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국제학석사학위논문

**Breaking through the crisis:
Toyota's innovative actions in *Gemba***

토요타 ‘현장중심’ 의 혁신적 방안

2018 년 8 월

서울대학교 국제대학원
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**Breaking through the crisis:
Toyota's innovative actions in *Gemba***

by

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A thesis submitted in conformity with requirements for the
Degree of Master of International Studies (M.I.S)

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토요타 ‘현장중심’ 의 혁신적인 방안

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Abstract

Breaking through the crisis: Toyota's innovative actions in *Gemba*

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After the collapse of the Japanese asset bubble economy, many Japanese firms took the downfall in their business. The automotive companies managed relatively well compared to the other industries. However, the level of recovery varied from firm to firm as the long-run result had come out in different spectrums. Although Toyota, Nissan and Honda all owned and developed similar technology and earned a chance to global sources, Toyota's recovery was unparalleled among the other Japanese automotive firms, who rose on the horizon in the global market quicker and higher. Toyota is the leading automotive company in the world by putting its brand within the top 10 best global brands as one and only automotive firm. Then, what was so special about Toyota that led Toyota to leap forward after the severe economic and production crises. This paper develops the core value of

Toyota's embedded power – the importance of *Gemba*; and how it was applied to its own system.

KEYWORDS: Toyota, Toyota Production System, Gemba, Genchi-Genbutsu, Crisis management, Japanese automotive firms

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논문초록

I. Introduction

1. Background of Research

Ever since the Japanese asset price bubble's collapse in the late 1991 and early 1992, Japan has been undertaking the economic stagnation for over 20 years having the historically lowest economic growth rate of below 2% and even minus level, resulting so called 'The Lost 20 Years.' Japan seems to be coming back on a stabilized economy as Abe Shinzo took the lead of Japan as a prime minister from 2012 with his national policy, Abenomics. Along with the prolonged depression economy from 1992, many of the world's best Japanese firms fell into the bottomless pit as they had suffered severe business deficit. Especially, the economic crisis hit many of the electronics industry in Japan; but automotive firms relatively broke through the critical situation quite well. Even though many of the automotive firms survived through the national economic crisis, and their own recall and major deficit managerial hardships, the survival levels varied from firm to firm. Toyota became and stayed its status as the world's leading company as it ranks in the world's ranking bars such as *Fortunes* and *Interbrand*. Another top note of Japanese car company, Nissan also overcame its downfall after the innovative transformation of its management system by the new leader. Although other Japanese firms such

as Nissan seemed to be following up on the growing speed of Toyota, Toyota stepped up much higher among the others. To explain the background of Toyota as a top leading Japanese automotive company, Nissan will be briefly introduced and compared in the stream of the introduction of Japanese automakers.

The two major Japanese automakers Toyota and Nissan were established in the similar year 1937 and 1933 respectively. Moreover, they started off their business in the similar manner by embarking upon the mass production of automobiles in the late 1930s as the Automobile Manufacturing Industries Act. was promoted for the needs of the public and the national security. Toyota and Nissan were the first ones to operate under this law as the other *zaibatsu* companies such as Mitsui who was hesitant to take the risk and to put its drive on the mass production. In this manner, Toyota and Nissan were on the similar starting point when they first started their business. Furthermore, both Toyota and Nissan seemed to have faced similar external and internal crises in the stream of Japanese political and economic situations such as deflation after WWII, the global financial crisis 2008 and the Tohoku earthquake and Tsunami 2011. Toyota and Nissan faced their own crisis differed from each other such as Toyota's massive recall in 2010 and Nissan's downfall in the late 1990s. Along with the crises, Toyota as well as Nissan seemed to overcome their obstacles well enough to bring about the solid foundation in the automobile industry. They both had the great leaders to lead the company out

of the crises and owned substantial technological systems to produce the ‘hit’ cars such as ‘Corolla’ for Toyota and ‘Bluebird’ for Nissan. These features made two of the companies as solid and representative Japanese automakers for today. However, Toyota seemed to recover much faster and better in the appearance in global market. Toyota is certain to be the leading power not only in domestic but also in global site after all. So then, what was the specialty that made Toyota bounce back much quicker and stronger than the others?

Table 1: A Brief Status of Toyota

Company Name	Toyota Motor Corporation
Date founded	1937.08.28
President and Representative Director	Akio Toyoda
Number of Employees	364,445
Capital	635,400 million (JPY)

Fiscal Year Apr.~Mar.	FY17
Sales	<i>275,971</i>
Net profit	<i>24,000</i>
Vehicle sales	<i>8,970,860</i>
Vehicle production	<i>8,975,509</i>

Units: One hundred million yen

(Source: www.toyota-global.com)

Table 2: A Brief Status of Nissan

Company Name	NISSAN MOTOR CO., LTD.
Date founded	December 26, 1933
President and Representative Director	Hiroto Saikawa
Number of Employees	137,250
Capital	605,800 million (JPY)

Fiscal Year Apr.~Mar.	FY17
Sales	<i>117,200</i>
Net profit	<i>6,170</i>
Vehicle sales	<i>5,642,774</i>
Vehicle production	<i>5,695,774</i>

Units: One hundred million yen

(Source: www.nissan-global.com)

