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1. Introduction

Globalization of research and development by multinational corporations, which is considered as the last corporate function to be globalized, is being increased and accelerated. The purpose of this paper is to discuss about the determinants of product development capability building in local subsidiaries. What factors and conditions encourage the capability building? Does the bigger size of market, like China, trigger speedy localization of product development capability? Or, initial heavy investment in facilities and equipment help it? To answer those research questions, case studies of Denso's subsidiaries in India, China, Thailand, Korea, U.S., and Italy are conducted. The six subsidiaries, which are born out of the same headquarter, are comparatively analyzed. Especially, the focus is set on the way each of the subsidiaries have formed their own product development capability in different settings and context.

This paper is organized as follows. Section 2 provides a review of the theory of global R&D activities of MNEs. After reviewing general flow of the research, research about location choice for global R&D will be examined in detail. In section 3, we will firstly define each functions of local development capability and the capability level of the six subsidiaries. And then, based on the research review, existing explanations about location choice and Denso's six foreign subsidiaries' cases are comparatively analyzed. Some other explanatory variables will also be explored. Section 4 sums up the case studies and draw conclusions out of them.

The findings suggest that existing researches about location choice of overseas product development cannot fully explain the dimensions of capability building. That is, economically reasonable location choice of overseas product development

function cannot stimulate capability development afterward. From the case study of Denso, it became obvious that in the case of an automobile supplier, the existence of local customer encourages the capability building of local product development organization. In other words, as far as original customers (eg. Toyota) do not extend their product development function to overseas, suppliers subsequently cannot build local development capability.

2. Literature Review

1) Researches about global R&D

There are various terminologies meaning MNC's global knowledge sourcing, such as international or global R&D, asset-seeking FDI (Wesson, 1999), capacity seeking (Anand and Delios, 2002), and offshoring R&D, etc. This school of research has been developed since late 1980s, when conventional belief of international business studies started to move from ownership advantage (Hymer, 1960) or internalization theory (Rugman, 1981) to transnational organizations (Bartlett and Ghoshal, 1989).

There are roughly four stages of research streams. Firstly, until 1980s, main perspectives toward global R&D of firms are 'home country centered'. That is, as represented by Vernon(1976), Ronstadt(1977), Mansfield et al. (1979) and Rugman(1981)'s researches, the primary purpose of firm's global R&D is seen as foreign market support and mere extension of home countries' business.

Secondly, since 1990s, researchers started to turn their attention to a brand new phenomenon. Many empirical investigations about increased global R&D by MNCs appeared. For example, Wortmann(1990) showed that both of German firms' foreign R&D and foreign firms' R&D in Germany have increased since 1980s. Also, Hakanson and Nobel(1993) pointed out that, in case of Swedish firms, firms with higher internationalization tend to globalize their R&D. Granstrand et al.(1993) reviewed the trend of R&D globalization and the drives.

Thirdly, since mid-1990s, typologies of overseas R&D units and effective management of them have been discussed. There appeared various terminologies indicating distinct roles of each overseas R&D unit (Kuemmerle, 1997, 1999; Nobel and Birkinshaw, 1998; Chiesa, 1996). Also, it is emphasized by many researches that different kinds of units should be handled by different way of management. (Reger, 1999; Odagiri and Yasuda, 1996; Pearce and Papanastassiou, 1996).

Fourthly, and recently, the discussions increased its width and richness. In 2000s, many researches about micro-organizational dimension of overseas R&D units(Asakawa, 2001 a,b; Gassmann and Zedtwitz, 2003; Ambos and Schlgelmilch, 2004; Cantwell and Mudambi, 2005; Mudambi, Mudambi, and Navarra, 2007) and knowledge management(Subramaniam and Venkatraman, 2001; Almeida and Phene, 2004; Kurokawa, Iwata, and Roberts, 2007) appeared. For example, Gassmann and Zedtwitz(2003) examined factors that influence to organize virtual R&D teams. Similarly, Mudambi, Mudambi and Navarra (2007) investigated the most efficient organization structure for global innovation. At the same time, researches about Japanese MNCs are increased in 2000s (Asakawa, 2001 a,b; Belderbos, 2001; Cantwell and Zhang, 2006; Ito and Wakasugi, 2007; Shimizutani and Todo, 2008) . This reflects that global R&D of Japanese MNCs are getting obvious phenomenon.

