethical responsibility, 0.623 of economic responsibility, 0.647 of philanthropic responsibility, 0.757 of CSR fitness and 0.786 of corporate performance, thus it can be judged that it has a convergent validity. Furthermore, the comparison of root AVE value with absolute value of correlation coefficient shows root AVE value is bigger and, thus, it has discriminant validity. That is, all of model fitness, convergent validity and discriminant validity are passed through confirmatory factorial analysis. Table 12

Table 12 Correlation between the factors of the measurement model and the average dispersion extracted value (AVE)

	Legal·Ethical responsibility	Economic responsibility	Philanthropic responsibility	CSR Fitness	Performance
Legal·Ethical responsibility	1				
Economic responsibility	.774	1			
Philanthropic responsibility	.524	.495	1		
CSR Fitness	.415	.254	.785	1	
Performance	.647	.618	.742	.767	1
AVE	.631	.623	.647	.757	.786
CR	.895	.800	.786	.862	.936
Root AVE	.794	.789	.805	.870	.886

The table 13 shows the fitness standard of this model and whether it is fit or not. The fitness index, absolute value of each fitness, is suggested and result of fit test is provided by dividing fitness standard into fine and acceptable state.  $\chi^2/df$ , RMSEA, GFI, NFI, CFI confirm with fitness standard and SRMR and AGFI also show acceptable fitness, thus, it is judged that the evaluation is generally fit.

Table 13 Fit of confirmatory factor analysis for all measurement models

	Fit index	Fit index Good	Fit index Acceptable	Fitness result
$\chi^2/df$	.825	<2	<3	Good
RMSEA	.001	<.08	<.10	Good
SRMR	.052	<.05	<.10	Acceptable
GFI	.903	>.90	>.80	Good
AGFI	.857	>.90	>.80	Acceptable
NFI	.936	>.90	>.80	Good
CFI	.999	>.90	>.80	Good

#### 4.3.4 Structural equation model analysis

##### 1) Initial structural equation model for verifying research hypothesis

The structural equation model is composed of equation on latent variable( $\eta = B\eta + \Gamma\xi + \zeta$ ) and equation on measured variable( $y = \Lambda y \eta + \epsilon$ ,  $x = \Lambda x \xi + \delta$ ) (Bollen, 1989). The structural equation model is the method for investigating dynamics among variables(or causal relationship) in social science, as the technique, uniting factor analysis model on component( $\xi$ ), reflecting explanatory variable( $x$ ) and component( $\eta$ ), including response variable( $y$ ).

The path analysis, done in the study, is composed of two stages. The structural equation model is set and analyzed to investigate dynamics among factors and the final model is explored by deleting path and measured variables, which were not statistically meaningful in the 1st stage, and by being revised in the next stage.

The initial equation model for investigating dynamics among CSR, CSR fitness and corporate performance is set as shown in the figure 8. The analysis on initial structural equation model, shown in figure 9, shows the result of table 14. Among components of analysis, the path, where philanthropic responsibility affects corporate performance, doesn't show statistically meaningful value. The fitness of initial structural equation model is suggested like table 14 and it means its fitness is acceptable

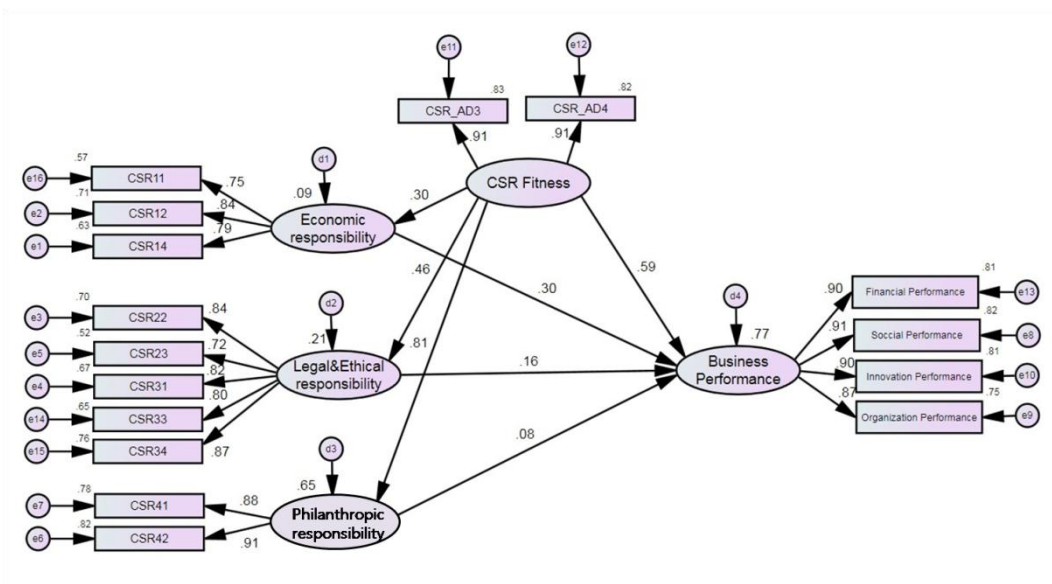


Figure 9 Initial structural equation model for CSR, CSR fitness and corporate performance

Table 14 Fit of Initial Structural Equation Model

	Fit Index	Fitness standard (Good)	Fitness standard (Acceptable)	Fitness result
$\chi^2/df$	.784	<2	<3	Good
RMSEA	.001	<.08	<.10	Good
SRMR	.045	<.05	<.10	Good
GFI	.910	>.90	>.80	Good
AGFI	.865	>.90	>.80	Acceptable
NFI	.940	>.90	>.80	Good
CFI	.999	>.90	>.80	Good

Table 15 Path analysis results of initial structural equation model

Dependent variable	Independent variable	Standardized path coefficient	Non-standardized path coefficient	Standard error	Critical value	p
Economic responsibility	CSR fitness	.303	.214	.087	2.462	.014
Legal·Ethical responsibility	CSR fitness	.463	.357	.088	4.043	***
Philanthropic responsibility	CSR fitness	.805	.884	.107	8.242	***
Corporate Performance	CSR fitness	.589	.433	.113	3.835	***
Corporate Performance	Economic responsibility	.296	.307	.084	3.674	***
Corporate Performance	Legal·Ethical responsibility	.160	.153	.075	2.030	.042
Corporate Performance	Philanthropic responsibility	.079	.053	.092	.572	.567
CSR14	Economic responsibility	.792	1*	-	-	-
CSR12	Economic responsibility	.841	.999	.138	7.245	***
CSR22	Legal·Ethical responsibility	.838	1*	-	-	-
CSR42	Philanthropic responsibility	.906	1*	-	-	-
CSR41	Philanthropic responsibility	.881	1.002	.100	10.032	***
Organization	Corporate	.868	1*	-	-	-



Performance	Performance					
Innovation Performance	Corporate Performance	.897	1.012	.087	11.648	***
CSR_AD3	CSR fitness	.913	1*	-	-	-
CSR_AD4	CSR fitness	.908	.988	.080	12.348	***
Social Performance	Corporate Performance	.908	1.094	.092	11.922	***
Financial Performance	Corporate Performance	.900	1.153	.098	11.713	***
CSR23	Legal·Ethical responsibility	.722	.772	.104	7.432	***
CSR31	Legal·Ethical responsibility	.819	.982	.110	8.908	***
CSR33	Legal·Ethical responsibility	.803	.983	.113	8.658	***
CSR34	Legal·Ethical responsibility	.872	.976	.100	9.772	***
CSR11	Economic responsibility	.752	1.103	.164	6.744	***

\*\*\* p<.001

\* The parameter estimate of the measurement variable is fixed to 1 in the measurement model.

## 2) Final structural equation model

The final structural equation model is shown in figure 10 and the analysis result is suggested in table 17 and its fitness is provided in table 16. The table 16 shows that all fitness indexes satisfy baseline conditions.

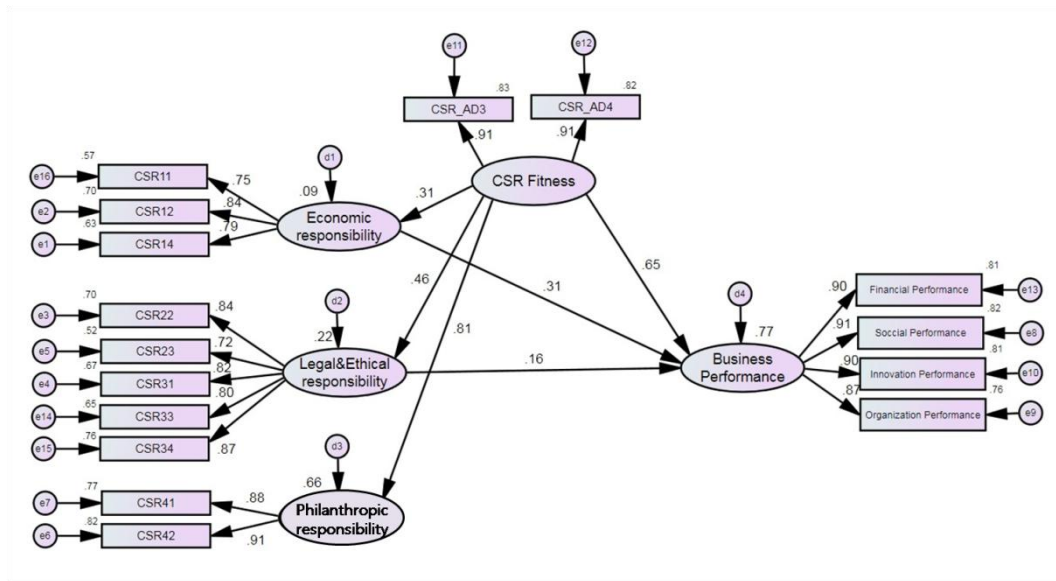


Figure 10 Final structural equation model for CSR, CSR fitness and corporate performance

Among variables, total 6 paths are set in this path model and it is found that all of economic, legal and ethical responsibility and CSR fitness directly affect corporate performance.

The direct and indirect impact of explanatory variable on response variable and the total effect size and SMC(Squared Multiple Correlation), explanation power of response

variable, got from the result of structural equation model, are shown in table 18. The effect size is the standardized estimated value on path coefficient, connecting explanatory variable to response variable.