2. Research question and argument

Led by the notion that both Toyota and Nissan have started their business in the similar period with indiscriminate support from the government and shared the same political and economic challenges throughout the year from 1930s to 2010s, they were in keen competition both domestically and globally. With a splendid support from the government in the Japanese automobile industry for both

munitions and the national development, both Nissan and Toyota made a rapid growth up until the end of WWII. However, they ran on deficit and suffered severely in the post-war period. After enjoying the Japanese economic boom in the 1960s to 1980s, both automakers again faced crises of prolonged depression starting from 1991, the global financial crisis 2008 and the earthquake 2011. Along with the same crises that they had shared, they both had their own fatal crisis that almost drove them into bankruptcy. Toyota itself went through the unprecedented recall in 2010, while Nissan's nonviable status in 1999. Toyota as well as Nissan had commendable leaders to salvage the companies out of the crises and were well equipped with substantial technological organization for their business to take a leap forward. However, Toyota seemed to recover and perform faster and better throughout the years. This paper aims to address the latent power that Toyota had to achieve its leading power as a Japanese automaker. The on-the-spot, so called the power of *Gemba* that Toyota presented and persisted will be explained as a specialty that led Toyota to a leading power both domestically and globally in the automobile industry. This paper is organized as follows: Chapter Two provides literature reviews of the existing studies, the corporate crisis, the crisis management model and analysis on the crises that Toyota and Nissan faced and how they managed the crises in the framework of Gonzalez-Herrero and Pratt's crisis management model. Chapter Three presents the *Gemba*, on-the-spot, management

and its system, followed by the analysis of Toyota's *Gemba*-oriented strategy and the Toyota Production System. Chapter Five concludes with the findings and the limitations.

II. Crisis Management

1. Existing Studies

There are several previous studies on Toyota's outperformance. They raised the factors of the followings. Toyota's best products, relationship with supplies, favorable conditions among employees, top management's role and good image restoration when crises hit. However, these are not the features that only Toyota possessed. Other firms such as Nissan also had those similar factors to overcome the hardships and survive to become one of the leading powers. What this thesis would like to explain is those features and manners are adopted and shared among the other automakers as well as Toyota. There must be something else that Toyota possessed to outperform the others than those features explained in the existing studies. This paper's hypothesis is as follows. The on-the-spot, so called the power of '*Gemba*' that Toyota presented and persisted will be explained as a specialty that led Toyota to *the* leading power both domestically and globally in the automobile industry by outperforming the others. This paper aims to address the latent power that Toyota had was the *Gemba*-oriented system. This thesis will explain what kinds of features and strategies are introduced and adopted in order to overcome and manage the crises. To do so, Toyota's recall crisis 2009 management

will be dealt. Also, Carlos Ghosn's 'Nissan Revival Plan' will be briefly introduced in order to prove that other Japanese automakers such as Nissan also had similar crisis management factors to overcome the critical situations and bounce back to the previous stance.

2. Corporate Crisis

Crisis happens in many aspects involuntarily and prevalently in all the corporate companies. Crisis is a sudden unexpected threat and event that has potentials to harm the industry and the individuals, and to cause serious financial loss (Mitroff, 2011). Pauchant and Mitroff (1988) describe crisis as it can reverse the strategic mission of an organization and affect the organizational system; and threaten its basic assumptions. Timothy Coombs (2007) explains that a crisis can create three threats; public safety, financial loss and reputation loss. Then he defines crisis as it is a dangerous event that is unexpected and containing potentials to threaten the organization that it needs to be dealt with a quick and proper response (Coombs, 2007). Hermann (1972) explicates that a crisis is a threatening phenomenon because it is surprising and non-planned. Faulkner (2001) interprets that crisis is "a triggering event, which is so significant that it challenges the existing structure, routine operations or survival of the organization." Gonzalez-Herrero and Pratt (1996) describes crisis as simply unwelcome and sudden. However, there are some

other researches too that showed crisis is not unexpected. The Institute of Crisis Management (ICM) indicates that 86% of 55,000 separate items showed high potentials to come to the surface as serious crises even before it broke out to the reality; and only 14% were “sudden” crises (Elsasser, 1996). Crisis which happens in daily is identified by many scholars in various manners.

Timothy Coombs (1995) distinguished three clusters of crises in his situational crisis communication theory. He presents that there are three clusters in crisis (1) victim (2) accidental (3) intentional. First, the victim crisis is where the organization is a victim of the crisis, for instance; there could be natural disasters, intentional rumors or reputations threatening the firm. Second, accidental crisis is where the organization created the crisis unintentionally due to its failure on the products; or it receives accusations from external stakeholders. Third, intentional crisis would be the crisis that the organization knowingly put through by taking inappropriate risks. These three different types of crises will be used to identify what type of crises that Toyota and Nissan had faced.

3. Crisis Management Model

Gonzalez-Herrero and Pratt's Crisis Management Model

This paper will use Gonzalez-Herrero and Pratt's crisis management model when identifying Toyota and Nissan's crisis process. Timothy Coombs's (1999)

crisis management model does not include ‘issuing of the management,’ which is a crucial stage to be pinpointed when explaining Toyota and Nissan’s recovery. Pauchant and Mitroff’s (1992) *Onion Model* is relatively hard to be assessed when describing the crises in the time frame of the development. On the other hand, Gonzalez-Herrero and Pratt’s crisis management model suits for Toyota and Nissan’s crisis recovery process as the model dictates the management progress quite well. It divides the pre and post crisis management and explains how each step is dealt as the time flows. Therefore, it is suitable for Toyota and Nissan in which their crisis management can be explained in both pre and post stages and how the two companies let out their strategies for the recovery.

Gonzalez-Herrero model is formed in four phases; (1) Issues management (2) Planning-prevention (3) The crisis (4) The post-crisis. First, the phase of ‘issuing the management’ is a stage where the organization lowers the possibility of the sudden crisis outbreak by observing the surroundings for dangers ordinarily. In this stage, the organization should monitor the surroundings, collect the issues, evaluate the issues and develop strategies based on the ordinary observation. Second, ‘the planning-prevention’ phase is the stage for preparing systematically by framing operational plans or training agility in order to act promptly when in emergency. This could overlap with the first phase of the model; but this stage put much strength on practical moves such as planning a potential crisis management

team to be prepared for the situation where abrupt crisis might occur despite the mitigation to prevent the outbreak of crisis. Third stage is 'the crisis' phase. This phase is where organization takes the parts to minimize the damages that are occurred just prior to, in the middle of and the after. This stage is shorter than the other stages; however, it is the most important phase to be dealt. The organization should carefully choose the crisis management team members and supervise the team and form a plan precisely. For the last phase, 'the post-crisis,' the restoration is divided into two sections; the short-term plan and the long-term plan. Toyota's crisis management outcome will be evaluated in the framework of Gonzalez-Herrero and Pratt's crisis management model; and thus, will be explained what was the latent power of Toyota that made it recover faster and better than the others.

