

Case Study

# Open platform strategy and Effects of Manufacture Industry: The Case of Samsung Electronics

**Jangwoo Lee**

Professor, School of Business Administration, Kyungpook National University, Daegu, Republic of Korea.

E-mail: [antonio@knu.ac.kr](mailto:antonio@knu.ac.kr)

**Minkyu Jeong**

Master Student, School of Business Administration, Kyungpook National University, Daegu, Republic of Korea.

E-mail: [tezuka8373@gmail.com](mailto:tezuka8373@gmail.com)

**Junseok Heo**

Doctoral Student, School of Business Administration, Kyungpook National University, Daegu, Republic of Korea.

E-mail: [jstyle1301@naver.com](mailto:jstyle1301@naver.com)

Corresponding author: **Junseok Heo**

Doctoral Student, School of Business Administration, Kyungpook National University, Daegu, Republic of Korea.

E-mail: [jstyle1301@naver.com](mailto:jstyle1301@naver.com)



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## Abstract

Recently, the abrupt technology transitions and consumer-focused corporate environment reorganization have made former strategic rules and theories to confront its limitations. Moreover, the various fusion phenomenon between local and industries have changed the formation of competition or cooperation between corporations. To overcome this, recently there is big interest on the network with external complementary goods to create continual competitive advantage and platform strategy which improves outcomes among participants through healthy business ecosystems. But most of the researched are focused on the conceptual definition of platform strategy and web-based case studies on information- communication industry. For these reasons, this study will conclude step by step processes- creation, maintenance, management and effect of platforms through advanced researches. We have also studied about the case studies of orientation on open platform strategy of Samsung

Electronics in the field of manufacture as Samsung Electronics is a company which with 40 years of continual innovation have evolved into a global manufacture company. This study analyzes the activities Samsung Electronics have carried out through interviews and corporate reports. And through this, we have found out the roles of platform leaders and their effect in manufacture platform strategy. Platform strategies in manufacturing fields need a more enthusiastic leader than the former web-based info-communication industry's platform strategy. Samsung Electronics' platform is built based on the trust among participants and through this, more corporate partners are attracted into the platform. Moreover, the former information communication industry's platform strategy is based on individual activities, whereas the newer form of platform strategy encourages positive competition among participants. And it also maintains or improves the quality of platforms by joint developments and funds to secure self-sufficiency, technology and manpower and continual supporting business. This platform strategy comes together with network and cost cutting effect, and with this effect, it is possible to launch new products and open a new market and thus creating new shared value. This analysis implies that open platform strategy can be tried and through this it is possible to create continuous global competitive advantage to make a healthier corporate ecosystem.

**Keywords:** platform strategy, open innovation, business ecosystem, co-evolution, network effect, Samsung Electronics

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## 1. Introduction

In today's business environment, technology shifts can occur over one night, and aggressive rival corporations can invade in any business domains. To respond to this, many corporations make use of conventional rules or general strategic theories for strategy planning, but it is not effective anymore. Like this, the recent change in business environments can be summarized into the abrupt increase in uncertainties and a maneuver to this has become very important.

In this business environment, corporate's creation of competitive advantage has met its limitations to only create using individual corporate's efforts. Products and services' compounding have increased and the network effects of suppliers and consumers have gotten bigger which is changing the competitive aspects from corporate rivalry into ecosystem rivalry. (Iansiti and Levien, 2004; Changwook, et. al., 2012).

Moreover, due to globalization and digital convergence, the diverse local and industrial fusion phenomenon have transformed the forms of competition and cooperation among corporations. (Digital convergence research, 2005). To keep in line with the trend, interests have increased on the matter of open platform strategy to create new competitive advantage and to attract partner corporations by opening platforms, with information-communication industries like Apple, Google, Facebook, Amazon as its hub.

The roles of this platform are of combining all existing technologies and to form a corporate ecosystem, and thus leading innovations (Eisenmann, Parker and Van Alstyne, 2006), and to have the characteristic to continuously shift as an evolutionary system consisted of interdependent entities. (Gawer and Cusumano, 2002). Especially, the faster consumer centered industrial environment and innovation rate is, the higher the increase of platform strategy's effectiveness will be. The reason to this is that it is harder to do quick maneuvers only with internalities when the external innovation rate gets faster. And through this the external effects' importance through fusions will get bigger.

After 1990s there has been various theoretical studies and case studies on platform's strategic value and effective application. (Robertson and Ulirich, 1998; Halman, et. al., 2003). But most of the studies are focused on case studies about web-based info-communication industries and platform's conceptual definitions. On the other hand, the studies applying platform strategy to manufacturing perspectives is relatively weak.

Consequently, this research paper will analyze Samsung Electronics which with more than 40 years of continual innovation grew into a global manufacturing corporation. Samsung Electronics have made tangible, continuous success outcomes through networking among 6 set industries and 3 parts industries and thus producing a synergic effect. It is also promoting a differentiated platform strategy to create a healthy business ecosystem. Moreover, since 2004, it has founded a coexistent cooperation centers to create a competitive platform business

model, and through this it is growing into a shared growth among participants.