Table 18 shows that CSR fitness, economic responsibility and legal, ethical responsibility can explain corporate performance by 77.5%. For the direct impact on corporate performance, CSR fitness has the largest with .651 and economic responsibility and legal, ethical responsibility take next as .306 and .159, respectively and CSR fitness has an indirect impact of .168, thus, the total effect of CSR fitness on corporate performance is .819.

Table 16 The fit of the final structural equation model

	Fit Index	Fitness standard (Good)	Fitness standard (Acceptable)	Fitness result
$\chi^2/df$	.776	<2	<3	Good
RMSEA	.001	<.08	<.10	Good
SRMR	.045	<.05	<.10	Good
GFI	.910	>.90	>.80	Good
AGFI	.866	>.90	>.80	Acceptable
NFI	.940	>.90	>.80	Good
CFI	.999	>.90	>.80	Good

Table 17 The fit of the final structural equation model

Dependent variable	Independent variable	Standardized path coefficient	Non-standardized path coefficient	Standard error	Critical value	p
Economic responsibility	CSR fitness	.306	.218	.087	2.489	0.013
Legal·Ethical responsibility	CSR fitness	.465	.359	.089	4.058	***
Philanthropic responsibility	CSR fitness	.811	.894	.106	8.4	***
Corporate Performance	CSR fitness	.651	.481	.070	6.87	***
Corporate Performance	Economic responsibility	.306	.318	.084	3.782	***
Corporate Performance	Legal·Ethical responsibility	.159	.152	.075	2.02	0.043
Corporate Performance	Philanthropic responsibility	.794	1*	-	-	-
CSR14	Economic responsibility	.840	.994	.137	7.27	***
CSR12	Economic responsibility	.838	1*	-	-	-
CSR22	Legal·Ethical responsibility	.908	1*	-	-	-
CSR42	Philanthropic responsibility	.880	.999	0.10	10.011	***
CSR41	Philanthropic responsibility	.869	1*	-	-	-
Organization	Corporate	.897	1.010	.086	11.694	***

Performance	Performance					
Innovation Performance	Corporate Performance	.911	1*	-	-	-
CSR_AD3	CSR fitness	.907	.989	.080	12.346	***
CSR_AD4	CSR fitness	.908	1.093	.091	11.986	***
Social Performance	Corporate Performance	.901	1.153	.098	11.79	***
Financial Performance	Corporate Performance	.721	.771	.104	7.428	***
CSR23	Legal·Ethical responsibility	.819	.982	.110	8.911	***
CSR31	Legal·Ethical responsibility	.804	.983	.113	8.661	***
CSR33	Legal·Ethical responsibility	.872	.976	0.100	9.769	***
CSR34	Legal·Ethical responsibility	.752	1.100	.163	6.759	***

\*\*\* p<.001

\* The parameter estimate of the measurement variable is fixed to 1 in the measurement model.

Table 18 Direct effects, indirect effects, size of total effects and response variables SMC for the final structural equation model

Response variable	Description Variable	CSR fitness	Philanthropic Responsibility	Legal ·Ethical Responsibility	Economic Responsibility	SMC
Legal·Ethical Responsibility	Direct effect	.465	-	-	-	.216
Economic Responsibility	Direct effect	.306	-	-	-	.094
Philanthropic Responsibility	Direct effect	.811	-	-	-	.658
Corporate Performance	Direct effect	.651	-	.159	.306	.775
	Indirect effect	.168	-	-	-	
	Total effect	.819	-	.159	.306	

### 4.3.5 Multiple regression analysis

A multiple regression analysis is done to investigate how economic responsibility, legal, ethical responsibility, philanthropic responsibility and CSR fitness affect financial performance and its result is suggested in table 19. As Durbin-Watson is near to 2 and not near to 0 or 4 and there is no correlation among residual, it can be explained that regression model is suitable (Song, 2008). It is shown that CSR fitness ( $t=4.061$ ,  $p<.001$ ) and economic responsibility ( $t=2.521$ ,  $p=.014$ ) have meaningful impacts on financial performance but legal, ethical responsibility and philanthropic have not significant effects on it.

Table 19 The impact of economic responsibility, legal and ethical responsibility, philanthropic responsibility and CSR fitness on financial performance

	Non-standardized		Standardized	t	p	VIF
	coefficient		coefficient			
	B	SE	$\beta$			
(constant)	-.149	.583		-.256	.799	
Legal·Ethical Responsibility	.164	.137	.130	1.193	.236	2.019
Economic Responsibility	.319	.127	.266	2.521	.014	1.888
Philanthropic Responsibility	.077	.097	.093	.793	.430	2.345
CSR Fitness	.416	.103	.454	4.061	.000	2.114

R=.726, R<sup>2</sup>=.528, modified R<sup>2</sup>=.504,  
F=22.337, p=.000, Durbin-Watson=1.733

A multiple regression analysis is done to investigate how economic responsibility, legal, ethical responsibility, philanthropic responsibility and CSR fitness affect social performance and its result is suggested in table 20. As Durbin-Watson is near to 2 and not near to 0 or 4 and there is no correlation among residual, it can be explained that regression model is suitable (Song, 2008). It is suggested that CSR fitness ( $t=5.548$ ,  $p<.001$ ) and economic responsibility ( $t=3.163$ ,  $p=.002$ ) have meaningful impacts on social performance but legal, ethical responsibility and philanthropic have not significant effects on it.

Table 20 The impact of economic responsibility, legal and ethical responsibility, philanthropic responsibility and CSR fitness on social performance

	Non-standardized		Standardized	t	p	VIF
	coefficient		coefficient			
	B	SE	$\beta$			
(constant)	-.339	.449		-.755	.452	
Legal·Ethical responsibility	.167	.106	.141	1.577	.119	2.019
Economic responsibility	.308	.097	.273	3.163	.002	1.888
Philanthropic responsibility	.114	.075	.146	1.522	.132	2.345
CSR fitness	.438	.079	.507	5.548	.000	2.114

R=.827, R<sup>2</sup>=.684, modified R<sup>2</sup>=.668,  
F=43.284, p=.000, Durbin-Watson=1.819



A multiple regression analysis is done to investigate how economic responsibility, legal, ethical responsibility, philanthropic responsibility and CSR fitness affect innovative performance and its result is suggested in table 21. As Durbin-Watson is near to 2 and not near to 0 or 4 and there is no correlation among residual, it can be explained that regression model is suitable(Song, Ji-joon, 2008). It is suggested that all of CSR fitness( $t=3.906$ ,  $p<.001$ ), economic responsibility( $t=2.426$ ,  $p=.018$ ), legal, ethical responsibility ( $t=2.265$ ,  $p=.026$ ) and philanthropic responsibility( $t=2.111$ ,  $p=.038$ ) have meaningful impacts on innovative performance.

Table 21 The impact of economic responsibility, legal and ethical responsibility, philanthropic responsibility and CSR fitness on innovation performance

	Non-standardized		Standardized	t	p	VIF
	coefficient		coefficient			
	B	SE	$\beta$			
(constant)	.241	.447		.539	.591	
Legal·Ethical responsibility	.239	.105	.215	2.265	.026	2.019
Economic responsibility	.235	.097	.223	2.426	.018	1.888
Philanthropic responsibility	.157	.074	.216	2.111	.038	2.345
CSR fitness	.307	.079	.380	3.906	.000	2.114

R=.801,  $R^2=.641$ , modified  $R^2=.624$ ,  
F=35.778,  $p=.000$ , Durbin-Watson=1.616

A multiple regression analysis is done to investigate how economic responsibility, legal, ethical responsibility, philanthropic responsibility and CSR fitness affect organizational performance and its result is suggested in table 22. As Durbin-Watson is near to 2 and not near to 0 or 4 and there is no correlation among residual, it can be explained that regression model is suitable (Song, Ji-joon, 2008). It is suggested that CSR fitness ( $t=4.555$ ,  $p<.001$ ) and economic responsibility ( $t=2.483$ ,  $p=.015$ ) have meaningful impacts on social performance but legal, ethical responsibility and philanthropic have not significant effects on it.

Table 22 The impact of economic responsibility, legal and ethical responsibility, philanthropic responsibility and CSR fitness on organizational performance

	Non-standardized		Standardized	t	p	VIF
	coefficient		coefficient			
	B	SE	$\beta$			
(constant)	.418	.525		.797	.428	
Legal·Ethical responsibility	.106	.124	.094	.860	.392	2.019
Economic responsibility	.283	.114	.263	2.483	.015	1.888
Philanthropic responsibility	.048	.087	.065	.552	.583	2.345
CSR fitness	.420	.092	.510	4.555	.000	2.114

R=.725,  $R^2=.526$ , modified  $R^2=.502$ ,  
F=22.187,  $p=.000$ , Durbin-Watson=1.750

## 4.4 Conclusion

Recently, CSR activity has been considered as necessary factor not as an optional one. However, a company tends to regard CSR as a spending factor and general act of charity. To solve this problem, researches, studying the impact of CSR on various corporate performances, need to be done. Furthermore, it is important to investigate whether business and CSR are fit and the relation between CSR fitness and corporate performance.

Thus this study empirically analyzes the impact of CSR and CSR fitness on financial, social, organization and innovative performance among corporate performance, based on relevant advanced researches. The research results are as follow.

Firstly, it is analyzed that CSR fitness might have a positive impact on all of financial, social, innovative and organizational performances.

Secondly, it is found that economic performance of CSR also has a positive effect on financial, social, innovative and organizational performance.

Thirdly, the philanthropic responsibility and legal, ethical responsibility of CSR positively affect innovative performance. Based on above results on empirical analysis, following implications can be gotten.

First is the necessity of study on effect of CSR fitness. In this study, it is found that CSR fitness has a positive impact on all of corporate performances. CSR fitness positively affects corporate performance, as done in advanced researches, verifying effect of CSR fitness. It was limited to brand image, purchase intention in existing researches,

but it is discovered that CSR fitness also has a positive impact on performances, such as financial, social, innovative and organizational performance by this study. Thus, if a company tries hard for strategic CSR activity with high CSR fitness, it could make a sustainable growth as it affects various performances as well as financial performances and CSR has a positive impact on corporate performance when a company does CSR activity, which is fit it.

Secondly, the fact that economic responsibility among CSR has a positive impact on all performances shows that fulfilling economic responsibility, pursuing profits, one of the natural corporate roles, can affect various performances such as social performance as well as financial performance.