4. Analysis on Toyota and Nissan's Crisis Management

Toyota Recall Crisis in 2009-2010

(1) Issues Management

There were two issues to be warned around that time of period for Toyota to be cautious on. The first was the fast-growing size of the company; and, the second was the immoderate cost reduction due to the continuous yen appreciation against dollar. When an enterprise grows too rapidly in a short time of period, it is likely to fall into a 'major company dilemma.' Even during Japan's economic depression

from 1991, Toyota developed in a fast-growing speed by active production and the sales outside of Japan. Toyota aimed to increase 600 thousands of car production every year starting from 500 thousands of car production in 2002. In the mid 2000s, Toyota accelerated its production by aiming for its annual production ability up to 10 million cars from 7 million cars in three years to outstrip GM to become the global number one. On the 24th of July 2007, Toyota surpassed GM's 1st quarter sales volume by selling 2.34 million cars when GM sold 2.26 million cars. Toyota put much effort in solidifying the number one status by pouring excessive amount of money and employees in such short time of period. As a firm becomes large and eager to outperform in a limited time-period, it is likely to loosen their process control. In 2006, even the president of Toyota Motor Corporation, Watanabe Katsuaki, said with worry "as an enterprise grows big, the organization also grows huge in which makes faults and problems invisible." This worry was pervasive throughout the company as there were too many multinational employees in an unorganized system due to the fast growth which made trouble in communicating. Moreover, sudden increase of employees resulted unskilled or temporary laborers failing to achieve quality-oriented system.

Furthermore, due to the continuous yen appreciation against dollars, Toyota appointed Watanabe Katsuaki as a president to put more focus on the cost reduction. For the cost-efficiency, Toyota shortened the planning period from 18 months to 12

months. The rapid globalization influenced the excessive supply of auto-parts and the production; and affected the usage of the same auto-parts to many kinds of cars to maximize the economies of scale. Although the president of Toyota Motor Corporation at that time, had acknowledged that the fast-growing development of Toyota could bring harm to the company by blind-sighting the flaws, he overlooked the issue. When he was doubted that there were too many unskilled and temporary workers (1/6 of employees were temporary) in the enterprise, he replied “those temporary workers only do the relatively easy *Gemba* work which does not influence the quality of the products.” In the stage of ‘issues management,’ it is important to evaluate the issues that were found by monitoring and developing strategies for the issues to be well controlled. Although Toyota was able to approach to “signal detection” (Timothy Coombs, 1999) of the crisis, Toyota failed to evaluate the signals which caused fatal failure on products from the excessive production to aim for the title of number one.

(2) Planning-Prevention

On the 28th of August 2009, Mark Saylor family died from Lexus ES350’s accelerates problem. Up until January 2010, Toyota took an image restoration stance of ‘denial’ (W. Benoit) of the faults on the rubber floor mats. Then Toyota accentuated that there were no defects caused by the maker and took a stance of

‘diminishment’ (W. Benoit) to put blame on the driving owners. Toyota made it clear that they take absolutely no legal responsibility of the outbreak of pedal issues; and enforced the voluntary recall on the 5.4 million cars in the northern part of America. This battle between Toyota and the National Highway Traffic Safety Administration (NHTSA) continued until January 2010 when 8 other vehicle models such as Camry, RAV4, Corolla, Avalon etc. were found with the same defects which resulted in about 4.4 million recalls worldwide.

(3) The Crisis

On the 21st of January 2010, Toyota fully admitted its defects on the automobile parts. Toyota immediately halted the sales of all models affected by the pedal recall and officially shut down assembly lines at North American plants from February 1st 2010. On the 24th of February 2010, Toyoda Akio, the president of Toyota Motor Corporation, attended the U.S. Congressional hearing, apologized with tears, testified Toyota’s fault; and announced that Toyota will take the full responsibility and make this crisis as a turning point. Then, the unprecedented 10 million cars recall was presented worldwide. Toyoda Akio’s attendance to the hearing and the sincere apology followed by the acceptance of the recall crisis can be analyzed as the ‘minimization’ of the further crisis. As Toyota was a trusted enterprise for high-quality products, the most important crisis management action

would be to show sincerity and regain the trust by the customers. It can be analyzed that Toyota had taken appropriate actions for the third stage of Gonzalez-Herrero and Pratt's crisis management model.

