Skill Development by Asian Affiliates of Japanese MNEs : Misalliance Problem and Hybrid of ○&□ Model [1]

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Abstract

In examining possible roles of Japanese MNEs (multi-national enterprises) for their skill development of Asian developing countries, this paper focuses on the "misalliance problem", or the "gap" in the mentality or notion of "job" or "profession" between Japanese employees and local employees.

Based on the author's interviews to Asian affiliates of Japanese MNEs, the nature of the misalliance is captured by the two aspects of (1) long term commitment vs. higher mobility, and (2) flexible engagement vs. well-defined engagement. On the first aspect, J-type skills are characterized by "context specific skills" developed through intra-firm OJTs, while the local conditions are characterized by "occupational skills" acquired through formal education or TVET institutes. On the second aspect, J-type skills are illustrated as "○-model with larger gray areas", while the local conditions are illustrated as "□-model with smaller gray areas".

Thus, using this "○vs.□-model" framework, the observed modifications in the original J-type skills in Asian affiliates are stylized as the "stepwise hybrid of □&○ -model" [1st stage: □-model adjustment; 2nd stage: ○&□-skill development], where the misalliance problem can be mitigated in terms of (a) manners of tasks and job assignment, (b) mode of skills and knowledge, and (c) manners of coordination.

Finally, possible implications for "○vs.□-model" are discussed, where a seemingly ongoing "convergence towards hybrid of ○&□-model" between Japanese parents and Asian affiliates is likely to promote a closer collaboration across the global production network of Japanese MNEs.

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1. Introduction

<Skill Dev. of Japanese MNEs: A Pair of Seemingly Contradicting Findings>

In recent years, as the economic globalization proceeds and the technological change occurs at unprecedented speeds, "private firms" are expected to play more important roles in the skill development of developing countries.

Based on the discussions in Okada (2006), and Okada, Yamada, and Yoshida (2008), and Ohno, Mori, and Nguyen (2008), as the economies become more "knowledge-based", production activities are likely to become more tacit and firm specific, and then, the role of private firms are growing. Accordingly, for institutes of TVET (technical and vocational education and training) in developing countries, it is more important to explore possible linkages with private firms, and typically, with MNEs (multi-national enterprises) which would actively engage in FDI (foreign direct investment) and bring their "packages of firm specific assets" (e.g., technological and managerial know-how, financial and physical capital etc.) into developing countries.

Focusing on Japanese manufacturing MNEs, as they have increased their FDI, and accumulated their production and employment in their Asian affiliates, they seem to have played crucial roles in the skill development of local HRs (human resources). According to Koike and Inoki (1987, 1990), Ishida (1994), and Yasumuro (1997), etc., Japanese MNEs were very active in their skill development which was mainly based on their intra-firm OJT with a longer term perspective, so that they have been successful in so called "J-type" skill formation, where local HRs have acquired the flexible capabilities of managing various changes and troubles in their daily production activities.

On the other hand, there has been another view on the skill development of Japanese MNEs. According to Shiraki (1995, 2005) and Ishida (1994) etc., their Asian affiliates seem to have been far behind from those of US and European MNEs in the promotion of local HRs to the top management, and hence, Japanese MNEs have been much less attractive especially to "talented and ambitious" local young HRs.

<Research Questions: Misalliance Problem in Asian Affiliates>

Then, in the context of possible roles of Japanese MNEs for their skill development of Asian developing countries, how can we understand this pair of seemingly contradicting findings in their Asian affiliates?

Relating to this question, it is worthwhile to note the "misalliance problem", or the "gap" in the mentality or notion of "job" or "profession" between Japanese employees and local employees. For instance, as was pointed out in the majority of the interview cases to Japanese MNEs by the author, the commitment to the firm of Japanese employees was relatively strong [e.g., sense of being a Toyota (or Honda) person], and

the skill could be developed through OJT with taking longer years. On the other hand, in their Asian affiliates, the commitment to the firm of local employees was relatively weak, and their sense of professionalism [e.g., sense of being a professional engineer (or sales person) of automobiles (or home electronics)] was relatively strong. And thus, the local employees could easily quit their firms when they were offered with seemingly better opportunities for their professional career path.[2]

As will be discussed in the following sections, this "misalliance problem" is likely to be a crucial key to explain the both sides of above mentioned "pair of seemingly contradicting findings".

Firstly, this misalliance problem can be an important underlying factor for the slower promotion of local HRs (2nd finding), as this misalliance can cause the serious negative interaction between Japanese MNEs and local HRs as follows; i.e., on one hand, from the viewpoint of Japanese MNEs, the motivation for a sizable promotion of local HRs is considerably discouraged, as the promoted local HRs can easily quit the firm even in cases when they are assigned to the positions of critical importance for the firm. On the other hand, from the viewpoint of local HRs, the motivation for the long term commitment to the firm is again considerably discouraged, as they are assigned only to the positions of less importance which are not so attractive for their life time professional career path.