Thirdly, legal, ethical responsibility and philanthropic responsibility of CSR have positive impacts on innovative performance. Especially, the fulfillment of philanthropic responsibility improves corporate innovative performance, if a company progresses charitable activity, suitable for CSR fitness, and pursues philanthropic responsibility while linking it with corporate R&D, various performances including innovative performance could be positively affected.

Regardless of above implications, this study has a few limitations. If the survey is done with people in charge of making decisions on corporate CSR, the suggestion can be drawn from more accurate analysis. Therefore, if additional researches are done through survey, targeting specialists and departments, making decisions on CSR, more universal and comprehensive research might be done. Furthermore, for CSR factor, the study of

Carroll(1991) was used but future studies need to develop CSR factors, which is more explanatory, and analyze the impact on social and corporate performance with them.

# **Chapter 5. The effect of R&D on Corporate Social Responsibility**

## **5.1 Introduction**

This chapter examines whether R&D intensity is really effect on CSR in Korea. And we investigate whether the relationship between CSR and financial performance. In previous chapters, if we used the data from the survey, this data used CSR index. CSR measured by KEJI (Korea Economic Justice Institute) index. Among the factors used in the previous study, we selected R&D intensity as one of the factors affecting CSR. It is necessary to verify whether the concentration of R&D analyzed as a key factor in carrying out strategic CSR has a positive effect on CSR using KEJI index. We also analyze the impact of CSR on financial performance through the KEJI index. We examined the role of R&D in CSR in an industry through the impact of R&D on the CSR of each industry. Industry is classified as manufacturing and non-manufacturing, and classified as ICT and non-ICT.

## **5.2 Research Design**

### **5.2.1 Research model and hypothesis**

Hull and Rothenberg(2008) maintained that CSR with lower innovation intensity and lower degree of product differentiation has a high influence on managerial performance. Innovation intensity uses R&D expenditure and differentiation degree uses advertisement

expenditure, while social performance uses the KLD(Kinder, Lydenberg, Domini) index and managerial performance uses ROA(Return on Assets). Padgett(2010) found that the R&D intensity significantly influences social responsibility in the manufacturing industry. Based on the above arguments, we therefore suggest the following hypothesis1.

H1: R&D intensity is positively related to CSR

H1-1 R&D intensity is positively affects CSR with a higher in manufacturing firms than in non-manufacturing firms.

H1-2 R&D intensity is positively affects CSR with a higher in ICT firms than in non-ICT firms.

Economic performance is divided into tangible and intangible economic outcome in the study, related to CSR performance. Financial performance includes ROI, sales increase and increased profitability as tangible economic performance and it is found that CSR has a positive impact on the financial performance.(Abbott &Monsen,1979; Korschin&Sen, 2009; Mackey&Barney, 2007; Weber, 2008) It is also discovered that CSR positively affects intangible economic performance of customer satisfaction, purchase intention, image, organization satisfaction, innovative performance.(Sen&Bhattacharya, 2001; Gupta&Grau,2007; Becker-Olsen, Taylor&Yalcinkaya, 2011, ; Rupp et al.,2006; Vlachos et al.,;2010). A financial performance sets tangible economic performance as a variable and organizational and innovative performance of intangible economic performances are made variable. Based

on the existing research results, the hypothesis 2 is developed.

H2: CSR is positively related to financial performance.

In order to capture the relationship between the level of CSR activities measured by KEJI index and R&D measured by R&D intensity. And the relationship between the level of CSR activities and Performance measured by ROA. We estimate the following multivariate regression Equations below.

$$CSR_{it} = \alpha + \beta R \& D_{t-1} + \beta ROA_{t-1} + \beta sales_{t-1} + \beta employee_{t-1} + \beta risk_{t-1} + \varepsilon$$

$$ROA_t = \alpha + \beta R \& D_{t-1} + \beta CSR_{it-1} + \beta sales_{t-1} + \beta employee_{t-1} + \beta risk_{t-1} + \varepsilon$$

The variables were measured as shown in the table below. CSR is total CSR scored measured by KEJI index(Seo and Choi, 2015). It consist with soundness (25%), fairness (20%), social contribution (15%), customer protection and satisfaction (15%), environmental protection activity (10%) and employee satisfaction (10%). SALES is measured by natural logarithm of sales (McWilliams and Siegel, 2000). R&D is measured by R&D intensity which is the expenditure cost divided by the sales(McWilliams and Siegel, 2000). EMPLOYEE is measured by natural logarithm of employee (Brammer and Millington, 2008). RISK is measured by the debt divided by the total assets (Berman, et al., 1999). ROA measured by the operating income divided by the total assets at fiscal year-end in period t. (Hull and Rothenberg, 2008). Details are shown in Table 23 below.



Table 23 Variable and Measurement of Variable

Variables	Measurement of Variable	Researcher
CSR	Total CSR scores measured by KEJI Index	Seo and Choi, 2015
SALES	Natural logarithm of sales	McWilliams and Siegel, 2000
R&D	R&D Expenditure cost / sales	Hull and Rothenberg, 2008
EMPLOYEE	Natural logarithm of employee	Brammer and Millington, 2008
RISK	Debt / total assets	Berman, et al., 1999
ROA	Operating income / total assets at fiscal year-end in period t.	Hull and Rothenberg, 2008

### 5.2.2 Method of Data Collect

We employ KEJI CSR score to proxy for the level of firm's CSR activities. The KEJI CSR scores consists of six categories of the KEJI Index measures: soundness (25 points), fairness (20 points), social contribution (15 points), customer protection and satisfaction (15 points), environmental protection activity (10 points) and employee satisfaction (10 points). KEJI CSR index appear to represent the level of firm's CSR activities objectively to some degree because the measurement methods are comparable to the KLD ratings in USA. The KEJI index annually announces the top 200 companies after quantitative evaluation. Details are shown in Table 24 as follows.

Table 24 KEJI evaluation criteria

Factor	Description
Soundness(25)	shareholder composition, investment, financing
Fairness(20)	fair trade, economic concentration, transparency, supplier relationships

Social contribution(15)	care for minority groups, corporate philanthropy
Consumer Protection and satisfaction(15)	consumer rights, product quality, promotion Environmental
Environmental Protection(10)	efforts to improve the environment, environmental friendliness, compliance with environmental regulations
Employee Satisfaction(10)	workplace safety, investment in human resources, wages and welfare, labor-management relationships, gender equality

Source: Korea Economic Justice Institute

For other variables, we collect the data from KISVALUE, which is provided by Korea Investors Service, one of the largest financial data providers in Korea, and widely used in the academic research. We use the sample of 315 observations of Korean firms during the period of 2012-2014. We excluded 85 of the 500 samples included in the KEJI index. The data excluded firms with no R&D value or with the abolition of the IPO. Industrial classification is classified into manufacturing and non-manufacturing. The manufacturing industry was defined as a company with a manufacturing code of 150~400 among the statistics codes of the National Statistical Office. There were 250 manufacturing industries and 65 non-manufacturing industries. Another category of industry was classified as ICT firms and NON ICT firms. ICT companies are defined as companies with codes 26000, 46500 parts, 58200, 61200, 62000 and 63000 in the Korean standard industry classification (9th revision). In the total of 315 samples, there are 37 samples for ICT firms and 277 for NON ICT companies.

### 5.2.3 Empirical Analysis

The descriptive statistics related to the hypothesis 1-1 are shown in Table 25. It provides mean and standard deviation of three models.

Table 25 Descriptive statistics of variables

Variable	Model 1: Whole Sample		Model 2: Manufacturing Industries		Model 3: Non- Manufacturing Industries	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
CSR	64.926	0.106	64.911	1.755	64.984	2.330
R&D	2.323	0.213	2.214	2.859	2.743	6.154
ROA	95.906	2.651	98.303	40.224	86.689	66.745
SALES	10.658	0.041	10.622	0.687	10.796	0.846
EMPLOYEE	2.842	0.336	2.829	0.579	2.893	0.664
RISK	0.411	0.011	0.394	0.164	0.477	0.246
Sample Size	315		250		65	

We analyzed the R&D intensity on CSR. The results of this regression analysis is shown in Table 26. CSR is dependent variable and R&D is explanatory variable, controlled by ROA, SALES, EMPLOYEE, RISK. In Model1 R&D, ROA, RISK are significant whereas SALES and EMPLOYEE are not. R&D is positive effect on CSR at a significant level of  $p < 0.01$ . In Model 2 R&D and RISK are significant. In Model 3 ROA is significant.

Table 26 Descriptive statistics of hypothesis 1-1

	Model 1: Whole Sample			Model 2: Manufacturing Industries			Model 3: Non- Manufacturing Industries		
	CSR			CSR			CSR		
	Coef	Std.Dev	sig	Coef	Std.Dev	sig	Coef	Std.Dev	sig
R&D	0.0582	0.0297	*	0.083	0.0422	**	0.0130	0.0499	
ROA	-0.0060	0.0024	**	0.000	0.0030		-0.150	0.0051	***
SALES	0.5087	0.3438		0.2097	0.4557		0.8032	0.6811	
EMPLOYEE	0.1314	0.3985		0.6019	0.5441		-0.5398	0.7106	
RISK	-1.0924	0.5990	*	-1.316	0.6808	*	-1.1122	1.4225	
Cons	60.0226	2.5869	***	61.2844	3.3646	***	59.6766	5.4348	***

\*p<0.10; \*\*p<0.05; \*\*\*p<0.01

The descriptive statistics related to the hypothesis 1-2 are shown in Table 27. It provides mean and standard deviation of three models.

Table 27 Descriptive statistics of variables

Variable	Model 1: Whole Sample		Model 2: ICT Industries		Model 3: Non-ICT Industries	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
CSR	64.926	0.106	65.300	1.812	64.877	1.891
R&D	2.323	0.213	4.210	5.259	2.072	3.467
ROA	95.906	2.651	107.539	48.385	94.358	46.731
SALES	10.658	0.041	10.738	0.815	10.647	0.7130
EMPLOYEE	2.842	0.336	3.056	0.692	2.814	0.5789
RISK	0.411	0.011	0.354	0.197	0.419	0.184
Sample Size	315		37		278	

We analyzed the R&D intensity on CSR. The results of this regression analysis is shown

in Table 28. CSR is dependent variable and R&D is explanatory variable, controlled by ROA, SALES, EMPLOYEE, RISK. In Model 1 R&D, ROA, RISK are significant whereas SALES and EMPLOYEE are not. R&D, ROA, SALES and RISK are significant in Model 3, whereas no variables are significant in Model 2.