(4) The post-crisis

Short-term management

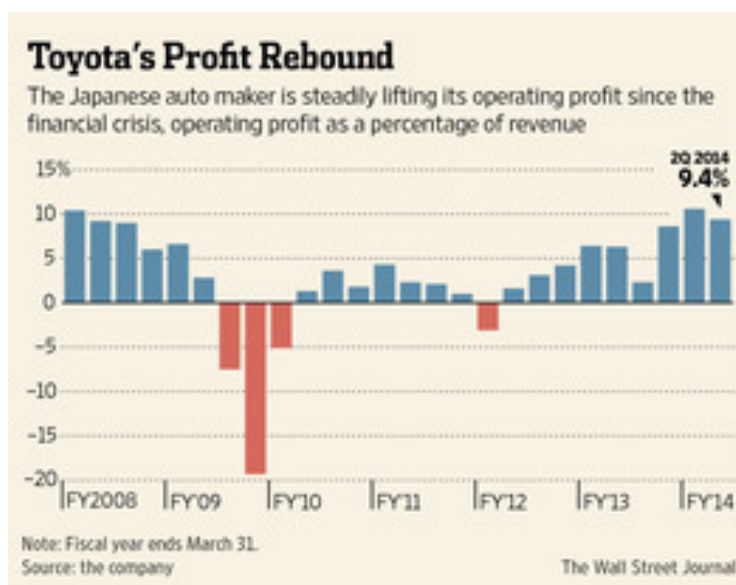
After Toyota faced the first loss in 70 years (since its establishment 1937) of 4.4 billion dollars (437 billion yen) in 2008; due to the global crisis 2008 and the continuous yen appreciation against dollar, Toyota successfully converged to the surplus in a year. However, Toyota faced severe internal turbulence due to the accumulated crisis, the recall, on 10 billion cars in 2010. Toyota had applied several short-term crisis managements in order to overcome the loss. 1) Adjust the production target from 10 billion to 7 billion. 2) Reduction in Production facilities. 3) Continuation of cost improvement by making supply of automobile parts efficient. 4) Cuts on fixed cost by adding 'non-production days' and shortening work weeks at certain plants. These short-term management made Toyota to converge to the surplus profits again in a short time of period.

Long-term management

Toyoda Akio announced that he would not focus on "numerical target business" any more, instead he would emphasize improvements in vehicle quality

and development of the technology. As Toyota Akio had announced in the U.S. Congressional that Toyota will take the recall crisis as a turning point to rebuild its company for the better, Toyota presented innovative systems based on *gemba*-oriented approach. 1) *Genchi-genbutsu* crisis management. 2) Adopting TNGA Planning Strategy. 3) Improvement of internal communication. 4) Introduction of new organizational structure focused on products.

Figure 1: Toyota's Profit Rebound



(Source: The Wall Street Journal)

Nissan's Crisis in 1999

(1) Issues Management

Up until 1999, Nissan had been suffering losses for 7 consecutive years with cumulative total of more than 5 billion dollars. Even though Nissan was aware of the continuous losses, Nissan was adhered to their old customs such as a bureaucratic top management and the too much focus on the competitors. *Nikko* analyst Tsunemi Tachibana said, “Nissan has always wanted to compete with Toyota by having a wide range of models. But it has not had the same sales and volume. And Nissan management has not been as good. It has a bureaucratic culture. The president is not selected on performance, but on seniority.” (excerpted from *The Guardians*, 1999)

(2) Planning-prevention

While Toyota and Honda were making profits even in the downturns in Asia, Nissan was the only Japanese top automakers who was struggling for the continuous red figures that were uncontrolled. As therefore, the president of Nissan Yoshikazu Hanawa announced that there must be changes in Nissan to put an end to the red ink. One of the problems that was highlighted in Nissan was the weakness in American market. An analyst in Merrill Lynch Japan Ltd., Takaki Nakanishi (1998) said “What happens in the United States is the key.” As therefore, Yoshikazu

Hanawa looked for the partnerships to survive through the severe financial conditions and keep the company going. In order to keep the Nissan identity, the president insisted on the alliance system rather than the complete Merger and Acquisition to maintain its independency.

(3) The Crisis

Up until 1999, Nissan suffered losses for 7 consecutive years with cumulative total of more than 5 billion dollars. Even domestic companies were reluctant to make a partnership with Nissan as Nissan was described as a “sinking boat,” in the field. After the several consultations with various big hands such as DaimlerChrysler and Ford, Renault was the final call that held Nissan’s hand. On the 27th of March 1999, Louis Schweitzer, Renault CEO, and Yoshikazu Hanawa signed on the ‘Alliance Agreement.’ At that time, many of the media teased on Renault’s decision of taking Nissan. *Financial Times* (1999) reported, “Renault’s grand alliance with Nissan is worryingly mushy.” *Newsweek* (1999) also mentioned, “On the road to regret?” Along with the media, one of the competitor’s executives said, “you would be better off dumping US \$4 billion of gold bars in the Pacific.” Nissan’s situation was severe at that time of the period. Once Renault group and Nissan became alliances, Carlos Ghosn was appointed to make a turnaround on Nissan. Philippe Barrier of SG Securities in Paris described Carlos Ghosn as “he

has a very strong background, he was in charge of Michelin in the US and oversaw the integration of Uniroyal - which involved being tough on costs - very effectively. In France, he has been aggressive, but I think he has a global view, and that is what Nissan needs now.” Carlos Ghosn pointed out that there were five problems that Nissan was facing. 1) No clear profit targets. 2) Too much focus on the competitor rather than the customers. 3) No external alliances. 4) No sense of crisis. 5) No long-term plan or vision. Keeping in mind of the problems, Carlos Ghosn firstly announced cutting any possible costs in order to make the profits in a short time of period.

(4) Post-Crisis

Carlos Ghosn started sweeping changes in Nissan through ‘Nissan Revival Plan (From FY00~),’ ‘Nissan 180 (From FY02~),’ and ‘Nissan Value-up (From FY05~)’ putting much focus on the numerical management. The core target of the first revival plan was to return to financial stability in a year, reduce debt by 50% within 3 years and operate margin rise to 4.5 % of sales within 3 years. In order to do so, Nissan also conducted short-term and long-term management just like Toyota did for their crisis management.