2) Researches about capability buildings of global R&D units

Among various literatures about global R&D of firms, some are focused on development or evolution of overseas R&D units' role. Here introduces a few representative researches, which is thought to be very close to the research questions of this paper.

Many researches about overseas R&D units' role reach similar conclusions. That is, overseas R&D units have various roles and there seems to be some kinds of development processes or steps of the roles. (Ronstadt, 1977; Hakanson and Nobel, 1993; Pearce and Papanastassiou, 1996; Nobel and Birkinshaw, 1998; Asakawa, 2001; Cantwell and Mudambi, 2005) These researches found out that overseas R&D units, that firstly committed very limited ranges of works, develop their capabilities and extend work range as time passed.

For example, Ronstadt (1977) explained overseas R&D units' roles using four typologies, from surveys of the U.S. firms. Those are TTU (Transfer Technology Unit), ITU (Indigenous Technology Unit), GTU (Global Technology Unit) and CTU (Corporate Technology Unit). He pointed out that overseas R&D units develop their roles from TTU to ITU, to GTU, finally to CTU. Similarly, Nobel and Birkinshaw(1998) examined 15 Swedish firms and their 110 overseas R&D units and divided them into three types such as local adaptor, international adopter, global creator. With main focus on different management of the three types of units, they also agree on evolving nature of the roles. Pearce and Papanastassiou (1996)

also pointed out 'evolving trend' of some overseas R&D units, from manufacturing supporting units to product development units. Some other subsequent researches such as Cantwell and Mudambi(2005) support this idea by emphasizing that some overseas R&D units obtain creative roles.

However, not all overseas R&D units get developed as time passes. Some obtain more creative role and extend the range of work, while the others stay same or get worse. Using Ronstadt's typologies, why some units move from TTU, to ITU, to GTU, while some others stay on TTU? If there are differences only in speed of development, why some are faster than others?

Existing researches do not give answers about the above questions. Most of existing literatures made analysis based on huge datasets of hundreds or thousands of units, using variables such as R&D spending, number of units, and number of patents. While this type of macro analysis provided overall map of the research field, they left a lot to be researched in detail. This research is an attempt to develop existing researches by focusing on when and why some overseas units build more product development capabilities than others.

3) Researches about Location choice of overseas product development units

Thus, this research starts from some existing researches about location choice of overseas R&D units. One reason is that, a decision making about location choice is a precedent of capability building. Also, not only necessity of an R&D unit in a foreign site, but also capability building possibility of it afterward, is thought to be considered when making decision about the location. Many researches have been conducted to clarify to where MNCs locate their overseas R&D units and why. It can be summarized as Table 1. Largely, three factors are considered to affect location choice of overseas R&D units such as host country factors, home country factors, and overseas subsidiary factors.

Table 1　Location choice of overseas R&D units

Influencing factors to location choice	Independent variables	Examples of empirical studies
① Host country factors	IPRs intensity	Kumar(2001), Ito and Wakasugi (2007)
	Size（market、GDP）	Hakanson(1992), Kumar(1996, 2001), Shimizutani and Todo (2008)