Table 28 Descriptive statistics of hypothesis 1-2

	Model 1: Whole Sample			Model 2: ICT Industries			Model 3: Non-ICT Industries		
	CSR			CSR			CSR		
	Coef	Std.Err	Sig	Coef	Std.Err	Sig	Coef	Std.Err	Sig
R&D	0.0582	0.0297	*	0.0316	0.0754		0.0822	0.0335	**
ROA	-0.0060	0.0024	**	0.0015	0.0074		-0.0083	0.0026	***
SALES	0.5087	0.3438		-0.5195	1.5529		0.8596	0.3605	**
EMPLOYEE	0.1314	0.3985		0.7356	1.8632		-0.1256	0.4164	
RISK	-1.0924	0.5990	*	2.2046	1.7852		-1.7765	0.6429	***
Cons	60.0226	2.5869	***	67.5575	11.2883	***	57.4359	2.7148	***

\*p<0.10; \*\*p<0.05; \*\*\*p<0.01

The descriptive statistics related to the hypothesis 29 are shown in Table 1. It provides mean and standard deviation of three models.

Table 29 Descriptive statistics of variables

Variable	Mean	Std.Dev
CSR	64.884	1.943
R&D	2.495	3.799
ROA	3.682	4.688
SALES	8.642	0.708

EMPLOYEE	2.854	0.599
RISK	0.399	0.189

We analyzed the CSR on Financial performance. The results of this regression analysis is shown in Table 30 and 31. CSR is not significant ROA whereas R&D and RISK is significant ROA. CSR is categorized by soundness, fairness, social contribution, customer protection and satisfaction, environmental protection activity, employee satisfaction in KEJI index. CSR 1 to CSR 6 is soundness, fairness, social contribution, customer protection and satisfaction, environmental protection activity, employee satisfaction respectively. CSR 1, CSR 2, R&D, SALES and RISK is significant ROA.

Table 30 Descriptive statistics of hypothesis 2

Whole Sample			
ROA			
	Coef	Std.Err	Sig
CSR	0.0347	0.1241	
R&D	0.1403	0.0685	**
SALES	1.0175	0.7608	
EMPLOYEE	0.4008	0.8995	
RISK	-11.0233	1.2827	***
_cons	-4.4972	8.7915	

\*p<0.10; \*\*p<0.05; \*\*\*p<0.01

Table 31 Descriptive statistics of hypothesis 2 related with CSR components

	Whole Sample		
	ROA		
	Coef	Std.Err	Sig
CSR1	-0.4066	0.1992	**
CSR2	1.0223	0.2513	***
CSR3	-0.2921	0.2322	
CSR4	-0.1237	0.2754	
CSR5	0.0303	0.2766	
CSR6	0.1466	0.2229	
R&D	0.1630	0.0682	**
SALES	1.5490	0.7612	**
EMPLOYEE	1.1313	0.8951	
RISK	-13.2561	1.4549	***
_cons	-14.7105	9.6938	

\*p<0.10; \*\*p<0.05; \*\*\*p<0.01

### 5.3 Conclusion

This paper analyzed the effect of R&D intensity on the CSR. In addition, the empirical analysis of how the entire sample of CSR and its individual items effect on the financial performance of the firms. The KEJI index was used as a measure of CSR and it's individual evaluation items(soundness, fairness, social contribution, customer protection and satisfaction, environmental protection activity, employee satisfaction) The analysis of 320 companies in three years from 2012 to 2014 is used.

First, R&D intensity had a positive effect on ROA. Corporate R&D and CSR are very important resources. This resource not only enhances the competitiveness

of the firm, but also positively contributes to society. There is a need to utilize R&D to strategically perform CSR through the positive impact of these resources. In addition, the study between CSR and R&D is more important and needs to be expanded in the situation where the research on the effect of CSR on performance is mostly done.

Second, we analyze the impact of CSR and R&D on each industry. Manufacturing firm's R&D has had a positive impact on CSR, and non-manufacturing firm's R&D has not found any particular impact. In manufacturing firm's R&D activities consist of product and manufacturing innovation, and CSR-related activities are affected by these products and services.

Third, the impacts on CSR and financial performance were analyzed by dividing the CSR as a whole and individual evaluation items. As a result, although the total value of CSR did not have a meaningful result, soundness and fairness among CSR factors influenced financial performance. It is found that the transparent management and fair management activities of the firm can affect the financial performance.

For future studies, it is necessary to use more sample data to analyze according to various industrial categories. In addition, if we identify and analyze the innovation factors that affect CSR in addition to the strategic CSR index and R&D, it will be a study that can further expand CSR research.



## **Chapter 6. Strategic CSR Case Study**

### **6.1 Introduction**

The corporate interest on sustainable growth has been increased as the business environment has shifted dramatically. Thus, a company is considering and progressing CSR, revealing its value, as a business strategy. A company is establishing various CSR strategies to keep pace with the change in external environment such as presenting its ranking on CSR, preparing for department, mainly in charge of CSR and chiefly including contents on CSR into sustainability report. However, not many companies are strategically establishing and performing CSR yet. Most companies are doing responsive CSR activities for their brand images. Thus, this study tries to investigate the method of strategically performing CSR and its effect through examples of companies, doing strategic CSR. It tries to draw implications through examples of KT, domestic company and awarded CSV Porter Prize in 2014, and Vodafone, selected as the No.1 innovative company, changing the world, in 2015 by Fortune in America.

## **6.2 KT**

### **6.2.1 Corporate overview and CSR strategy**

KT is the nation's largest overall telecommunications business operator, established as a the Korea Telecom Authority in 1981, merging its subsidiary company, KTF, in 2009 and leading the smart era by introducing a smartphone first in Korea. KT has developed ICT converged service in various industries by utilizing GiGA fixed network infrastructure and cutting-edge telecommunications technology, Its service includes area of wireless telecommunications, wire communications, media contents and finance and its sales of 2015 was 22.3 trillion, including 7.3 trillion for wireless, 5.2 trillion for wire.

KT is promoting enterprise society-contribution activities around human, society and culture areas by reflecting features of a communication company and, meanwhile, reinforcing overall capability of its value chain by operating various win-win programs. Through this, KT is trying to realize human development and social progress and expand its Shared Value Chain.

The social contribution of KT mainly focuses on establishing sustainable society by narrowing the gap with its core capabilities, such as GiGA infra and ICT technology. It aims to expand KT's management philosophy, 'the best national company, promoting national benefit with ICT', to social-contribution area. KT is performing various activities to reduce the gap in three aspects of human, society and culture by reflecting its feature as a networking business and trying to improve lives of the people

through linkage with companies, and go further and accomplish UN sustainable development goals. It is systematically promote more effective and durable social-contribution activities by creating ‘sustainable management committee’ in the board of directors in April of 2016 and developing integrated social-contribution activities at the level of KT group through group social contribution commission, affiliated with the committee. The group social contribution commission manages overall public services of KT group, operates volunteer group, composed of executives and staffs of KT group and social-contribution fund and plans and adjusts joint business among group companies.

## **6.2.2 CSR**

KT is promoting social-contribution activities at three areas of human, society and culture to make the better future through connection and diffusion. It spreads knowledge to place, where it is needed, and culture to place with lack of cultural benefit as well as connects home to home, land to island and city to isolated mountain village.

### **6.2.2.1 Better people**

“IT supporters” are the nation’s first Probono activity, founded in 2007 and marking the 10th anniversary. Probono means the activity, where experts in each area help the socially disadvantaged and minority groups with their professionalism, and former and current KT employees are doing national IT education, targeting the alienated class by displaying their IT capabilities through IT supporters. IT supporters, selected every year, get

education and training for IT specialist for the national 4 areas(capital area, Chungcheong region, Honam region, Yeongnam region) and perform activity for narrowing digital divide through ICT knowledge share after completing the education. Total 2,318 IT educations were done, targeting 30,795 in 2015 on a national scale.

Dream school is two-way ICT mentoring platform, utilizing video conference system of KT in 2013 and is taking the lead in narrowing educational gap as retired people and foreign international students teach children and youth from vulnerable social groups as mentors. Dream teacher, mainly composed of retired people, is teaching ICT, learning, art, music and physical education and personality to 100 social welfare facilities and 40 thousand teenagers annually to expand social participation and narrow educational gap of minority groups. Since 2014, ‘global mentoring’ has been expanded around GiGA story regions to teach English and global culture to elementary school students, living at isolated mountain areas with poor education infrastructure. Dream school project has received a favorable evaluation that the company suggests new social-contribution model, providing mentoring platform with ICT.

KT started its scholarship project in 1988 and progressed various projects, such as ‘Scholarship for creative innovative leader’ and ‘Scholarship for management and unions YOUTH’. In 2014, it expanded its scholarship range by creating ‘Scholarship for social innovative talent’ and, meanwhile, it supports dream of YOUTH in multiple aspects by utilizing ‘dream school’, online education platform, beyond just delivering scholarship. Especially, it did 1:1 online mentoring with elementary school

students of GiGA Story region, such as Imja island, Baengnyeong island and Cheonghakdong by selecting foreign university students as mentors, from 28 countries, including Portugal and China.

The volunteer corps of Love KT is operating ‘the volunteer corps of love’ with CEO as its head and executives and staff as members to operate enterprise volunteer activities of executives and staff systematically. The volunteer corps of love is fulfilling various volunteer activities, such as supporting regional child center, helping isolated neighbors of community, supporting disaster discovery, providing a helping hand for farming and fishing, examining facility of community and providing experience education with KT facility.

#### **6.2.2.2 Better Society**

With introduction of telecommunications equipment, such as smartphones and Internet, the global village has become closer than ever but the gap among regions has become widening. KT is expanding activities, narrowing regional difference around GiGA Story, Dongja hope sharing center and Dreamcenter, to solve imbalance, coming from local gap, and let everybody enjoy the benefit of ICT.