Hence, this case study's main objective is to check preceding studies on platform strategies and thus deducting a general process on platform strategies. Also, the previously info-communication industry focused studies on platform strategies will be shifted to a manufacture industry focused one, and this will suggest an innovative open orientation of the manufacture industry. Furthermore, the effects among platform participants will be viewed to discuss about the value of platform strategies and future business management means of corporates.

## 2. Theoretical background

### 2.1 Views of platform

Platform, as today's lexical terminology, means physical platform. However, other than this definition, it also has the definition of social platform, platform in geology, computing platform and etc., used in various fields of study. It is also dealt with in business management fields, as three major perspectives

Firstly, there is a product perspective on producing strategic field. Here, platforms are defined as the base to diverse products. Robertson and Ulirich (1998) have stated that platform is 'a set of assets shared by a series of products.' And with this perspective, the product is interpreted as the platform that is a system consisted of core modules and other modules and that is focused on the structural aspects of the product such as the means to optimize company's product developments. Therefore, most of the studies that are product-focused limits platform usage to only staying within the company.

Secondly, there is a technical perspective on the field of technological business management. Here, platform is defined as the core technology used by the companies within the industry. Gawer and Cusumano(2008) defines platforms as 'a necessary foundation technology or service in the vast and interdependent corporate ecosystem'. This platform serves as a core role in corporate ecosystems and industries. Therefore, the companies with platform strategies play a key role in leading the evolution of industries as well as having a strong power and influence within the industries. So, the studies of technical perspectives mostly are focused on using platforms to get a predominant leading position in the industry.

Thirdly, there is a perspective of trade which is mainly discussed in industrial economy. Here, platform is defined as a critical medium that links a trade of more than two participants or a group. Rochet and Tirole(2003) defines platform as 'a medium in which two different groups mutually interact with each other'. And in the study of trading perspective, there is focus on the network effect of a group getting more profit by having more other groups participating in the trade, and through this the authentic focus lies on dynamic process of the inflow of more participants. Their main focus is on what incentive is to be given to various participants and what strategy is to be made in order to reach the critical point. In the situation where many competitors exist, can the participants only participate in single platform or can they simultaneously participate in multiple platforms? This question has a great influence on the competition outcome. In an existing trade paradigm, the corporate had to only encounter with one group in the process of buying product from the supplier and selling it to the consumers. However, in a platform, there needs to be a relationship between two or more groups, so we can call it multiple sided markets or double sided markets. In the theory of double and multiple sided markets, platforms with technological perspectives are often included as a subject of analysis.

As such, there are still limitations to unite platform-related discussions that were analyzed in various points of view into one single unity. And until now, Baldwin and Woodard (2009), Gawer(2009) is yet to be the only studies that have been executed. Baldwin and Woodard(2009) have pointed out that product based platform, technology based platform and trade based platforms are almost similar. And Gawer (2009) have pointed out that the only difference between product-based platform and technology based platforms' usage range is whether it takes place within the corporation or the whole industry. Other than this, he claims that platform itself is essentially similar.

**Table 1. Categorizes the definitions of platforms according to each field.**

Field	Researcher	Definition of platform
Operations strategy	Robertson and Ulrich(1998)	a set of assets shared by a series of products
	Meyer and Seliger(1998)	Common structure with a series of the development of derivation product.
	Halman, et. al.(2003)	Common basis to all individual products belonging to the product family.
Management of technology	Bresnahan and Greenstein(1999)	Technical aspect that the majority of sellers and buyers share
	Economides and Katsamakos(2006)	Hub of value chain in hi-tech industry
	Gawer and Cusumano(2008)	a necessary foundation technology or service in the vast and interdependent corporate ecosystem
Industrial economics	Rochet and Tirole(2003)	The occurrence of network externality by a medium of two different groups interacting with each other.
	Sangkyu Rhee(2010)	Physical, virtual or institutional environment provided to facilitate different user groups from trading or interacting.
Interdisciplinary study	Baldwin and Woodard(2009)	Gathering of all stable elements that allow variety and evolvability within the system by defining the connection among other elements.
	Gawer(2009)	Building blocks that are base to the development of complementary products, technology and service by a series of corporates.

Source: Byongsam and Joohan (2011), 'A Study of the Effect of the General Definition of Platform on the Firm's Economic and Strategy Decision-Making', The Journal of Business Education.

In this study, various definitions of platform will be integrated so that platform is ultimately defined as 'the critical module commonly used to/for support diverse interactions'.

## 2.2 Platform Strategy

The recent corporate environment is going through fast innovations and shifts that are consumer-centered. In this environment, the creation of corporate competitive advantage has met its limitations to only create them by individual corporations.