	Distance（from Tokyo）	Shimizutani and Todo (2008)
	Technology level（R&D intensity）	Hakanson(1992)、Kumar(1996, 2001)、Almeida and Phene(2004), Ito and Wakasugi (2007), Shimizutani and Todo (2008)
	Quantity and cost of R&D personnel	Kumar(2001), Ito and Wakasugi (2007), Shimizutani and Todo (2008)
	Government regulation	Taggart(1991)
	Trade barrier	Kumar(2001)
② Home country factors	Size	Odagiri and Yasuda (1996), Rene (2001)
	R&D intensity	Zejan (1990), Le Bas and Sierra (2002), Odagiri and Yasuda (1996), Hakanson and Nobel(1993), Rene (2001)
	Internationalization （production, sales）	Hakanson and Nobel(1993)
③ Overseas subsidiary factors	Acquisition	Hakanson(1992), Hakanson and Nobel(1993), Rene (2001)
	Rate of export	Zejan (1990), Ito and Wakasugi (2007)
	Rate of local sales	Odagiri and Yasuda (1996)
	History（Oldness）	Zejan (1990), Odagiri and Yasuda (1996), Hakanson and Nobel(1993)
	R&D intensity	Odagiri and Yasuda (1996)

Among these independent variables, some are more inclined to explain location choice of overseas research units (IPRs intensity, host country's technology intensity), while some are more of overseas development units (host country's market size, oldness of subsidiaries). Because our research interest is location choice and capability building of overseas product development units, we focus on the latter studies.

According to previous studies that explain about location choice of overseas product development units, host market size(Hakanson, 1992; Shimizutani and Todo, 2008), quantity and cost of R&D personnel(Kumar, 2001; Ito and Wakasugi, 2007), rate of local sales(Odagiri and Yasuda, 1996), and history of a subsidiary are influencing factors. That is, when there are big size market and enough R&D people in a foreign country, a firm tends to locate a product development unit there. Also, when local sales rate is higher than export rate and a subsidiary has long history, establishment of a product development unit is encouraged.

The above four factors may explain why a MNC locate its product development

function to a specific area or nation, because the related decision making is mostly based on economic rationality. However, can it also explain why some product development units keep building their capabilities while others do not? If not, what are the factors influencing capability building of overseas product development units?

To answer these questions, in-depth case studies are conducted. Because degree of R&D globalization heavily depends on industrial nature and corporate strategy, industrial or firm level comparative studies cannot make reliable results. Thus, this study investigates six overseas product development units born out of same parent company. In other words, although the six units have one origin, they are located in different business contexts, which is a main interest of this study.

3. Case study: Denso's six foreign subsidiaries.

1) Research Method

Denso, a representative Japanese automobile supplier, is a highly appropriate sample of this case study, because the firm is actively carrying forward a plan for global product development since mid-2000. Among its 120 foreign subsidiaries, only less than ten subsidiaries have product development functions, including six samples of this study.

The data of this case study has been collected from 2008 to 2012. The primary research method is interview with a general manager or chief engineer of each overseas unit. India, China, Thailand, and Korea are visited from two to three times each, while interviews about U.S. and Italy unit are conducted in Japan headquarter with former sojourning engineers in those countries. Total number of interview is twelve times and each interview takes two hours on average.

2) Overview of six subsidiaries

Table 2 briefly introduces outlines of the six subsidiaries. The cases of China, Thailand and U.S., there are separate organizations for product development, while the other three units are relatively small size organizations attached to manufacturing plant. Even though the format of organization is not same, the intended purposes and functions of the units are almost similar. Namely, these units are established for local applications of home country's core technologies and basic products.

Many existing literatures that dealt with categorization of overseas R&D units made

distinction between research units and development units, and labeled them. For example, development units, the main focus of this research, are called home-base exploiting units (Kuemmerle, 1997) or local adaptor (Hakanson and Nobel, 1993). Through in-depth case study, it is found out that there are obvious differences in their functional level in overseas product development units. In other words, although the units have same label (as for example, HBE units by Kummerle,1997) and same purpose(local application of home country's core technologies and basic products), they show different levels of development in terms of their capability. The next section describes about it in details.