GiGA Story project is the next-generation CSV project, which the global world is focusing on, as the representative social-contribution business of KT, which KT is progressing with its own creativity and innovative idea. It is the social-contribution model, which is an extension of ‘GiGatopia’, the future network strategy of KT for

securing new growth power through ‘speed’ of GiGA network and ‘fusion’ of ICT solution. KT is improving a life environment of local residents in various fields such as education, culture, economy and environment, by providing GiGA infra and customized solution for island and mountain areas with relatively big gap in information.

GiGA Story is being developed with the form of GiGA island(islands), GiGA creation village(isolated mountain area), depending on regional features, and it finished establishing Baengyeong GiGA island and Cheonghakdong GiGA creation village in 2015, starting from Imja GiGA island and Daeseongdong GiGA school in 2014. Furthermore, KT is trying to achieve UN sustainable development goals(SDGs) with ICT by expanding GiGA Story models to abroad by developing Bangladesh GiGA island with its experience and knowhow, accumulated in the country.

Since 2013, Dongja hope sharing center KT has been doing IT education and volunteer activities, targeting 1,099 local residents of Dongja-dong in Yongsan-gu, the typical poor village of Seoul. While doing this, KT deeply recognized that the inconvenience of local basic living needs to be resolved and the place, where residents can take a rest, is needed and opened ‘Dongja hope sharing center’, ICT complex culture place, in June of 2014. After opening, positive changes have been expanded and Dongja-dong is quickly restoring peace and quiet, where officers and 119 ambulance workers frequently were dispatched because of drinking at street before. The number of mobilization of police declines by 91% for gambling and 22% for violence/robbery from the same time the year before.

KT is operating KT Dreamcenter by connecting with local child center of major regions,, to let children from vulnerable social groups grow to the future leading role. KT Dreamcenter, which started in 2010 and marks the 7th anniversary this year, utilizes remaining spaces of 21 branch buildings, prepares various IT device, such as IPTV, beam project, smart pad and e-book, and provides various educations of English, music and integrated culture arts. KT is cooperating with various organizations to let children from local child center have a high-quality education at KT Dreamcenter and, as a result, it could provide benefits for 58,311 children, which they can get personality and arts, music and physical education, in 2015.

### **6.2.2.3 Better Life**

The culture diffusion through music is meaningful activity, associated with company identity of KT as carrier. KT is progressing activities, narrowing cultural gap, by operating KT chamber hall and KT square to contribute to spreading ‘sound’ to the world as telecommunications business, delivering sound through radio wave, uses the funds, raised from the performance, for business ‘KT sound search.

KT chamber hall is a special classic performance place, opened in 2009 for popularizing classic. It is equipped with 403 seats and professional facilities and takes a lead in culture diffusion by annually operating various classic programs, such as orchestra, ensemble, chamber music and recital. Total 9,811 watched 24 performances in 2015. KT chamber hall started from the intention of widely spreading beautiful ‘sound’ to

the public and the fund, raised from the performance, is used for the social-contribution program of 'KT sound search', helping treatment of hearing-impaired children. In addition, KT is letting people, who can't visit the hall including people with disability or poor geographical condition, enjoy classic music easily by making all performances as video contents and providing them to Olleh TV real-time live program and customized video service, beyond just opening a performance.

KT square, opened in May of 2010, provides the opportunity of experiencing cutting-edge IT equipment and service of KT for free and without restrictions and culture/rest area through café, dream hall performance, communications history museum and 5G gallery. Especially, it provides opportunities of experiencing various cultures for citizens, such as experience center of Pyeongchang 2018 Olympic Winter games and DreamWorks character event, and expands its range of using KT square, located in downtown.

KT has developed 'KT sound search' business, helping hearing-impaired children from low-income family, who has a difficulty in communication, to regain sound, by reflecting its feature as communication business. This business is done by being largely divided into support in treatment, rehabilitation and family. KT is operating 'KT Dream class', hearing rehabilitation center at Severance Hospital and has supported rehabilitation treatment of 5,515 until the end of 2015, provided hearing aids for 279 and supported cochlear implant surgery to 146. As a result, total 5,940 sound search supports have been done until now.



### **6.2.3 GiGA Story and IT supporters as Strategic CSR**

KT is fulfilling 3 CSRs of human, society and culture and mainly performing strategic CSR through GiGA Story, done with the name of Better Society, related to society among three. GiGA Internet service is supplied to isolated mountain areas through KT technical development and public-private cooperation region development model, based on ICT technology, is developed. By securing opportunities for improving residential life of isolated mountain area and new business, it achieved investment of 540 million and value creation of 638 million through creation of economic value and investment of 540 million and value creation of 1.99 billion through creation of social value. In addition, IT supporters could expand customer base, improve IT activity level of customers and secure ground for new market with name of Better People. As IT supporters do volunteer activities by contacting customers from low-income family, it has advantage of grasping needs and perspectives of low-income groups better. Ultimately, IT supporters expand the market by improving level of potential customers, creating new service demand by enhancing IT utilization ability of customers, unskilled in IT.

## **6.3 Vodafone**

### **6.3.1 Corporate introduction and promotion direction**

Vodafone is the carrier with the global 2nd sales, established in 1983, it has headquarter

in UK. It has its 79,000 employees in the world 31 countries. Vodafone is promoting enterprise CSR through communication with headquarter by crating CSR team in its UK headquarter and deploying the person in charge of CSR to each branch. The CSR promotion directions of Vodafone are as follow.

It selects CSR theme, reflecting its identity, and chooses core items to enforce. The first is CSR activity, solving social problems through communications and providing products for the disabled through joint development with other companies or exterior institutions. (Product & Service initiative) The second method is collecting, repairing and providing cell phones, thrown out by customers, for the developing-country market. (Handset Recycling initiative) Thirdly, it promotes CSR, through which it tries to do its best as an informer, by setting the marketing standard, not targeting children for marketing, and making age limit to downloading games, supplied by Vodafone. (Responsible Marketing initiative)

Furthermore, CSR program, including the settlement of digital divide, is diversified. Firstly, it provides message service for the hearing-impaired people through messenger and emailing service with cheap rate system and convenient membership. Secondly, it supplies a phone to small income earners in Kenya and provides opportunities for a small loan with mobile through the connection with a small loan service. Third is the support program for digitally isolated middle-aged class and it expands service accessibility of middle-aged class by developing products with improved convenience and service for medical treatment, and public peace.

### 6.3.2 M-PESA as strategic CSR

Vodafone started mobile remittance service as the name of 'M-PES' with Saparicom, local carrier of Kenya, in 2007, related to a small loan service, mentioned above. 'M' means mobile and 'PESA' means money in Swahili.

M-PESA started as Nick Hughes, in charge of CSR at Vodafone at that time, planned micro finance service with mobile technology and found that the UK government formulated the fund of 15 million euro as the name of Financial Deepening Challenge Fund(FDCF) for the business, improving 'accessibility to financial service' in a developing country, at the international forum on sustainable development in 2003. Nick thought the fund would be a great opportunity to avoid budget competition in the company and reduce risk of failure and succeeded attracting initial fund of a million dollar and, finally, a pilot program and study on M-PESA could be done.

The structure of M-PESA, remittance service with mobile technology, is as follows. The service is applied through retail stores or phone shops, registered as official M-PESA agents, in the country. The SMS, asking for confirmation, is sent to a recipient if PIN number, given when registering, is put and money is remitted. The recipient can withdraw the money by visiting near M-PESA agents. At this time, it doesn't matter whether the recipient is M-PESA member or not. The registration for M-PESA membership is free and profit is came from a brokerage commission, set, based on remittance. M-PESA quenches thirst of Kenyan, having difficulties in remittance as they

don't have bank accounts and also provides them with convenience, thus, it has received an enthusiastic response from the market since its initial introduction. In 2007, only 30% of people had bank accounts among 40 million people and only hundreds of banks were located in the country, bigger than the Korean Peninsula by 2.7 times. After its introduction in 2007, it has continuously grown and, as a result, established about 80,000 official agents networks in Kenya and its cumulative amount reached 850 million dollars, transmitted through M-PESA, as of September of 2013. Additionally, according to Saparicom, Kenyan joint company of Vodafone, the amount of money, whose size is about 43% of Kenyan GDP, is traded through M-PESA. M-PESA contributes to the profit-making of Vodafone a lot. Among the overall sales of Kenyan Saparicom, whose 40% of shares is retained by Vodafone, 18% is created from M-PESA. It reached the break-even point in 2009 and its sales increased from 200 billion in 2012 to 383.1 billion in 2015. For the Vodafone in Tanzania, 14% of its sales is created from M-PESA.

The cash remittance service of Vodafone like M-PESA, is being done in about 8 countries including India, the People's Republic of Congo, Kenya and Afghanistan. M-PESA, which started as a remittance service, has been expanded to the service, which can vitalize the economy such as product payment and salary payment and played an important role of strategic CSR by drawing cooperation with various organizations in 6 areas, farming, education, finance, health, low carbon and smart working, the future industry of Vodafone. Among them, M-Shwari, which started its service in 2012, is the service, supporting a small loan and saving with the cooperation

with Saparicom and African commercial banks. It improved the initial model of M-PESA, which could not be done during pilot program because of environmental restriction, and made it a stepping stone and is newly launched. M-Shwari lets people borrow money of 100 Kenyan Shilling, which is about 1.22 dollar, for the installment savings of each 1 Kenyan Shilling and aims to improve accessibility of a small loan service as well as to create interest earnings. The case, selecting M-PESA as way to transmit support fund of NGO, is considered a successful one. Some women, living at isolated regions in Tanzania, are passed away as they couldn't get a simple surgery because of no transportation expense to a hospital. Thus, The Comprehensive Community Based Rehabilitation hospital in Tanzania (CCBRT) supports the women with transportation fee through M-PESA and more lives of women could be saved after introduction of M-PESA as the number of women, got surgery, increased from 168 in 2009 to 338 in 2011. Besides these, energy accessibility is improved by selecting M-PESA as a payment method of home lighting kit of M-COPA, electricity supply company, and fine payment service, which could improve administrative efficiency of the government, and insurance service for farmers, preparing for bad harvest are provided

## **6.4 Application to strategic CSR principle**

### **6.4.1 7 principles of strategic CSR by Peter&Jenna(2008)**

Peter&Jenna(2008) define strategic CSR into 7 principles and analyze and organize examples. The principle of strategic CSR, defined by Peter&Jenna(2008), is Cultivate needed talent, Develop new markets, Protect labor welfare, Reduce your environmental footprint, Profit from by-products, Involve customers, Green your supply chain. The principle is organized in various CSR areas, such as original capability of company, market, welfare, environment and customer.