Iansiti and Levien (2004) have claimed that to create a healthy business environment, not only the existing strong connection between the supplier and customers, but also the loose connection with medium enterprises and other corporations and organizations should be considered. Moreover, due to the development in digital technology, the discontinuous environmental shifts are not limited to products' generation shifts, and are changing the behavior patterns of consumers and infrastructures of industries. (Rogers, 1983). This change in consumers' behavior patterns and industrial infrastructures highlights the occurrence of network phenomenon. In this background, firstly, it is harder for a single company to provide a product or a service that would satisfy all the picky consumers. (Seongjoon and Woonsun, 2004). Secondly, the speed of technology development is quicker and modularized and standardized technologies are spreading, thus this activates networks as a new management structure for markets or hierarchy (Powell, 1990). Therefore, the business environment around corporates will become more network-ized, and will be influenced by information's economic law. (Kelly, 1998; Kuhyuk, 2000)

The representative case for the activation of networks can be said to be the PC (personal computer) industry. In this industry, the ecosystem have been reorganized and in the center, there was the platform.

For platforms, in the early part of it, diverse platforms compete, but when a specific platform secures shares at a certain point, it has the aptitude to shifting into a dominant design due to network externality effect. (Abernathy

and Utterback, 1978). In the PC industry in the 1990s, the vertical industrial structure was leveled off into a horizontal form, and Intel's chip and Microsoft's OS(Operating System) played their roles as platforms. In the smartphone ecosystem in 2010s, Apple's App Store and Google's Android Market App Stores are the platforms. In these industries, the once vertical and closed industrial ecosystem was destroyed and opened up. (Grove, 1996; Sukgwon and Kinki, 2010)

### 2.3 Platform Strategy Process

Recently, through the cases of Apple, Google, Amazon, Facebook, we can find many other cases related to open platform to find more contents. Open platforms are fundamentally different from the existing closed platform. Closed platform's main objective lies in making direct profit, and so it is developed in a closed place where there is no contact with the outside. However, open platforms may look rather complex, but it moves in a certain market with order, and has a bigger effect. This relates that closed platforms follow a producing model that are based on the monopoly of knowledge due to its closed and limited characteristic. Also, it tells us that open platform is based on shared information and uneconomical system and thus brings a bigger and a more influential economic outcome.

In this open platform, the role of a platform leader is regarded very important. Cusumano and Gawer(2002) emphasizes on the role of platform leaders in creating a platform, and also states that successful platform leading corporations changes the system via four elements. Firstly, there should be a differentiated product technology to lead the system. This means that it is necessary to have the capability to make a platform and to support various complementary assets. Secondly, there needs to be a clear definition on the scope of the firm. Through this, there needs to be trust planted in the companies developing complementary assets that their domains will not be invaded. Furthermore, we need to highlight the coexistent partnership to lower the company's uncertainty and give them faith that it is possible to get the profit they wish to have through cooperation with platform leading firms. This means to clearly distinguish the line between their roles and platform leaders' roles based on the understandings of the overall system. And thirdly, the participation of many external cooperative companies are necessary and the relational with these external complementors are needed. Finally, there should be in internal organization to be responsible of the open platform strategy and to proceed with it. These conditions are related to how to lead and activate the complementary asset development companies. The most important aspect to defining the relationship with complementary asset developing companies is to set a fair rule to distribute profit. If the total fee of the profit that can be made within the business ecosystem is fixed, it can be said that when the platform leader takes more profit, the complementary asset developers naturally take less. And if this case were to come true, no more companies would cooperate with platform leaders, and there is no other way to attract these talented developers into the platform. And this will result in an impediment to making the whole platform market bigger and wider. And so, the platform leader should consider both enlarging the market size and its own company's profit gain, and set an appropriate profit distribution rule.

However, even if these platforms are set, it does not mean that it is easy to attract participants. To fortify and increase the value of platforms, platform leaders much lead the participants' enthusiastic actions. (Sungwook, et. al., 2011). For this to happen, platform leaders must offer incessant visions and clear standards and various supports. Also, to maintain platform participants and keep making the platform look attractive, platforms need to be continuously innovated, extended and fortified. If platforms are widely used and diverse participants take part, not only the existing participants, but also other new participants will be guided. And this will eventually lead to the improvement in the value of platform. For this, platform leader has to devise a way to form corporate coalitions and cooperate with each other, and thus create a coexisting environment. Competition among participants is encouraged, complementary products are innovated and through this, many interest groups, platform leader, and also the clients has to be granted with value. (Sangwuk, 2010)

The created, maintained and managed platform provides diverse outcomes. Firstly, when each group executes individually, it takes too much time and is too costly. But platforms will offer this function, thus cutting costs. The part where all groups share will be done by platform strategy rather than carrying it out individually. This will result in cheaper expenses. Secondly, we can cut costs for searching. The products and brands offered by the platform provides a feeling of safety and security to the users, and it therefore functions as a guarantee to a

certain standard of quality to the service. (Hagiu and Hirano, 2011).