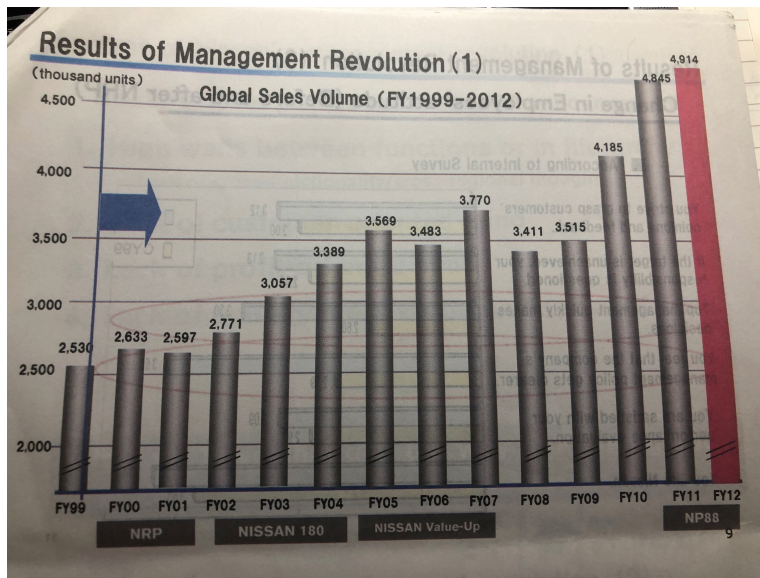
Short-term management

Nissan conducted several management strategies to converge to the surplus profits. The examples were as follows. Nissan reduced facility by 30%, executed cost reduction on supplies through cutting off the keiretsu suppliers, cut on fixed costs by closing five factory plans and reduced 21,000 personnel.

Long-term management

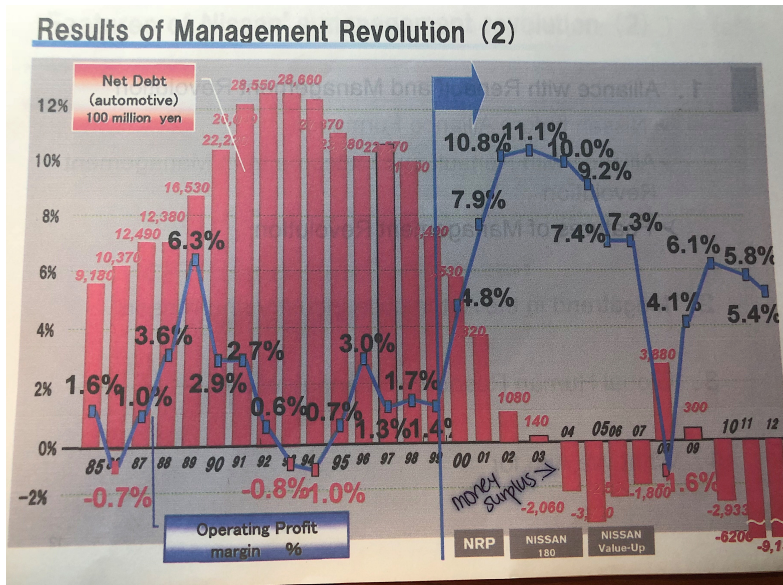
As Nissan had struggled for not having clear targets and commitments, Nissan started to share its target clearly by naming each project as ‘Nissan Revival Plan,’ ‘Nissan 180,’ and ‘Nissan Value-up.’ On top of that, Nissan announced the commitment for each project precisely for the entire employees to be aware of throughout the projects. For the flexible and precise communication, Nissan activated ‘Cross Functional Teams’ and arranged its original system called ‘3xis management’ to eliminate barriers and make the project flows transparent. Furthermore, Nissan diversified the employees for the aggressive appearance and commitment to strengthen its competitiveness for the global market. Last but not least, Nissan also put much emphasis on the new car release in order to raise its sales to the maximum amount by introducing car model ‘March,’ and ‘Fair lady.’

Figure 2: Results of Nissan's Management Revolution (1)



(Source: www.nissan-global.com)

Figure 3: Results of Nissan's Management Revolution (2)



(Source: www.nissan-global.com)

Further Analysis on Toyota and Nissan's Crisis Management

It is hard to compare Toyota and Nissan's two very different situational crises one on one. As therefore, two crisis management are slightly introduced in order to grasp the general crisis situations of each automaker. What this thesis would like to highlight from the two management results is the 'post-crisis' part where what kind of strategies and systems that two companies conducted to overcome the crisis. As they were told, through Toyota and Nissan's strategical management after the critical crises, it can be told that Japanese automakers adopt similar strategies to recover their crisis and come back on where they stood before the crises. Therefore, it is quite inadequate to say that car products, top management's role and leadership mentioned as Toyota's success points in other existing studies are the *only* factors that made Toyota superior to the others; because those features are also found in Nissan as well as Toyota. There must be something peculiar of Toyota that made who it is now in the automobile field.

III. Gemba-oriented System

This paper would like to explain that on-the-spot, so called the ‘power of *Gemba*’ is a special factor that led Toyota to recover with much better results. The top management and the leadership were not the *only* factors that made Toyota to perform much quicker and stronger than the others. The specialty, the latent power was shown all the way down of the pyramid, the real working place, *gemba*. What really important point in Toyota is what is happening in the *gemba*, the working level.

1. Gemba

Gemba and the Gemba-oriented Approach

Although the Japanese word, *Gemba* is well-known in business theory worldwide, the *Cambridge Business English Dictionary* is one of a few sources that provides a concrete definition of *gemba* as an English word as of November 2011 (Imai, 2012). From the Oxford dictionary, the definition of *Gemba* is as follows; “in Japanese business theory, the place where things happen in manufacturing. Used to say that people making products are in a good place to improve the process by which they are made.” Imai (2012) explicates *gemba* as a “real place” where real

action occurs, and facts may be found; for example, “*gemba* may be any workplace, crime scene, filming location, or even an archaeological excavation site.” But if it were to say in manufacturing site, *gemba* means the factory floor. Imai (2016) further explains that *gemba* is “the sites of three major activities; developing, producing and selling which are directly related to earning profits which makes *gemba* utmost important.” The word *gemba* became well-known and pervasive in the international spectrum after the success of Toyota’s Total Quality Management (TQM) System in which Toyota had awarded for at Deming Application Prize in 1965 and the Japan Quality Control Award in 1970. Toyota’s TQM is based on the importance of *gemba* (Liker, 2004). The word *Genchi-genbutsu* which always is tagged along with *gemba* means ‘*genchi* as an act of going to the *gemba* to see the *genbutsu*, the real objects (Imai, 2016 from Kaizen Institute).’