GiGA Story of KT, discussed before, is related to the first of 7 principles, 'Cultivate needed talent'. KT performs strategic CSR, utilizing network technology ability, which KT retained, through GiGA Story. M-PESA of Vodafone is relevant to the first, 'Cultivate needed talent', and the second, 'Develop new markets', among 7 principles. It fulfills strategic CSR, developing a new market, by utilizing existing wireless telecommunications technology, analyzing necessity of a market for new Kenyan market and providing finance service through a cell phone.

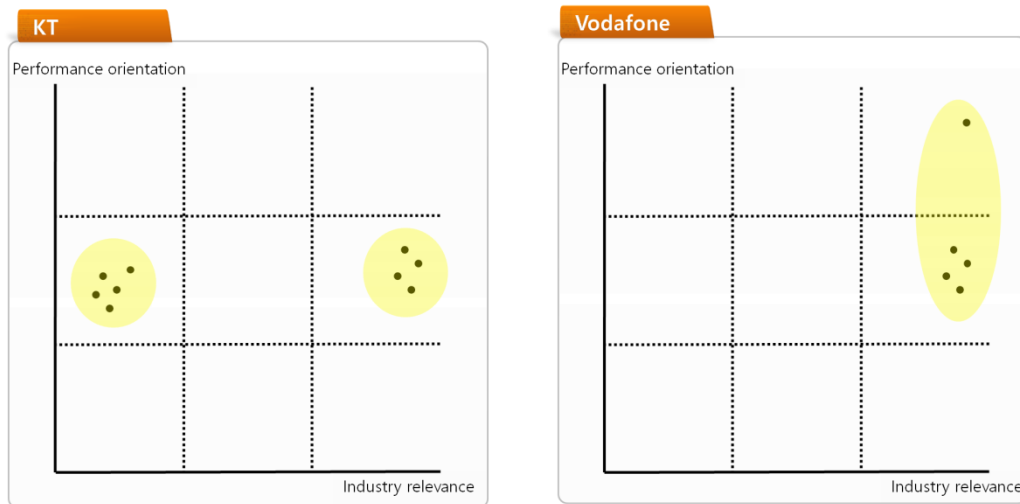
### **6.4.2 Performance orientation and industrial relevance**

The 'performance orientation' and 'industrial relevance' of each CSR program of KT and

Vodafone are judged and it is directly expressed on 'scatter plot graph', representing CSR characteristic of each company, by the researcher. Meanwhile, 'performance orientation' is defined as the influence of each program on corporate economic performance and, if it is judged that it has a direct impact on corporate sales, such as certain amount of money is automatically donated, when purchasing products, it is expressed as 'High', and if it has a direct effect on inventory not sales, it is described as 'Medium', and if it doesn't directly affect corporate sales or image, it is placed at 'Low'.

The standard of industrial relevance is classified into 'High, Medium, Low' and if it has a direct help in core industry of the company, it is described as 'High', and if it indirectly helps it, it is shown as 'Medium', and if it has no relevance with it, it is expressed as 'Low'. When programs are overlapped in the same range, among 'High, Medium, Low', they are assigned to it by considering relative difference in the degree, thus, it has the meaning of the place. However, they are assigned to the similar location by considering numbers are overlapped, when they should be located at the same place because of difficulty in comparison. The performance orientation and industrial relevance of KT and Vodafone are shown in figure 11. CSR of KT can be largely divided into activity with less industrial relevance and impact on corporate image and activity with high industrial relevance and effect on corporate image. Vodafone is mainly performing activities, having high industrial relevance and impacts on corporate sales and images, for CSR.

Figure 11 KT & Vodafone case



## 6.5 Conclusion

The characteristic of company, successfully performing strategic CSR, can be summarized as follow.

First of all, members of the company, including CEO, should fully understand the recognition on social responsibility, which the company will pursue. In addition, the organization, related to CSR, is needed. If CEO is directly involved in the department, it would be better than nothing but it is fine for an independent special organization to establish, review and perform CSR plans.

Secondly, the company should grasp what they can do best when establishing strategic CSR. It should be connected to the base industry, which a company



gets its business profits. Furthermore, the expectation on what can be benefited through the business, should be relatively accurately analyzed.

Thirdly, it is effective for a company to do business by cooperating with international organizations, the government, local government and NGO, not alone. Through this, lists could be narrowed and various efforts could be done.

Finally, it should be reviewed how many good results the activity could have regularly and the detailed plan should be established after that. While doing this, the effect of fund, invested by the company, social and economic impact should be analyzed and it should be examined whether it improves business administration.

# Chapter 7. Summary and Discussions

## 7.1 Summary

For a company, to do sustainable growth, a company should fulfill its social responsibility. In this respect, CSR activities are done in various ways. However, there is a limitation in doing charitable activities as CSR only for business image. To solve this limitation, CSR activity should be done not only just for corporate image and social performance but also for economic profits. This kind of CSR is called strategic CSR and this study examines which factors have impacts on strategic CSR and the impact of strategic CSR on various corporate performances and which company is taking the lead in CSR and which strategic CSR is being done.

In the first study, CSR has been considered to be necessary, rather than optional, in recent times. However, internally, firms are still considering CSR as an optional charitable activity. In other words, CSR is considered an expensive practice. To overcome this mindset, it is important to conduct research that studies the relationship between corporate image, social performance, and the profit motive. This study categorized CSR as traditional CSR and strategic CSR, and empirically analyzed the effect of R&D capacity and technology commercialization capacity on the implementation of CSR by basing CSR on previous studies. We analyzed the influence of

core strategic management factors, such as traditional CSR, strategic CSR, R&D capacity, and technology commercialization, and then looked at the manner in which these factors influence traditional and strategic CSR. According to the results of the analysis, traditional CSR can have a negative effect on financial performance factors and organizational learning for R&D capacity, whereas the technologic strategy plan of the technology commercialization capacity could have a positive effect. Internal factors of a firm that motivate CSR, organizational learning for R&D capacity, and technologic strategy plan have a positive effect on traditional CSR. On the other hand, factors that could have a negative effect, including R&D intensity and external factors that motivate CSR activities in a firm. The results of strategic CSR analysis revealed that the factors exercising a positive influence on strategic CSR include R&D intensity of the R&D capacity, technologic strategic plan of technology commercialization capacity, and CSR external motivation. These results are based on empirical analyses.

From a stakeholder's perspective, CSR can generate sustained value depending on its relationship with various stakeholders. Therefore, it is necessary to understand and persuade stakeholders effectively in order to create long-term corporate value. In order for firms to use CSR efficiently with limited resources, it is necessary to identify their stakeholders' CSR attitudes and to identify core competencies that affect strategic CSR. The implications of this study are as follows.

First it is important to determine the appropriate CSR for the stakeholders. CSR motivation is divided into internal CSR motivation and external CSR

motivation based on the stakeholders.

Traditional CSR is influenced more by internal factors, such as the willingness of CEOs or the motivation of the leaders to promote CSR in an organization. In contrast, strategic CSR is influenced more by external factors, such as socio-environmental, governmental, and non-governmental organization (NGO) factors. In particular, the environmental dimension of CSR is that the firms maintain a clean environment and fulfill its environmental protection responsibilities. This can help firms improve corporate image and productivity. The social dimension of CSR is that firms contribute to better community development. For example, firms support eco-friendly business, culture, and sports activities to grow together with businesses and communities. Second, from a stakeholder's perspective, a firm's CSR should address not just social responsibility issues but actual strategic issues. To do this, the CSR of a firm should be implemented in a way that the strategic CSR meets the needs of various stakeholders. R&D intensity and organizational learning among the R&D capabilities and planning strategic technology among the technology commercialization capabilities should be derived as key factors for effective strategic CSR. Firms that consider technology as an important competence factor should focus on developing R&D intensity and technology strategic plan to create strategic CSR implementation rather than simply focusing on technology development. R&D and technology commercialization capabilities will enhance the effectiveness of strategic CSR and enhance corporate value by meeting the needs of various stakeholders. The ratio between R&D and CSR can be the strategic

investment of a firm.

Third, the negative relationship between traditional CSR and financial performance shows that firms still recognize traditional CSR activities as a liability. They need to employ different strategies for developing CSR activities. These strategies could boost social and economic performance (instead of increasing costs) and broaden perceptions of strategic CSR by focusing on the potential to create shared value for social innovation and the firm's innovation at the same time

In the second research, the impacts of CSR and CSR fitness on various corporate performances are analyzed. In the first study, the performance was restricted to financial one but the second study classifies the performance into financial, innovative and organization performance and does empirical analysis with social performance. By referring to the model of Carroll, CSR is divided into economic responsibility, legal, ethical responsibility and philanthropic responsibility and analyzed. The regression analysis shows that CSR fitness has a positive impact on all of financial, organizational, innovative and social performances. The economic responsibility of CSR also positively affects financial, organizational, innovative and social performances. The philanthropic responsibility and legal, ethical responsibility have positive effects on innovative performance. The results becomes the grounds of progress of CSR, fitting CSR fitness, as it shows CSR fitness, related to strategic CSR, has a positive impact on all of various corporate performances. Furthermore, the fact that philanthropic responsibility among CSR positively affects innovative performance can be the basis of possibility, increasing

the effect by adding R&D and technical commercialization factor to philanthropic responsibility and innovation.

In the third study, we analyzed the R&D and financial performance using the KEJI index, a substitute for CSR activities from 2012 to 2014. First R&D intensity had a positive effect on ROA. Corporate R&D and CSR are very important resources. This resource not only enhances the competitiveness of the firm, but also positively contributes to society. Second, we analyze the impact of CSR and R&D on each industry. Manufacturing firm's R&D has had a positive impact on CSR, and non-manufacturing firm's R&D has not found any particular impact. In manufacturing firm's R&D activities consist of product and manufacturing innovation, and CSR-related activities are affected by these products and services. Third, the impacts on CSR and financial performance were analyzed by dividing the CSR as a whole and individual evaluation items. As a result, although the total value of CSR did not have a meaningful result, soundness and fairness among CSR factors influenced financial performance.