Also, platforms increase indirect network effects, and hence provides profit not only to its own company but also to other user groups. Therefore, it is possible to satisfy all platform user groups' needs, so due to the effects of platform-based strategy, there exists network effect, increasing returns of scale, winter-takes-it-all. (Evans, 2003a; Eisenmann, et. al., 2006).

This means that as more platform participants occur, there will be more developed complementary goods or result in more sellers, thus the value of the network would rise. Platform's role here is that it works as a leader of overall industry's innovation to gather all currently being separately developed technologies and hence making a business ecosystem. These preceding studies tell us that platform strategies are being carried out by a virtuous circle structure- the creation of platforms, maintenance/ management of platforms strengthened through participants' interactions and competitions, and the effect being carried back to the platform itself through its previous steps.

### 3. Case analysis

#### 3.1 Framework

Consequently, this study distinguishes the platform strategy process as platform creation, platform maintenance/ management and effects of platform strategy through theoretical contemplations on previous studies. The case study's analytic framework will be provided, like the below <Figure 1>

Cusumano and Gawer (2002) said a corporate wanting to be a corporate leader should define the relationship between corporate's business range and external interest groups and also to have smooth communication with the internal organization.

Moreover, Hagji and Hirano (2011) said that if the platform leader does not maintain and manage platform extension and platform quality through platform's value creation and stimulation by interaction, the participants will eventually leave the platform. And they added that platform leaders' incessant innovation is important. And through these processes, a virtuous circle of finance problem solutions and increase in profit will be made by sharing the created profits.

Evans (2003a) emphasized on the network effect on the platform and also to strengthen and extend platforms.

**Figure 1. Frame of Case Analysis**



#### 3.2 The growing of Samsung Electronics

Samsung Electronics was founded in 1963 when Samsung group who formerly focused on food and clothing industry advanced into the electronics industry. In 1970, Samsung NEC was founded and started producing the Korean semiconductors in 1974, and advanced into the semiconductor industry, beginning with producing white goods and AV electronics. In 1980, they took over Korean Electronic Communication, and jumped into semiconductor industry after in February 1983, the founder ByungCheol Lee announced that he would start into the DRAM business. Afterwards, in 1983 next to America and Japan, Samsung developed a 64K DRAM, ranking 3rd position in the world. From 1990s to 2000, Samsung make initial outcomes in the memory-semiconductor field and establishes inventing basis for future generations. (Samsung Electronics, 2012)

Samsung Electronics was one of the Korean conglomerates with high status in financial rankings. In 1997, during the financial crisis in Korea, it executed a vast structural reorganization and secured an effective internal stability and thus growing in a qualitative way. Through this, Samsung is currently the number 1 conglomerate in the Korean financial rankings, and even in the overseas, Samsung took first place in semiconductors, TV, mobile phones and diverse products, thus being a global enterprise.

In the era when Samsung Electronics was flourishing, their objective was to follow the tracks of their competitor, Japanese enterprises. But in 2010, they easily beat up the Japanese companies by taking the first place in global market shares in the field of flat screen TVs and semiconductor memories.

Moreover, in 2007, in the field of mobile phones, Samsung Electronics have ranked in the second place, beating Motorola. In parallel to the shifting world, Samsung Electronics looked for a new growth power and eventually took over a medical equipment venture company, Madison, and thus diversified their business even in the business field of healthcare. In 2009, Samsung Electronics jumped into the Smartphone market and presented a Galaxy series line up, and in 2011, its third quarter was ranked in the first place. It overthrew Nokia and Apple and took first place in global market shares. (Samsung Electronics, 2012)

### 3.3 Platform strategy of Samsung Electronics

#### 3.3.1 Platform construction

Samsung Electronics is pushing for open platform strategy since 2004, to overcome the limitations of a closed-cooperative relationship and to innovate a new technology development.

Samsung Electronics is expanding and supporting platform participants not only in the primary partner corporations but also to the secondary and tertiary companies as well. This is to create a healthy business ecosystem through platform strategy. Samsung Electronics' is run with three philosophies: first, to build trust through whole-heartedness, second, transparent business management through fair trade, and last, to enhance global competitiveness through strengthening partner companies' competences.

Firstly, Samsung Electronics expanded their communication means because they saw that building trust with partner companies was the start of all platform strategies. As a part of this, in 2011, the directors of Samsung Electronics regularly visited their partnership companies and listened to errors or complaints, and shared innovative methods and solutions to the problem. This regular meetings are called as 'win-win growth day'. Especially the managers of developments, purchase and product quality from partner companies visit the site every two months to widen opportunities of communication. This trust-based relationships with external partner companies prevent the companies from deserting as well as strengthening the bond between Samsung Electronics and the external partner companies. And thus, it provides a kinetic energy to create and run Samsung Electronics' platform.