Table 2 Overview of six subsidiaries

	India (DNIN)	China (T/C)	Thailand (T/C)	Korea (DNPE)	U.S. (T/C)	Italy (DTS)
Establishment	1993 (Delhi)	2003 (Shanghai)	2008 (Bangkok)	1976 (Changwon)	1985 (Detroit)	1999 (Torino)
Entry mode	Greenfield	Greenfield	Greenfield	Acquisition	Greenfield	Acquisitio n
Main Customers	M/Suzuki, Toyota, Honda, Tata, M&M, HMC	Toyota, Suzuki, Honda, HMC, ?	Toyota	HMC, GM Daewoo, Ssangyong, Renault Samsung	GM, Ford, Chrysler, Toyota	Fiat
Main Products	Thermal products, Meter, Sensor, Engine control	Thermal products, Engine control, Meter, Navigation	Thermal products, Engine-co ntrol	Meter, Fuel Sender, Wiper ECU	Thermal products, Meter 、 Engine control	Thermal products、 Engine control
Engineers (Approx.No.)	20 (2010)	180 (2011)	61 (2009)	100 (2010)	500 (2008)	60 (2008)

3) Product development capability building of each subsidiary

To distinguish different capability level of each unit, this research divides overseas product development function into 10 capabilities. (Table 3) Basically, the details are

collected through interviews. The table is checked by four interviewees after finished the first draft and consequent corrections are made by their comments.

One thing to be careful is, these capabilities are not necessarily accumulated in series, although no.1 is the most basic and no.10 is the final destination. The order of capability building is affected by various factors such as history, entry mode, managerial decision to invest, target market of the manufacturing site, etc. Thus, we do not call it 'steps'.

Table 3

	Functions	Details
1	Manufacturing Support	Having industrial machinery(designing and manufacturing of press/equipment) and TIE(Total industrial engineering) functions for enhancing manufacturing efficiency
2	Engineering for local procurement	Having basic designing and quality check functions for extending local parts procurement
3	Market/Customer survey	Having market/customer survey function
4	Concept generation/proposal	Generating general concepts for new products and making proposals to customers
5	Test Manufacturing	For saving total lead time of product development, local subsidiary have test manufacturing function. (Ex. Clay Modeling)
6	Engineering for installation (passive engineering)	Minor engineering change for loading products on customer's vehicle in local condition. (This is often called 'application engineering') This kind of engineering range from a very simple job such as changing km printing to mile in meter's case, to alternating the location of small bolt when rearrangement of parts are necessary.
7	Engineering for creative response (active engineering)	Engineering for creative response to local market context, manufacturing condition, usage and customer taste, etc. in order to enhance product attractiveness and competitiveness in the market. Efforts are devoted to detect tacit knowledge about local customers (Subramaniam and Venkatraman, 2001), and to realize it into products.
8	Platform	Having designing and engineering capability equivalent to

	Development (Total local development)	the headquarters or home country engineering departments, which means local development units have full responsibility for safety and functionality of the products.
9	Evaluation for materials/parts	Having equipment, engineers, and skills for testing and evaluating local materials/parts.
10	Evaluation for final products	Having equipment, engineers, and skills for testing and evaluating final products.

Based on Table 3, Table 4 shows the functions of each unit. Because it was not possible to measure the degree of each function in this study, a circle is marked when a unit has experience in a function if it is only once, and a triangle is marked when a preparation for a function is under progress.

Table 4

	Functions	India (DNIN)	China (T/C)	Thailand (T/C)	Korea (DNPE)	U.S. (T/C)	Italy (DTS)
1	Manufacturing Support	○	○	○	○	○	○
2	Engineering for local procurement	○	○	○	○	○	○
3	Market/Customer survey	○	○	○	○	○	○
4	Concept generation/proposal	○	○	○	○	○	○
5	Test Manufacturing	○	○	○	○	○	○
6	Engineering for installation (passive engineering)	○	○	○	○	○	○
7	Engineering for creative response (active engineering)	○			○	○	○
8	Platform Development (Total local development)				○	○	○
9	Evaluation for materials/parts	△		○	○	○	○