In the fourth study analyzes examples of strategic CSR around domestic and foreign major companies, awarded on CSR. For domestic, KT and, for overseas, Vodafone are analyzed and KT highlights its innovative image and social-contribution image by providing GiGA Internet service of KT for isolated island and mountain areas. It brings about good results as it grafts CSR onto existing core business and ties with local communities and local governments. Vodafone started 'M-PESA', mobile remittance service, in 2007 in Kenya, with poor finance infra, by cooperating with local

carrier of Kenya. Through this, it provides service of product payment and salary payment as well as remittance by not only achieving the sales of 383.1 billion won in 2015 but also improving poor financial service of Kenya. It improves personal and social convenience by bettering the inconvenience and dangerousness, coming from the situations where people in Kenya should visit someone to remit money directly or ask him/her to deliver the money. The strategic CSR of M-PESA of Vodafone also affects industrial relevance of carrier and social performance.

## **7.2 Discussions**

The study synthetically analyzes strategic CSR by comparing with advanced researches. Advanced researches usually focused on general contents of CSR but this study does analysis by dividing CSR into strategic and traditional CSR and analyzes it, based on the study of Carroll. In aspect, analyzing corporate performance, effects on overall performances, including economic and social outcome, are drawn beyond existing fragmentary analysis. Furthermore, the implication on CSR through CSR fitness and R&D could be a base for CSR introduction of a company and the government's CSR policy promotion.

This study has a few limitations. Firstly, if the survey is done and analyzed with people, making decisions on CSR, R&D and technical commercialization, in a company, the implication could be drawn from more accurate analysis. Thus, if

additional researches through survey are done, targeting CSR specialists and departments, having the right of decision-making, more common and comprehensive study could be done.

Secondly, for CSR factors, studies by Carroll(1991) and Porter(2011) are referred but the impact on social and business management needs to be analyzed through more explanatory strategic CSR factors and CSV factors in the future study.

Thirdly, for CSR, the objectified index, KLD, not a survey, needs to be used to reflect items, which this study wants to examine, and analyze CSR.

In the final case study, major companies are analyzed but strategic CSR directionality of small businesses and social enterprises needs to be discussed. The follow-up study on strategic CSR promotion direction needs to be done through various CSR examples, depending on business size and industry type.



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## **Appendix 1: 1<sup>st</sup> Survey**

Questionnaire on research model considering the relationship between R&D, CSR, Technology commercialization and firm performance

Hello

I sincerely appreciate your valuable time.

This questionnaire was designed to analyze the relationship between R&D capabilities, corporate social responsibility (CSR), and technology commercialization capabilities.

We promise that your reply will never be used for any purpose other than research purposes.

We sincerely thank you for your valuable time, and your sincere reply will be a great contribution to our research. Thank you again.

October, 2015

1. Do you hear or know about CSR? ①Yes ②No
2. Does your company doing CSR? ①Yes ②No
3. Does your company have a CSR department? ①Yes ②No
4. The following questions are about your company's CSR. Please mark the number that corresponds to what you think about each question.  
(Strongly disagree=1, Strongly agree=7)

Economic Responsibility	Our company strives to maximize profits.	1 2 3 4 5 6 7
	Our company improves product quality and customer service	1 2 3 4 5 6 7
	Our company strives to reduce the cost of operations.	1 2 3 4 5 6 7
	Our company builds strategies for economic growth from a long-term perspective.	1 2 3 4 5 6 7
Legal Responsibility	Our company strives for compliance management.	1 2 3 4 5 6 7
	Our company abides by the employment and welfare laws of our employees.	1 2 3 4 5 6 7
	Our company provide products and services that meet legal requirements.	1 2 3 4 5 6 7
	Our company adheres to environmental laws and regulations.	1 2 3 4 5 6 7
Ethic Responsibility	Our company has a comprehensive code of ethics guidelines.	1 2 3 4 5 6 7
	Our company adheres to ethical and moral norms.	1 2 3 4 5 6 7
	Our company strives to be a trustworthy company.	1 2 3 4 5 6 7

	Our company provide our clients with accurate information on their operations.	1 2 3 4 5 6 7
Philanthropic Responsibility	Our company supports public service projects such as culture, arts and physical education .	1 2 3 4 5 6 7
	Our company has various donation and volunteer activities.	1 2 3 4 5 6 7
	Our company contributes to the problem solving of society	1 2 3 4 5 6 7
	Our company strives to create a better community.	1 2 3 4 5 6 7
Socio-innovative responsibility	Our company has the ability to reconstruct products and markets.	1 2 3 4 5 6 7
	Our company has the ability to redefine productivity in the value chain.	1 2 3 4 5 6 7
	Our company has the capacity to organize or participate in clusters.	1 2 3 4 5 6 7

5. The following questions are about your company's CSR motivation. Please mark the number that corresponds to what you think about each question.

(Strongly disagree=1, Strongly agree=7)

Internal Factor	The CEO's strong willingness to act is the motivation for our company's CSR activities	1 2 3 4 5 6 7
	Our company is voluntary proposing and participating in our CSR activities.	1 2 3 4 5 6 7
	Employees are fully aware of the purpose and significance of CSR through internal communication.	1 2 3 4 5 6 7
External Factor	The motivation of our company's CSR activities is to respond to the social atmosphere	1 2 3 4 5 6 7
	Government incentives and cooperation with NGOs have motivated our company's CSR	1 2 3 4 5 6 7

	activities	
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6. The following questions are about your R&D capabilities. Please mark the number that corresponds to what you think about each question.

(Strongly disagree=1, Strongly agree=7)

Organizational learning	Our company has continuous monitoring ability on technology development trend.	1 2 3 4 5 6 7
	Our company has the ability to absorb knowledge acquired from the outside	1 2 3 4 5 6 7
	Our company is well aware of the importance of intangible knowledge	1 2 3 4 5 6 7
R&D Intensity	Our company has a higher portion of R&D investment than its competitors over the past three years	1 2 3 4 5 6 7
	Our company has a higher proportion of R&D manpower than its competitors over the past three years	1 2 3 4 5 6 7
	Our company expects R&D expenses to increase as the company's sales increase	1 2 3 4 5 6 7
Network externality	Our company is entering new markets through technical cooperation with external companies and institutions	1 2 3 4 5 6 7
	Our company is creating synergy through technological cooperation with external companies and institutions	1 2 3 4 5 6 7
	Our company has a practical cooperation with technical cooperation with external companies and institutions	1 2 3 4 5 6 7

7. The following questions are about your technology commercialization capabilities. Please mark the number that corresponds to what you think about each question. (Strongly disagree=1, Strongly agree=7)

Planning strategic technology capacity	Our company has a clear technology commercialization goal.	1 2 3 4 5 6 7
	Our company truly understands customer requirements for creating new markets	1 2 3 4 5 6 7
	Our company is benchmarking competitors.	1 2 3 4 5 6 7
Technology process capacity	Our company has a standardized technology commercialization process.	1 2 3 4 5 6 7
	Our company carries out an interim evaluation during technical commercialization process and systematically feeds back the results.	1 2 3 4 5 6 7
	Our company applies periodic feedback to meet customer requirements.	1 2 3 4 5 6 7
	Our company reduce risk by step-by-step management of technology commercialization process.	1 2 3 4 5 6 7
Technical organization capacity	Our company operates an organization dedicated to technology commercialization	1 2 3 4 5 6 7
	In the process of technology commercialization, our company must involve related department such as technology development, marketing, production department	1 2 3 4 5 6 7
	Our company is actively promoting with external technology commercialization cooperation partners	1 2 3 4 5 6 7

8. The following questions are about financial performance. Please mark the number that corresponds to what you think about each question (Strongly disagree=1, Strongly agree=7)

Financial performance	Our company's sales are on the rise.	1 2 3 4 5 6 7
	Our company's profits are increasing compared to competitors.	1 2 3 4 5 6 7
	Our company's annual growth rate (CAGR) is increasing.	1 2 3 4 5 6 7

9. The following questions are about statistical analysis. Please mark the number that corresponds to what you think about each question

9.1 Gender: ①Man ②Woman

9.2 Level of education: ①high school degree ②university degree ③master's degree, ④doctorate degree

9.3 Age: ①20s ②30s ③40s ④50s ⑤Over 60s

9.4 Position: ①deputy ②section chief ③deputy head of the department ④head of department ⑤board member positions

9.5 Working Period: ①less than 5 years ②5~10 years ③10~20 years ④more than 20 years

9.6 Years of entrepreneurship: ( )

9.7 Last year revenue (Korean won): ( )

9.8 Number of employees: ①1~50 ②50~100 ③101~200 ④201~500 ⑤501~

## **Appendix 2: 2<sup>nd</sup> Survey**

Hello

I sincerely appreciate your valuable time.

This questionnaire was designed to analyze the relationship between corporate social responsibility (CSR), and corporate performance.

We promise that your reply will never be used for any purpose other than research purposes.

We sincerely thank you for your valuable time, and your sincere reply will be a great contribution to our research. Thank you again

August, 2016



1. The following questions are about your company's CSR. Please mark the number that corresponds to what you think about each question.

(Strongly disagree=1, Strongly agree=7)

Economic Responsibility	Our company strives to maximize profits.	1 2 3 4 5 6 7
	Our company improves product quality and customer service	1 2 3 4 5 6 7
	Our company strives to reduce the cost of operations.	1 2 3 4 5 6 7
	Our company builds strategies for economic growth from a long-term perspective.	1 2 3 4 5 6 7
Legal Responsibility	Our company strives for compliance management.	1 2 3 4 5 6 7
	Our company abides by the employment and welfare laws of our employees.	1 2 3 4 5 6 7
	Our company provide products and services that meet legal requirements.	1 2 3 4 5 6 7
	Our company adheres to environmental laws and regulations.	1 2 3 4 5 6 7
Ethic Responsibility	Our company has a comprehensive code of ethics guidelines.	1 2 3 4 5 6 7
	Our company adheres to ethical and moral norms.	1 2 3 4 5 6 7
	Our company strives to be a trustworthy company.	1 2 3 4 5 6 7
	Our company provide our clients with accurate information on their operations.	1 2 3 4 5 6 7
Philanthropic Responsibility	Our company supports public service projects such as culture, arts and physical education .	1 2 3 4 5 6 7
	Our company has various donation and volunteer activities.	1 2 3 4 5 6 7
	Our company contributes to the problem solving of	1 2 3 4 5 6 7

	society	
	Our company strives to create a better community.	1 2 3 4 5 6 7

2. The following questions are about your company's CSR motivation. Please mark the number that corresponds to what you think about each question.