Next, Samsung Electronics sees strengthening open innovation using internal researches, and external partnerships and partnership companies' technology and ideas as the keyword in global competitiveness. And hence, it is promoting many supporting businesses to fund these platform participating companies financially and with work force. Samsung Electronics' open platform has an open sourcing system which provides opportunities to companies that did not have any interactions with Samsung Electronics until now, and also it has an excellent technology. However, it has established a 'new tech development contest' and by doing so, they are successfully attracting its partner companies with competence to Samsung Electronics' platform. (Samsung Electronics Partner Collaboration Center, 2011).

Samsung Electronics has an open sourcing system which looks for a talented, influential mid-sized companies with new technology or an innovative idea and develops parts and equipment together. This widely opens the door of opportunity for these mid-sized companies, and did 651 technology consultations in 2011, and selected 23 assignments after an internal examination. (Samsung Electronics, 2011a).

Furthermore, Samsung Electronics provided free funds to companies with competence but without financial funds, and is making a newer form of open manufacturing platform model in which the funded companies has to make trades with Samsung Electronics when they succeed in developing a new technology, through new-tech development contest. As such, Samsung Electronics is securing ideas and new technologies through open platforms and is also strengthening its partners' competence.

Also, since 2004, it is running a mutual collaboration center which is an exclusive organization with executive units, and with this center, it is responsibly progressing its activities on platform strategies.

This platform securing activities by Samsung Electronics is in line with Cusumano and Gawer (2002)'s platform leaders' roles, and hence it provides an evidence to their claim.

### 3.3.2 Platform maintain and Management

As mentioned before, Samsung Electronics' platform strategy is based on building trust with its partnerships, securing ideas by opening platforms, internal and external shared growth culture expansion through mutual cooperation centers, and thus it builds a differentiated open platform only of Samsung Electronics. Additionally, Samsung Electronics is maintaining and managing the open platform and it is trying to establish various supporting systems to create a new values through platforms.

Samsung Electronics is funding its partnerships through technology interactions and exhibitions with foreign enterprises to enhance its partnerships' global competitiveness. Also, for 2-3 times a year, Samsung Electronics offers a benchmarking opportunity of domestic and foreign outstanding manufacture sites to partner companies' executives and owners. It is hence activating information sharing and enhancing competitiveness.

Moreover, Samsung Electronics is running a 'global hidden champion' nurturing program to totally fund mid-sized companies with competence on pecuniary, manpower, and manufacturing technologies, so that these companies can rank in the global Top 5 in the relevant fields. This secures its partnerships' resilience. Samsung Electronics' 'global hidden champion' nurturing program is different from former cooperative strategies which focused on the partnerships' current situations. It not only finds solutions to their current problems, but also helps them make a long-term road map and based on this, they are able to analyze what sources they need in advance, like technologies, fund, business infrastructures. And then, they will be able to provide these relevant sources in the right time. Therefore, this supporting program is a differentiated and a tailored program. By doing so, Samsung Electronics can inspire their partnerships' competitiveness and strengthen their platforms through securing quality and price competitiveness. The below <table 2> shows Samsung Electronics' global hidden champion nurturing status in 2011. (Samsung Electronics, 2012).

**Table 2. Samsung Electronics' global hidden champion nurturing status**

Business field	VD	IT Solution	Household appliances	wireless	network	semiconductors	total
Number of partnerships	3	2	3	4	1	15	28

Source: Samsung Electronics(2012), Sustainability Report.

More than this, Samsung Electronics is maintaining the quality of their platform through various supporting systems. To strengthen the platform participating corporates' competitiveness, Samsung Electronics is making a supporting fund to fund its partnerships, including secondary and tertiary companies. The fund is co-operated with a commercial bank, and is the size of 1 trillion won. Also, Samsung Electronics is keeping its partners' cost for delivery goods in cash and expanded the payment schedule so that its partners can secure a flexible cash flow. (Samsung Electronics, 2012).

The below <table 3> is a summary of Samsung Electronics' partnership competitiveness strengthening support program and its effects for open platform maintenance and management.

**Table 3. Samsung Electronics partnership companies comprehensive competitiveness support program**

Supporting policy	Supporting performance
Partnership supporting fund	Accumulated loan performance, 1.56 billion won
Primary partnership shift system	Primary partnership shifted 30 companies' bill settlement changed into cash payment
Payment schedule enhancement	From twice a month, expand to 4 times a month
Educational support	Expand education to secondary partnerships
Secondary and tertiary partnership competitive strengthening	When assessing primary partnerships, reflect payment conditions and site support activities

Source: Samsung Electronics(2012), Sustainability Report.

Moreover, Samsung Electronics is creating new values by securing its partnerships' competitiveness through



business consultants and consulting supports on productivity and quality improvement and is also enhancing the quality of platforms. Samsung Electronics is not satisfied with their current platform quality strengthening process and is enhancing platform participants' competitiveness by various educational programs for future Samsung Electronics' quality improvement. As an example, Samsung Electronics is supporting on/ offline education according to different fields for their executives' competence strengthening, and for their partnerships' competence strengthening, they are conducting seminars to share priceless information on recent business environment and industry prospects by professional instructors and executives. Furthermore, it is supporting for a program to enhance partnership presidents' children to experience Samsung Electronics' corporate culture, innovative activities and through this, the juniors become more capable in running a business. (Samsung Electronics Partnership Collaboration Center, 2011).The below <Table 4> organized future CEO education's performance.