10	Evaluation for final products	△			○	○	○

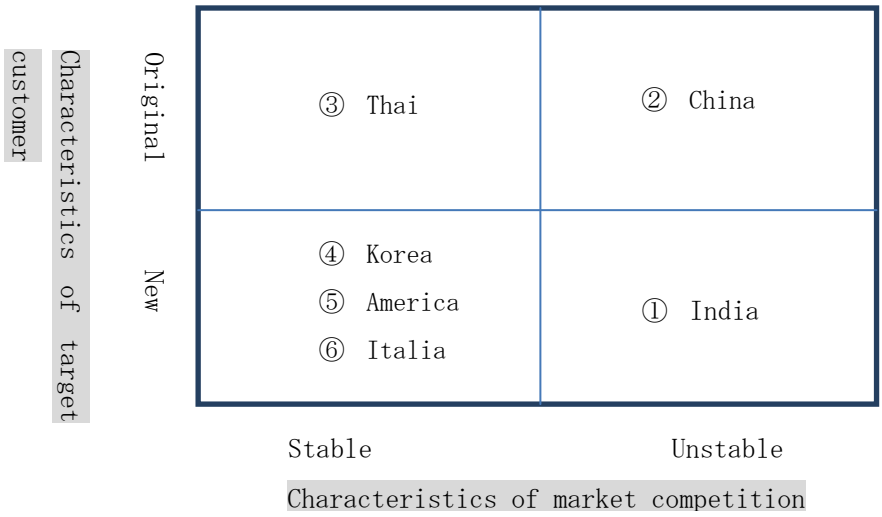
The result is that each product development unit has different functions, which means different level of capability. Korea, the U.S., Italy have highest capability of local product development, while China and Thailand have relatively low. India is speeding up. What factors affect the capability building of each unit? As mentioned earlier, existing literatures point out some important factors for location choice, such as host market size, quantity and cost of R&D personnel, rate of local sales, and history of a subsidiary. We firstly examine the relationship between the four location choice factors and the six unit's capability level.

Table 5 Location factors of overseas development subsidiaries and capability level

	India (DNIN)	China (T/C)	Thailand (T/C)	Korea (DNPE)	U.S. (T/C)	Italy (DTS)	Explan-atory power
Capability level	**8**	**6**	**7**	**10**	**10**	**10**	
Market size of host country (automobile production)	3,536,783	18,264,667	1,644,513	4,271,941	7,761,443	857,359	×
Cost of hiring an engineer（月・$）	681	609	588	1,658	6147	n.a.	×
History of a subsidiary	1993	2003	2008	1976	1985	1999	△
Sales destination	domestic	domestic	Global	Global	domestic	domestic	×

As shown in Table 5, location factors of existing studies cannot explain capability level differences among subsidiaries. Only history of a subsidiary partly explain capability level difference, which is so called vintage effects. Then, what factors influences capability building of each subsidiary? To answer this question, we conducted case studies of the six subsidiaries, especially focusing on market/customer characteristics and capability building process/stage of each unit. Roughly speaking, the business context of each unit can be described as Figure 1.

Figure 1 Differences in target customer and market competition



The details of business contexts and product development capability building of the six subsidiaries are summarized as table 7 due to the length of full case descriptions.

Table 7 Summaries of 6 subsidiaries' cases

	Business contexts	Product development capability building
① India	-Production volume:1.2million (2009) and keep increasing. -Since India's economy liberalization in 1991, many global automobile suppliers and assemblers started business in India. Competition is getting intense. -Main customer: Approximately, Maruti Suzuki (70%), Toyota(15%), Two wheelers, Tata, Hyundai(2008) -After Toyota retreated from Indian market in 1992, Denso India have tried to extend their business to local and global assemblers.	-In 1990s, manufacturing support engineering functions were enforced. -In the process, local engineers' training has started. -In 2006, Denso India entered business with Tata Motors, by developing one-armed wiper system for Tata Nano. -This was a epoch-making event, by which DNIN and Tata built trustworthy relationships and extended their local business.
② China	-The world's biggest and fastest growing market ever, that recorded more than 13million sales volume in	-Until recently, T/C in China has been busy supporting 23 manufacturing subsidiaries in