(Strongly disagree=1, Strongly agree=7)

Internal Factor	The CEO's strong willingness to act is the motivation for our company's CSR activities	1 2 3 4 5 6 7
	Our company is voluntary proposing and participating in our CSR activities.	1 2 3 4 5 6 7
	Employees are fully aware of the purpose and significance of CSR through internal communication.	1 2 3 4 5 6 7
External Factor	The motivation of our company's CSR activities is to respond to the social atmosphere	1 2 3 4 5 6 7
	Government incentives and cooperation with NGOs have motivated our company's CSR activities	1 2 3 4 5 6 7

3. The following questions are about your company's CSR fitness. Please mark the number that corresponds to what you think about each question.

(Strongly disagree=1, Strongly agree=7)

CSR fitness	Our CSR activities are consistent with the business characteristics of the company.	1 2 3 4 5 6 7
	Our company's CSR activities fit well with the business characteristics of the company.	1 2 3 4 5 6 7
	Our company's CSR activities are related to the business characteristics of the company.	1 2 3 4 5 6 7
	Our company's CSR activities are similar to the business characteristics of our company.	1 2 3 4 5 6 7

4. The following questions are about your company's performance. Please mark the number that corresponds to what you think about each question.

(Strongly disagree=1, Strongly agree=7)

Financial performance	Our company's sales are on the rise.	1 2 3 4 5 6 7
	Our company's profits are increasing compared to competitors.	1 2 3 4 5 6 7
	Our company's annual growth rate (CAGR) is increasing.	1 2 3 4 5 6 7
Innovation performance	Our company's innovation is a lasting and positive impact on its operations.	1 2 3 4 5 6 7
	Our company's innovation is positive for our future performance.	1 2 3 4 5 6 7
	Our company's innovation is positive for sales achievement.	1 2 3 4 5 6 7
Social performance	Our company keeps its commitment to employees and customers	1 2 3 4 5 6 7
	Our company will increase the number of employees	1 2 3 4 5 6 7
	Our company will increase employment for vulnerable social groups	1 2 3 4 5 6 7
	Our company's contribution to society will increase	1 2 3 4 5 6 7
	Our company is recognized as a friendly company to local residents.	1 2 3 4 5 6 7
Organization performance	Our company is doing business better than its competitors.	1 2 3 4 5 6 7
	Our company is growing faster than our competitors.	1 2 3 4 5 6 7
	Our company is making more money than its competitors.	1 2 3 4 5 6 7
	Our company is more innovative than our competitors.	1 2 3 4 5 6 7

5. The following questions are about statistical analysis. Please mark the number that corresponds to what you think about each question

5.1 Gender: ①Man ②Woman

5.2 Level of education: ①high school degree ②university degree ③master's degree, ④doctorate degree

5.3 Age: ①20s ②30s ③40s ④50s ⑤Over 60s

5.4 Position: ①deputy ②section chief ③deputy head of the department ④head of department ⑤head of team ⑥board member positions

5.5 Do you hear or know about CSR? ①Yes ②No

5.6 Does your company doing CSR? ①Yes ②No

5.7 Does your company have a CSR department? ①Yes ②N

5.8 Working Period: ①less than 5 years ②5~10 years ③10~20 years ④more than 20 years

5.9 Years of entrepreneurship: ( )

5.10 Last year revenue (Korean won): ( )

5.11 Number of employees: ①1~50 ②50~100 ③101~200 ④201~500 ⑤501~



## 초 록

기업이 지속 가능한 성장을 위해서는 경제적 이윤만 추구하는 것이 아니라 사회적 책임에 대해서도 함께 고민해야 한다. 최근 기업의 사회적 책임(CSR: Corporate Social Responsibility)이 이슈화되는 것은 사회적 가치를 창출할 뿐만 아니라 기업의 이윤에 영향을 미치는 전략적 CSR 또는 공유가치창출(CSV)의 개념이 중요시되고 있기 때문이기도 하다. 하지만 이러한 CSR 변화 방향을 사업전략경영 분야에 적용하여 그 효과를 분석한 연구와 다양한 성과에 관한 연구는 부족하다. 따라서 본 논문은 지속가능한 기업의 성장 메커니즘에 대한 가설을 제시하고 실증분석을 통해 검증함으로써, CSR 전략에 대한 틀을 제공하는 것을 목표로 한다

첫번째 연구에서는 구조방정식과 요인분석을 사용하여 CSR의 요인과 재무성과의 관계를 실증하였다. 기업은 지속가능한 성장을 위해서 CSR 뿐만 아니라 기업경영전략요소 중 기술연구개발(R&D), 기술사업화를 선택하게 된다. 따라서 CSR, R&D역량, 기술사업화 역량 등 기업의 중요 전략경영 요소들이 기업의 경영성과에 미치는 영향을 다각적으로 분석하고자 한다. 요인분석과 경로분석을 통하여 기업의 경영전략 요소들과 CSR, 경영성과 간의 상관관계를 분석하였다. 분석 결과를 토대로 경영성과에 미치는 긍정적, 부정적 관계를 파악함과 동시에 기업이 지속가능한 성장을 위한 전략경영방향을 제시하고자 하였다.

분석 결과에 의하면, 기업의 여러 가지 경영전략요소 가운데 전통적CSR은 경영성과에 부정적인 영향을 줄 수 있는 요인으로 분석되었고 R&D역량 중 조직학습, 기술사업화 역량 중 기술전략기획 역량, 기술프로세스 역량이 성과에 긍정적인 영향을 주는 요인으로 분석되었다. 또한 CSR의 내부동기, R&D역량의 조직학습, 기술사업화 역량의 기술전략기획 역량은 전통적 CSR에 긍정적인 영향을 주는 요인을 분석되었으며 R&D집중도, CSR외부요인은 부정적인 영향을 주는 요인으로 분석되었다. 그리고 전략적 CSR과 관련된 분석결과로는 R&D역량 중 R&D집중도와 기술사업화 역량 중 기술전략기획 역량, CSR동기 중 CSR 외부동기가 긍정적인 영향을 줄 수 있는 요인으로 분석되었다.

본 연구에서는 기업의 지속가능한 경영을 위하여 실증결과를 토대로 CSR, R&D, 기술사업화의 방향성과 효과, 향후 경영성과에 영향을 주기 위한 의사결정에 미치는 함의 등을 논의했다

두번째 연구에서는 CSR과 CSR적합성과 기업 성과와의 관계에 대하여 분석하였다. CSR이 전략적으로 수행되는 것을 판단하기 위한 방법 중 하나가 CSR활동이 적절한지에 대한 논의이다. CSR활동이 적절한지에 대한 개념이 CSR적합성이며, CSR 적합성이 높으면 기업 성과에 긍정적인 영향을 미친다. CSR과 다양한 기업 성과와의 관계에서 대부분의 연구가 CSR과 경제적 성과 또는 재무적 성과와의 관계를 분석하였고 종합적으로 분석한 연구는 부족하다. 본 연구를 통해 CSR과 CSR 적합성이 기업의 재무적 성과, 사회적 성과, 혁신 성과, 조직 성과 등의 관계를 종합적으로 분석하였다.

분석한 연구결과 CSR적합성은 재무성과, 사회적성과, 혁신성과, 조직성과 모

두에 긍정적인 영향을 줄 수 있는 요인이며, CSR 중 경제적 성과도 재무성과, 사회적 성과, 혁신성과, 조직성과에 긍정적인 영향을 줄 수 있는 요인이며, CSR의 자선적 책임과 법윤리적인 책임은 혁신성과에 긍정적인 영향을 미치는 것으로 나타났다.

세번째 연구에서는 2012년부터 2014년까지 CSR활동의 대용치인 KEJI 지수를 이용하여 R&D와 재무성과에 관하여 분석하였다. 분석 결과 R&D 집중도는 ROA에 긍정적인 영향을 미쳤다. 기업에서 R&D와 CSR은 매우 중요한 자원이다. 이 자원은 기업의 경쟁력을 높일 뿐만 아니라 사회의 긍정적인 기여를 한다. 이러한 자원이 서로 긍정적인 영향을 미친 것을 통해 CSR을 전략적으로 수행하기 위해 R&D를 활용할 필요성이 있다. 또한 산업별로 CSR과 R&D의 관계를 분석하였다. 제조업의 R&D는 CSR에 긍정적인 영향을 미쳤고 비제조업은 특별한 영향을 발견하지 못했다. 제조업의 경우 R&D활동이 제품과 제조 혁신으로 이루어지고, CSR 관련 활동에도 이러한 제품과 서비스가 영향을 받게 된다. CSR과 재무성과에 미치는 영향을 CSR 전체와 개별평가항목을 나누어서 분석하였다. 그 결과 CSR 전체 값은 유의미한 결과를 얻지 못했지만, CSR 요인 중 건전성과 공정성은 재무 성과에 영향을 주었다.

네 번째 연구에서는 주요 기업의 전략적 CSR 사례들을 분석하였다. 전략적 CSR의 우수 사례로 선정된 해외 통신사인 Vodafone과 국내 통신사인 KT의 사례를 통해 전략적 CSR의 수행 시사점을 도출하였다.

네 가지 연구를 통해, 본 논문은 지속가능한 기업 경영을 위해 다음과 같이 제안한다. 본 논문은 몇 가지 정책적, 경영적 시사점을 제공한다. 먼저 기업이



지속가능경영을 위해서는 전략적 CSR을 통해 재무성과, 사회적성과, 혁신성과, 조직성과를 높일 수 있다. 전략적 CSR을 위해서는 기술사업화 역량을 높이고 R&D 집중도를 높여야 한다.

본 논문은 기업의 지속가능 성장을 위한 요인과 성과에 대한 틀을 만들어 학문적으로 제안하고, 이를 통해 기업의 CSR전략의 가치에 대한 이해를 돕고, 철학적 기반을 제공한다는데 의의가 있다.

**주요어 : CSR, 전략적 CSR, 기술사업화, R&D, 재무 성과, 사회적 성과, 혁신 성과, 조직 성과**

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