**Table 4. Samsung Electronics partnerships' future CEO education performance (unit: person)**

	2004 (1st)	2005 (2nd)	2006 (3rd)	2007 (4th)	2008 (5th)	2009 (6th)	2010 (7th)	T o t a l	notes
Contracted	20	13	15	11	7	-	15	81	10 months program
Interns	9	12	9	6	7	13	16	72	3 weeks program
total	29	25	24	17	14	13	31	153	

Source: Samsung Electronics Partnership Collaboration Center(2011), 'A Win-Win Growth Policy of Samsung Electronics'.

### 3.3.3 Effects of Platform Strategy

The strongest effect among all Samsung Electronics open platform strategies is the creation of various values through maximizing network effect.

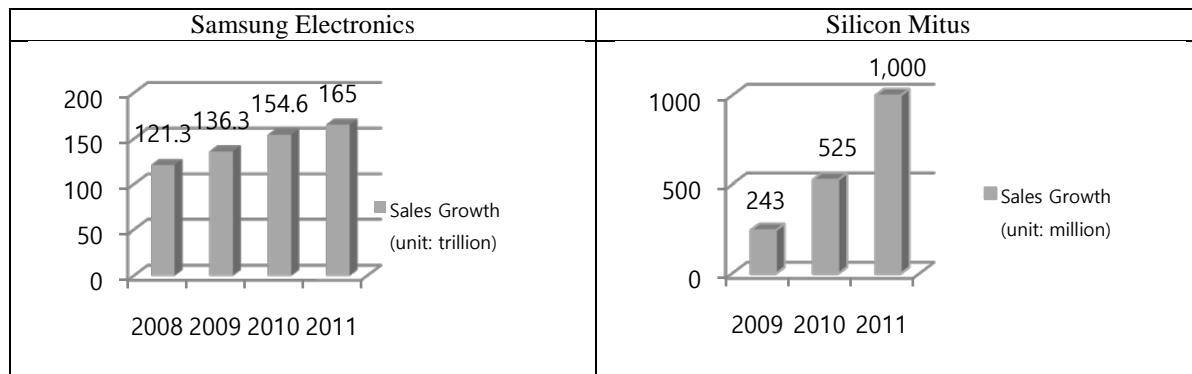
Firstly, Samsung Electronics have secured good ideas and increased the number of their partnerships through an open platform strategy known as open sourcing and new technology contests. Whether or not the companies have worked with Samsung Electronics before, the companies with brilliant technology or ideas were offered of an opportunity to take part in Samsung Electronics' platform. And by doing so, the innovative technology conference which are consisted of companies working cooperatively with Samsung Electronics can now expect technology development support, doing joint projects with Samsung Electronics, and developing new products. And this opportunity has encouraged competent companies which want to have a trade with Samsung Electronics to crowd around Samsung Electronics' platform. After the first innovative technology conference consisted of 24 companies was held in 2010, the second meeting was held in 2011, with 7 more companies, thus making 31 companies to run the meeting. This open platform's outcome tells us that the first conference participants showed an increase of their sales, of a total of 523.9 billion won compared to the previous year, only within a year after they joined the platform. Two corporates among these were recognized with their products and innovative outcomes and were officially registered in Samsung Electronics' partnership committee. And Samsung Electronics have widened and strengthened their network with partners through platform strategy.

Moreover, Samsung Electronics have divided the steps into 'partnerships committee', 'innovative technology conference', and 'global hidden champion'. And this allowed them to systematically manage their partnerships and encourage technological interactions among partnerships, and hence maximizing network effect.

The example of the success story of platform strategy is Samsung Electronics trying to localize its PMIC (Power Management IC) for LCDs, which was totally dependent on the import from foreign industries. In 2009, via innovative technology conference, Samsung Electronics set down to a joint development with a semiconductor chip design venture company- Silicon Mitus. Until then, the field of PMIC was limited to Maxim, or TI-multinational semiconductor enterprises. But Samsung Electronics made the localization of PMIC for LCD come true via a joint development project with Silicon Mitus. This also proved that it was indeed possible to accomplish technology independence. The parts also decreased in number from 7-8 needed parts to only 1 part,

and this resulted in cutting costs of up to 15.2 billion won annually. This also implies a cutting cost effect through open platform's technology shares. Also, Silicon Mitus' contract value has risen from 10 billion won in 2010 to 40 billion won in 2011, only within one year. Their total sales have dramatically increased from 24.3 billion won in 2009, to 52.5 billion won in 2010 and finally, to 100 billion won in 2011. Silicon Mitus is expanding its field to wireless business from its LCD expertise, all through the network effect with Innovative technology conference's member companies and with many product families within Samsung Electronics. This shows that Samsung Electronics' open platform strategy not only accounts for the growth of Samsung Electronics, but also it grows together with its partnerships as well. (Samsung Electronics, 2011b)

**Figure 2. Samsung Electronics and Silicon Mitus' sales performance through platform strategy**



#### 4. Results

This study disclosed platform strategy's general process through theoretical contemplations on previous studies conducted about platform strategies, and it also executed case analysis on manufacture industry's open platform strategy and its results.