	2009. Also, the volume is expected to reach 30million in 2015. -The market competition is very intense among local and global players. The market is taken by: 17% Japanese, 18% European, 11% American, 8% Korean, 46% Chines local assemblers. -As the whole pie is getting bigger, almost all the players are increasing their volume year by year. -Denso started Chines business in 1987 and has 26 subsidiaries in China now. (one T/C in Shanghai)	China, which has been rapidly growing. -Thus, T/C's main mission was local procurement and manufacturing support. -Since 2009, T/C strengthened its market research and local parts procurement functions, as local competition gets intense. -However, most of product development works for Chinese market are conducted engineers in Japan.
③ Thailand	-Export is bigger than local sales -Japanese automakers take more than 90% of Thai automobile market -Thai subsidiary of Denso is established in 1972, as the first subsidiary in Asia. Now, there are 8 subsidiaries. -T/C was set up in 2008, mainly targeted to become Toyota's development partner in local market.	-When its establishment in 2008, Thai T/C introduced many evaluation and test equipment. -Thus, test for local materials or parts became available without sending it to Japan. -Also, benchmarking of competitors' products and market/customer surveys are actively conducted recently.
④ Korea	-Export is much bigger than local sales, and local market is almost saturated. -Hyundai-Kia group takes more than 80% of the market, followed by other Korean automakers and joint ventures -Denso set up a joint-venture in 1976(DNPE), which has product development capability in meter business. -Main customers are Hyundai, Kia,	-Local product development capability is highly necessary. One reason is customer; most of the business is for local customers. The other reason is that meter is an interior part which needs lots of customization when designing and engineering. -DNPE takes full responsibilities for Korean customers, while helps application engineering jobs for Japanese customers, under

	GM Daewoo, Renault Samsung, Ssangyong.	cooperation with counterpart engineers in Japan.
⑤ America	-Production volume has decreased from 8.6 million in 2008 to 5.6 million in 2009. -Local big 3 (GM, Ford, Chrysler) take about half of the market, followed by Toyota, Honda, Nissan and Hyundai, etc. -Denso established its first foreign subsidiary in America, in 1971. -In America, Denso's business with big 3 is bigger than with Japanese automakers. -America T/C(DIAM) has about 500 engineers.	-DIAM is evaluated as the most advanced product development unit in Denso's foreign subsidiaries. -Because subsidiary in America is established for the business with big 3, engineering/technical functions on site was necessary from the beginning. -Exactly speaking, there are two categories of products. Engineering of customizing products are totally done in DIAM, while of standardizing products are partly done in DIAM.
⑥ Italia	-Small market with product volume around 1 million, where local automaker Fiat takes about 60% share. -Denso acquired Magneti Marelli's car electronics (alternators and starters) and thermal business (air-conditioner) in 1998 and 2001. -The two acquired subsidiaries, DMI and DTS, have had product development functions since they were a part of Marelli.	-Although it was not product development capability building by Denso itself, the two acquired subsidiaries have relatively high development functions as a result. -In business with Fiat, all the product development/engineering works are done on site by Italian engineers, regardless of product nature (customize/standardize).

4) Discussions

As shortly described above, the six subsidiaries have different business context and product development capability building process/stage. The major differences among subsidiaries are summarized into four variables, which are compared with capability building stages of each subsidiary in Table8.

Table 8　Four variables from case study and capability level of each subsidiary

	India (DNIN)	China (T/C)	Thailand (T/C)	Korea (DNPE)	U.S. (T/C)	Italy (DTS)	Explana-tory power
Capability level	**8**	**6**	**7**	**10**	**10**	**10**	
① Product nature	Customize/Standardize	Customize/Standardize	Customize/Standardize	Customize	Customize/Standardize	Customize/Standardize	×
② Market growth	Growing	Growing	Saturated	Saturated	Saturated	Saturated	×
③ Market competition	Unstable	Unstable	Stable	Stable	Stable	Stable	×
④ Customer	Old/New	Old	Old	New	New/Old	New	○

① Product nature(Customize/Standardize)

Denso, as the top car electronics maker of Japan, has a wide range of products. In terms of necessity of local product development, it is possible to divide products into two groups. One is Standardized products that is planned and engineered for world market business. The other is customized products that are very difficult to be standardized and need to be altered for each customer's products. Of course, there seems much higher necessity of local development when it comes to customized products, such as meter, air-conditioner, wiper, etc.