The origin of Toyota’s much focus on *gemba* and *genchi-genbutsu* is evidenced in its company’s guiding principles. The importance of *gemba* is accentuated as Toyota reflected on its global guiding principles as one of the main values for all employees to embrace, to keep to and to act upon.

Figure 4: Toyota Way 2001



(Source: www.toyota-global.com)

2. Analysis on Gemba and Gemba-oriented Strategy

The importance of *Gemba* is highlighted and recognized through Toyota's top management's emphasis on *gemba* throughout the years. The father of Toyota Production System, Taiichi Ohno said, "Managers should be sufficiently engaged on the factory floor that they have to wash their hands at least 3 times a day." One of the famous quotes of Fujio Cho who is currently honorary chairman of Toyota Motor Corporation is "Go [to the *gemba*] see, ask why, show respect." John Shook (2011) analyzes that the meaning of "Go see, ask why, show respect" is letting the managers to closely observe the *gemba* by putting actual behaviors by going to the

real working place and observing what is really happening in *gemba* while respecting the *gemba* working people who are the real value creators for the products. This is important because the going to *gemba* increases the possibility to find out the problems and catch opportunities for improvement. The current president of Toyota Motor Corporation, Akio Toyoda who seems to be putting so much importance on *gemba* no less than any other former presidents said, “At the press conference in January, I talked about my desire to become ‘a president who is closest to the frontlines, or *gemba*,’ I believe that the essence of management lies in the *gemba*, and Toyota employees play a vital role there.” Furthermore, he noted how *gemba* was an important solution that Toyota has dealt with the many challenges in the past by addressing “Toyota has overcome many challenges during its seven decades of business. What has made this possible is the way we make our cars under our “customer first” and “*genchi-genbutsu*” principles.”

Not only the top management’s speeches but also many business frameworks that are created from the importance of *gemba* convey the power of *gemba*. Lean Enterprise Institute was founded in 1997 by James P. Womack. Dr. Womack was inspired by the *gemba*-oriented Toyota Production System and the Toyota Management System after his visit to Toyota Motor Corporation as an MIT team in 1979 to study the invisible power of Toyota which surpassed Ford and GM. Dr. Womack then studied deeply on ‘lean production’ and established the institute,

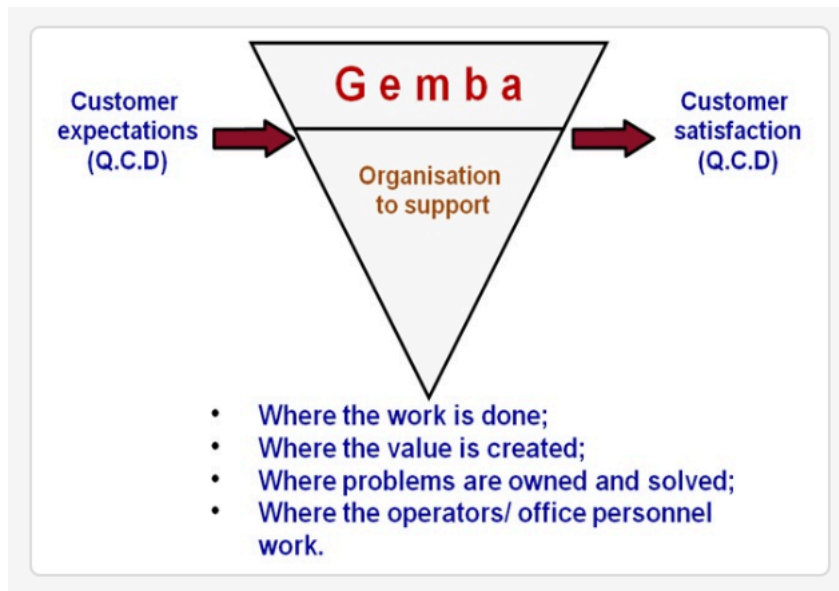
Lean Enterprise Institute. Through the institute, he introduces “Gemba Walks” to many of the manufacturing companies as a business framework. “Gemba Walks” provides the guidelines to the participants what to see and what to ask when they experience the factory floor, *gemba*, of their own company.

Another scholar, Masaaki Imai who closely worked with Shoichiro Toyoda (the 6th former president who served as a chairman of Toyota Motor Corporation between 1992-1999) and Taiichi Ohno (the father of Toyota Production System) wrote and propagated the significance of *gemba* through his books and his institute (Kaizen Institute founded in 1985). In this context, the meaning of ‘*Kaizen*’ is as follows. The *Oxford living dictionaries*’ definition of *kaizen* is ‘a Japanese business philosophy of continuous improvement of working practices, person efficiency, etc.’ in which the term was originally recognized by the 1993 edition of the New Shorter Oxford English Dictionary.