Samsung Electronics, which was the case company, conducts open platform strategy upon the world's best technology they achieved through experiences in the manufacture industry for more than 40 years. Samsung Electronics firstly expanded communicating arena between platform participant corporates to build trust, through continuous and frequent meetings, and based on the built trust, open sourcing and new technology development system is conducted in which the formerly non-trading companies can share their ideas through open platforms. To execute the open platform project, a mutual cooperation center is established to make sure platform strategy plans are responsibly and systematically carried out.

Moreover, for resilience of the participant companies in the platform, Samsung Electronics provides fund, technology, market, manpower, professional consultants and consultations its partnership needs. This leads to the maintenance and management of platform quality. Through this platform strategy, Samsung Electronics creates a new value called 'global hidden champions'. Also, the representative, future CEO and executives of the partnerships are continuously educated so that their continual management of their own company is possible, and also so that Samsung Electronics platform's quality can be continuously enhanced.

**Table 5. Platform strategy factor analysis of Samsung Electronics**

Construction strategy	Maintenance and management strategy	Effects of Platform strategy
<ul style="list-style-type: none"> <li>- Constructs an open platform through open sourcing and invitation to new technology competition</li> <li>- Expands channels of communication such as 'win-win growth day' and friendship meeting with subcontractors, thus building up trust</li> </ul>	<ul style="list-style-type: none"> <li>- Provides comprehensive support involving finance, manpower, and manufacturing technology to foster global small yet strong firms</li> <li>- Encourages mutual exchanges through benching of excellent manufacturing companies, exchange of technology with overseas companies, exhibitions, and</li> </ul>	<ul style="list-style-type: none"> <li>- Evaluated as excellent in the win-win growth index assessment(2011)</li> <li>- Cuts cost through the local manufacture of part</li> <li>- Samsung Electronics steadily expands its sales</li> <li>- Boosts subcontractors' sales, thus stabilizing their finance(the direct</li> </ul>

<ul style="list-style-type: none"> <li>- Establishes a 'win-win collaborative center' in 2004 to promote the win-win growth culture internally and externally, and to implement a systematic platform strategy</li> <li>- Implements a system of sharing revenues</li> </ul>	<ul style="list-style-type: none"> <li>- seminars with subcontractors' CEOs</li> <li>- Bolsters competitiveness by providing support for finance, manpower and technology</li> </ul>	<ul style="list-style-type: none"> <li>- effect of networking)</li> <li>- Secures opportunities for subcontractors to enter overseas markets(the indirect effect of networking)</li> </ul>
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Samsung Electronics' detailed open platform strategy is organized as follows.

Firstly, in the aspect of creating a platform, Samsung Electronics carries out platform strategy based on the trust with its partnerships. Samsung Electronics has clear rules not to invade its partnership's domains. And it also accepts partnerships' opinions and ideas through expansion of communication and internal exclusive organizations to deal with the matter.

Secondly, in the aspect of maintaining and managing platforms, Samsung Electronics encourages interactions and competitions between partnerships. This is to attain brilliant ideas through voluntary competitions and thus to strengthen the overall Samsung Electronics' platform. Also, Samsung Electronics provides opportunities to visit domestic and foreign working sites and allow benchmarking so that technology and information can be interchanged. Moreover, Samsung Electronics encourages seminars between partnerships and their interactions so that brilliant and differentiated new value is created.

Thirdly, Samsung Electronics supports partnerships by fund, technology, market and manpower to increase participants' competence which is to enhance platform's quality. This improved participants' competence is then returned back to Samsung Electronics, and Samsung Electronics can deliver quality goods to its consumers. And this results in frequent visits and increased numbers of consumers to Samsung Electronics platform. Through this, a virtuous circle is created which increases the total pie of Samsung Electronics' business ecosystem.

Fourthly, in the platform strategy effect aspect, Samsung Electronics' open platform strategy's main idea is to maximize network effect. Samsung Electronics attracted competent partnership companies through open platform strategy and is successfully doing technology developments and cost reductions. Partnerships participating in platform are also pioneering in the domestic and foreign markets with sales increase.

Conclusively, Samsung Electronics' open platform strategy aims for all participants to grow in quantity and quality, and thus it is possible for the business ecosystem to healthily grow together.

## 5. Conclusion

This study suggests open innovative methods for future development of the manufacture industry by studying platform strategy in the manufacturing aspect that formerly had been active based on web in the information communication industry.

For this, based on previous studies, platform strategy's 4 steps- creation, maintenance, management and effect has been deducted and deeply analyzed. The <table 6> below organized sub-factors of Samsung Electronics' platform strategy activities and the activeness of each factor of Samsung Electronics.