It can be said that product nature influences product development capability building of local subsidiaries, when a subsidiary of customized products shows high level of capability while a subsidiary of standardized products, low. However, the six subsidiaries of this research, all of them have customizing products such as air-conditioner and meter, show different capability of local product development. From this fact, it is difficult to conclude that product nature influences product development capability building.

② Market growth(Growing/ Saturated)

The most obvious difference of the six subsidiaries in terms of market is whether it is growing or saturated. It can be expected that subsidiaries in growing market need more product development capability in order to make quick response to the market change. However, as we described in the case of China, it was busy building and supporting manufacturing plants in fast growing market. Thus, not much time and

man power is spent on product development capability building in the early stage of local business in fast growing market. As shown in Table 8, there are no consistent results to support the relationship between market growth and product development capability building.

③ Market competition(Stable/ Unstable)

Competition characteristic of each market is divided into the stable/unstable, decided by whether there are frequent market share changes among players or not. India and China, the two big scale and fast growing markets, are labeled as unstable competition, because many global players are trying to taking each other's market share and competition structure among the players are not fixed yet. While, the other four countries' competitions are thought relatively stable one, because it is very difficult to expect sudden or frequent changes of competition structure or market share among players in those markets.

It can be expected that, in markets of unstable competition as China and India where many global assemblers and suppliers are competing with each other, there might be more urgent needs of speedy product development and cost reduction to be a winner. However, from the table 8, it seems difficult to conclude that subsidiaries in markets of unstable competition build more product development capability.

④ Customer characteristics(Old/New)

Denso was originally a part of Toyota, and Toyota takes almost half of Denso's business even now. Thus, we divide customer characteristics into two groups; old customers such as Toyota and other Japanese assemblers, and new customers including local assemblers and global players in a local market. Denso has been trying to extend its business with non-Japanese assemblers, while keeping its business priority with Toyota. Thus, although non-Japanese assemblers take relatively small part of Denso's total business, it is thought to be an important variable in terms of local product development.

While Denso's customers in China and Thailand are Japanese assemblers, there are more diverse customers in India, and local customers take bigger share than Japanese assemblers in Korea, America, and Italia. As we can observe in table 8, subsidiaries having business with new customers show higher product development capabilities. That is, customer characteristics can be an efficient variable in explaining differences among local subsidiaries' product development capabilities.

We examined four variables that might influence product development capability of six subsidiaries. As a result, it is found out that only the relationship between customer characteristics and product development capability building is clear. Two things can be pointed out from the result. Firstly, the business with new customers including local assemblers is the most important factor encouraging product development capability of local subsidiaries. Secondly, without globalization of assemblers' product development, suppliers' globalization of product development is not progressed.

4. Conclusions

This paper explored determinants of product development capability of local subsidiaries. This study has largely two theoretical implications. Firstly, while existing literatures point out the possibility or tendency of evolving nature of local subsidiaries' product development capability, this study steps further to explain when the capability building is encouraged. Secondly, this study compares between the location choice logics of existing studies and development factors (determinants of capability building) from case studies. Through that, it became obvious that location choice factors cannot explain capability building of subsidiaries afterward. Although this study provides only rough tendency from case studies, it is thought to point out an important topic to be studied; the logic of location choice and capability building of overseas product development.

From its exploratory nature, further studies should be made for more robust results. Firstly, cases more in depth and in width are necessary, including firms in other industries. Secondly, not only qualitative analysis, but also quantitative one based on questionnaire is necessary. Thirdly, four variables from the case studies should be dealt with more concrete data and definitions.

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