Imai (2012) explains the five golden rules of *gemba* management which idea was differed from the Western style of management where most managers tend to control the works from their desks which are distanced from the ‘real working place,’ *gemba*, where the events are *really* taking place. The five golden rules are 1) when a problem (abnormality) arises, go to the *gemba* first. 2) Check the *gembutsu* (“relevant objects”) 3) Take temporary countermeasures on the spot. 4) Find the root cause. 5) Standardize to prevent recurrence. Imai (2012) believes that

gemba is the site of three major activities; developing, producing and selling which are directly related to earning profits which makes *gemba* utmost important. Imai further explains what *gemba*-oriented work actually contributes to the company. What could be the possible benefits of *gemba*-oriented approach for business to develop. Imai introduces in his *Gemba Kaizen* (2016) book, ‘10 benefits of *gemba*-centered approach’ for the better understanding of the specialty that *gemba* possesses in which led Toyota to succeed in automobile industry and to further influence the entire industry world-wide with the concept of *gemba*. 1) Gemba’s needs are more easily identified by the people working there. 2) Somebody on the line is always thinking about all kinds of problems and solutions. 3) Resistance to change is minimized. 4) Continual adjustment becomes possible. 5) Solutions grounded in reality can be obtained. 6) Solutions emphasize commonsense and low-cost approaches rather than expensive and method-oriented approaches. 7) People begin to enjoy *kaizen* and are readily inspired. 8) *Kaizen* awareness and work efficiency can be enhanced simultaneously. 9) Workers can think about *kaizen* while working. 10) It is not always necessary to gain upper management’s approval in order to make changes.

Figure 5: *Gemba*-centered Approach



(Source: in.kaizen.com)

The importance of *gemba* is not only mentioned by the board directors of Toyota Motor Corporation but also is theoretically arranged and framed as one of the key business models to be followed by the other enterprises. This explicates that *gemba* is not just a superficial definition of the factory floor. There is something more behind the word, *gemba*. What the word, *gemba* connotes is the importance of the working level, the very bottom part of the company where all the core values are created.

Gemba-oriented System: Toyota Production System

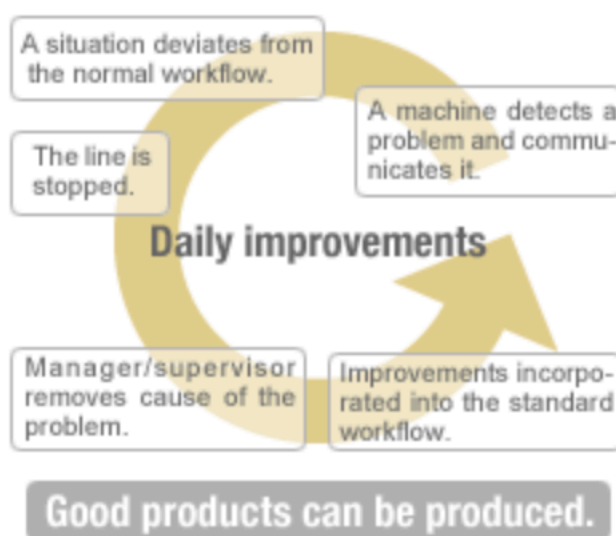
As Toyota firmly believes *gemba*, the working level is the most important part of the company, they have been trying to make the best in the *gemba*. The Toyota Production System (TPS) is the actualized result of Toyota's agony in *gemba*. As Toyota presents in their official website, the goal of Toyota Production System (TPS) is "making the vehicles ordered by customers in the quickest and most efficient way, in order to deliver the vehicles quickly as possible" for customer satisfaction. To do so, Toyota believes that "the complete elimination of all wastes" is utmost important to make the quickest and most efficient vehicles. Toyota Production System is the exquisite outcome of the continuous improvement on the *gemba* for many years. TPS is based on two concepts; one is "Jidoka," the automation of the machines and the second is "Just-In-Time(JIT)," of the products.

Jidoka

"Jidoka" in TPS can be defined as "automation with a human touch." A literal translation of "Jidoka" is automation. However, what Toyota means by "Jidoka" in TPS is that the machine has its a built-in device to make judgment for any possible problems of producing products. When problems occur, the machine stops automatically, and a supervisor removes the cause of the problem, then the production line goes back to the original workflow. This is to prevent the production of any possible defects so to increase the efficiency of the production. The system

is also synchronized with the visual control monitor, “Andon.” In every production line, the “Andon (the display board)” for the *gemba* working people to check in real-time while they are working in line for the efficiency of the time.

Figure 6: Concept of Jidoka



(Source: www.toyota-global.com)

Just-In-Time (JIT)

Kiichiro Toyoda, the founder of the Toyota Motor, said “Just-In-Time does not simply mean ‘meeting the time.’ The extra products made in time would be useless. What Toyota means by “Just-In-Time” is that making only “what is needed, when it is needed, and in the amount needed.”” This is to eliminate the unwanted

products being produced and to reduce the number of inventories as small as possible. This would result in no need for the extra space (warehouse) for inventories and for improvement of the productivity to the maximum level. To make the “Just-In-Time” system works well, “Kanban” plays the pivotal role in TPS. “Kanban” is a product control card. On that card, the information such as the types and numbers of products, the delivery time and the storage location are recorded to have a smooth communication between the assembly plants (factories) and the auto-parts suppliers. This “Kanban” system is originated from the supermarket system. Consumers buy products when they need in the amount needed from the supermarket. In this sense, the assembly plants buy products from the auto-parts suppliers when they are in need and in needed amount by communication through the “Kanban,” the control card.