**Table 6. Samsung Electronics' open platform strategy policy**

Classification	Sub factors	Samsung Electronics
Platform construction	Secure openness	△
	Confirm business range	○
	Product producing technology	○
	Setting relationship with platform participants	○
	Create internal organization	○
Platform maintenance and management	Create value	○
	Encourage interaction	○
	Manage platform quality	○

Effects of Platform strategy	Network effect	○
	Cost cutting effect	○
	Search expense cutting effect	△

(○: enthusiastic, △: moderate, X: not enthusiastic)

Generally web-based information communication open platform strategy attracts various application developers and focuses on securing various media and contents. In this info-communication industry, platform strategy's characteristic is that it opens its OS so that content developers can easily access the system and do individual activities which will secure competitiveness. But in manufacturing platform strategy, a more enthusiastic platform leader is needed. In manufacturing platform strategies, when partnership is first introduced, it needs the platform leader's primary assessment and through this process, when partnership is accepted, through funding, cooperation, support of manpower, the platform's quality is maintained and managed via enhancing the resilience and competitiveness of companies. This follows the characteristics of manufacturing industry where in manufacturing, the platform's leader is mostly played by conglomerates. For this reason, the platform strategy in manufacturing sites, platform access opportunity is provided by platform leaders. The participating proceedings are decided by the partnerships, but once they become a part of the platform, the relationship between big enterprises and its partnerships is not in a completely horizontal order but, rather, in a little hierarchical order. So the manufacture platform strategy has to share profit mutually, and also achieve direct, individual goals, and only through this the effect can be maximized.

Also in manufacture platform strategy, it provides an opportunity of business portfolios to naturally expand. Generally, enterprises expand their business portfolios through diversification or strategic partnerships. But these methods cause too much financial burden. In the previously mentions example of Silicon Mitus, the LCD PMIC chip made together with Samsung Electronics is actually joint with various business fields, and thus is used in LCD Display panel chips, smartphone amoled display panel, eco-friendly LCD backlight, low electricity consuming hi-tech mobile and smart phones, and machines that are energy-related. Through this, Silicon Mitus' business portfolio naturally expanded, and Samsung Electronics also had a benefit of its product being localizes and thus being cheaper which resulted in diversification of their products. Samsung Electronics saved up to 12.5 billion won by its joint project with Silicon Mitus. Through this case analysis platform strategy provides the effect of expanding business and product portfolio and mutual benefit among participants.

### 5.1 Implications

Through these analytic results, this case study has theoretic and practical implications as follows.

Firstly, this study comprehensively checks all researches related to platform strategy, and organizes platform strategy in a conceptual definition and looks at platform strategy's general process, and suggests future study plans for platform strategy.

Secondly, this study applies and analyzes electronics manufacturing fields when platform strategy studies are mainly focused on web-based info-communication industry. And through this application and analysis, platform strategy study fields can be expanded and it suggests new issues as well.

Thirdly, this study suggests platform strategy and shows a new orientation to the future open platform strategy's possibility to the enterprises which formerly pushed for closed platform strategy. Furthermore, it is offering a possibility of shared growth between the constituents of business ecosystem through platform strategy, and thus offers another direction to develop cooperative relationships of future manufacture enterprises.

Fourthly, this study suggests the possibility of shared growth between corporates through platform strategy, and this stimulates future corporate cooperation and suggests governmental supporting solutions that will alleviates economic bipolarity.

### 5.2 limitations

However, despite the above implications, this study has following limitations.

Firstly, in this study, a success case of platform strategy's effect was deducted. This is too abstract to be applied and generalized to all other partnerships, and is inadequate to measure the real performance so it is hard to

acknowledge its effectiveness.

Secondly, this study is conducted in a single case analysis so it is inadequate to compare it with same industry or other industry and thus doing a comprehensive authentication. For this reason, it is difficult to generalize the research results and it has the problems of being too abstract and distinctiveness which should be complemented in the aspect of scientific research.

Thirdly, this study approaches a company's innovative performances in the general platform strategy's process perspective, so it is not a thorough investigation on various business management factors such as an entrepreneurial mind, organizational culture, employee management, brand image and marketing.

### 5.3 suggest of Future research direction

This study deducted platform strategy's general process through previous studies on platform strategy and closely looked at platform strategic processing method with Samsung Electronics as its subject, not the former web-based info communication industry. For this study to be theoretically and practically useful, the studies as follows should be conducted in the future.

First, studies on diverse fields of industry of platform strategy characteristics and its performance should be conducted, other than studies on info-communication industry and manufacturing industry. platform strategy theory should be academically strengthened.

Secondly, this study deducted the general process of platform strategy. In future studies, the studies on each platform process' influential factors should be conducted so that in depth studies on platform strategy can be discussed.

Thirdly, the limitations to platform studies that are focused on case studies should be overcome, and more theoretical studies that could be generalized should be conducted.

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