Figure 7: A Product Control Card, Kanban



(Source: www.toyota-global.com)

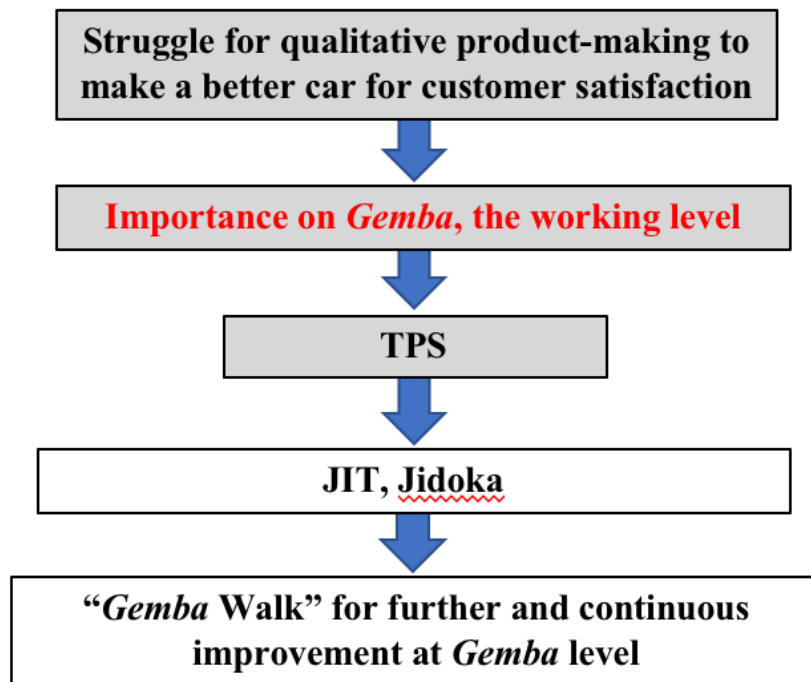
As Toyota believes that the bottom part, the *gemba* level is the most important part of the whole enterprise, Toyota Production System is closely and ideally established through the continuous improvements on *gemba* by eliminating the wastes in order to make the best out of the working place. The “Jidoka” and “Just-In-Time” systems can be adopted to any other companies in technical terms. However, the difference arises from the problem dealings that are detected from the systems. The active communication between the management and the *gemba* employees is a critical factor on the road to success. As Taiichi Ohno said, “TPS (Toyota Production System) is practice not theory.” For Toyota, TPS was not technological development happened one day, rather it was their research development that was established and based on their experience at *gemba* by realizing the importance of the real working place. In TPS, they developed “Jidoka,” and “Just-In-Time” to build a better structure of the factory plants to make better cars by eliminating wastes through continuous improvements. In order to make the continuous improvement in the product making, the *gemba* employees should fully understand and embrace the values that Toyota guides to through the mutual trust between the management and the working level. Toyota keeps accentuating the importance of *gemba* where all the values and products are created; and let the employees realize as well through the Toyota Production System.

IV. Conclusion and Limitations

1. Conclusion

Toyota and other Japanese automakers such as Nissan whom started from the same starting line with the indiscriminate support from the government, also adopted similar features for the restoration after the crisis. Then, what was Toyota's specialty that was different from those of other Japanese automakers that made Toyota to step up much stronger and quicker? The Toyota Production System, the factory plant, itself is not to be so special about in technical system; since many of the other companies have also adopted the "lean production" which is deviated business ideology from Toyota Production System. The spirit and the acknowledgement of the importance of *gemba* that is embedded in the system is what it really matters.

Table 1: Toyota’s Acknowledgement of *Gemba*



This realization of the importance of *gemba* made a crucial development on the Toyota Production System. Jeffery Liker (2011), the author of *Toyota Way* said, “We have to change the culture from one in which people simply do their own job in their own function to make their own numbers look good (a vertical focus) to one in which people are focused horizontally on the customer and on improving value streams that deliver value across functions.” He conveys that Toyota’s historical success is not simply resulted from the dependence on the technical systems; but rather, it is caused by the culture that influences the entire enterprise. Akio Toyoda,

the current president of Toyota Motor Corporation, spoke on his press conference after the huge loss in 2013 and 2014, "...It feels like we are a boat being tossed in a storm. But we will continue to focus on the workplace [*gemba*]... We will not default on our commitment to *genchi-genbutsu* [the concept of going out and seeing the *gemba* for yourself]." This connotes that president Akio puts much focus and strength on the *gemba* when in crisis.

The synchronization of the top management's continuous focus on *gemba* and the *gemba*-oriented system is what led to the success in Toyota. The on-the-spot, so called the 'power of *Gemba*' that Toyota presented and persisted internally and externally through the system is a specialty that led Toyota to be *the* leading power both domestically and globally in the automobile industry by surpassing all the others.

2. Limitations

The limitations would be the presentation on Nissan as one of the Japanese top-note automakers to compare with Toyota. Toyota and Nissan are on very different global stances to be compared one on one. The other limitation was the lack of information on the two corporates' statistical and objective documents due to the restrictions on the approach of private enterprises.

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논문초록

토요타 ‘현장중심’의 혁신적인 방안

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일본의 자산 버블 경제가 붕괴된 1991년 이후, 상당 수의 일본기업들이 몰락하였다. 여러 산업 중, 자동차 산업은 다른 산업에 비해 비교적 상당부분 회생되었다. 그러나 장기적인 측면에서, 자동차 산업안에서도 회복 수준은 회사마다 차이를 보였다. 일본의 3대 자동차 기업인 토요타자동차, 닛산, 혼다 모두 유사한 기술력을 지니고, 다양한 소스를 통하여 글로벌 교류를 할 수 있는 기회를 얻었지만 토요타자동차의 회복력은 타기업과는 현저히 다른 속도와 결과를 보여주었다. 또한, 토요타자동차는 세계 브랜드 가치 순위 10위 안에 드는 유일한 자동차 회사이다. 그렇다면, 토요타자동차가 심각한 경제 위기와 생산 위기 속에서도 도약할 수 있었던 저력은 무엇인가?

본 논문에서는 토요타자동차를 성공으로 이끈 저력은 ‘현장중심’의 혁신적인 방안에서 나온다고 주장하고, ‘현장의 중요성’이 어떻게 활용되고 적용되는지 분석한다.

주제어: 토요타, 토요타생산시스템, 현장, 현지현물, 위기관리,
일본자동차기업

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