Secondly, however, at the same time, there is a good chance for Japanese MNEs to cope with this misalliance problem, which can explain the steady progress in the skill development of local HRs (1st finding); i.e., for the most cases of author's interviews to Asian affiliates of Japanese MNEs, the original "J-type skill development" has been finely modified to local conditions, so that local HRs can have higher incentives to develop their "modified J-type skill development", and accordingly, they are assigned to the positions of higher importance which can be more attractive for their professional career path.

Based on these ideas, this paper focuses on the misalliance problem, and investigates the following two research questions.

Q1: Nature of the misalliance problem: why and how can various inefficiencies arise in the process of skill development of local HRs?

Q2: Managing the misalliance problem: how have Japanese MNEs carried out their skill development of local HRs while coping with this misalliance problem?

[2] The brief overview of the three series of author's interviews to Japanese MNEs in 1998, 2002, and 2007 is in the Appendix.

<1st Misalliance: Long Term Commitment vs. Higher Mobility>

Then, regarding to the first question, how can we analyze this misalliance problem? According to the existing literature as well as author's findings from his interviews to Japanese MNEs, this misalliance problem seems to be captured by following two important aspects.

The first important aspect is the misalliance between "long term commitment" vs. "higher mobility". As will be discussed in section 2, in the existing literature on "J-system" such as Aoki (1988) and Asanuma (1997), "J-type skill" is characterized by the "context specific skills" which are mainly developed through intra-firm OJT and efficiently utilized among members who have shared the common set of "context specific experiences", and thus, consistent with the "long term commitment" to the firm by each employee. On the other hand, as observed in author's interviews to Asian affiliates in 1998, in the labor market in Singapore and Malaysia, "occupational skills" are dominant which are mainly acquired through formal education or TVET institutes, and thus, consistent with "higher mobility" across firms.

Here, another important point to be noted is the "complementary set of institutional factors". According to the literature on "J-system", a particular set of "institutional factors" regarding to (i) mentality of workers (e.g., weaker sense for specialized professionalism), (ii) labor market conditions (e.g., higher penalty for job hopping) and (iii) career path and incentive schemes in employment (e.g., internal promotion within internal ranking hierarchy), have been dominant in Japan, all of which are consistent with "context specific skills" and "long term commitment". By contrast, "totally opposing set of institutional factors" (e.g., stronger sense for specialized professionalism, lower penalty for job hopping, and upgrading his/her specialized skills by changing firms) is dominant in Singapore and Malaysia, all of which are consistent with "occupational skills" and "higher mobility".

Therefore, in section 2, considering these two opposing set of institutional factors, the misalliance problem is analyzed as possible inefficiencies in developing the "context specific skills" under the conditions in Singapore and Malaysia, where the "occupational skills" are dominant.

<2nd Misalliance: Flexible Engagement vs. Well-Defined Engagement>

The second important aspect is the misalliance between "flexible engagement" vs. "well-defined engagement" in jobs or tasks assigned to individual employees, which helps to explain both the first and second questions listed above.

In more than several cases in author's interviews in 1998, the notion of "gray areas" (or "fuzzy zones") was pointed out, which are the areas in jobs or tasks that are not clearly defined/assigned to individual members in firms. According to these

interviewees, for Japanese firms, the size of gray areas is relatively large, and Japanese employees are relatively comfortable with the flexible engagement in gray areas, while utilizing their context specific skills. In contrast, for firms in Singapore and Malaysia, the size of gray areas is relatively small, and local employees are relatively comfortable with well-defined engagement in formally assigned jobs or tasks, while utilizing their occupational skills. Accordingly, in the affiliates of Japanese MNEs in Singapore and Malaysia, the misalliance can take place in the management of gray areas as local employees are not capable of flexible engagement in these gray areas.

In author's subsequent interviews in 2002 and 2007, while preparing the illustrative images of Figure 1 [○-model: J-firms with greater gray areas] and Figure 2 [□-model: local firms with smaller gray areas], possible types of the misalliance were examined. According to interview results, as for the 1st question (nature of the misalliance problem), "gray areas" are associated with multi-dimensional aspects of the skill (i.e., manners of tasks and job assignment, mode of skills and knowledge, manners of coordination). And then, as for the 2nd question (managing of the misalliance problem), Japanese MNEs have modified their "J-type skill" in a multi-dimensional manner, so that possible gray areas can be managed more efficiently by local employees.[3]

<Figure 1 & Figure 2>

Therefore, in section 3, focusing on the misalliance between "flexible engagement vs. well-defined engagement", the analytical framework of "○vs.□-model" is proposed, while contrasting multi-dimensional aspects of the skill for both models. In section 4, using this framework, the stylized pattern of the modification for J-type skill is proposed, where the "hybrid of □&○-model" is illustrated in a stepwise manner to cope with the misalliance problem.[4]

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[3] In 2002 and 2007, the locations of interviews were extended to China and Thailand as shown in the Appendix. In some cases of China and Thailand, it was pointed out that "occupational skills" are not necessarily dominant in their labor market. However, in most cases of these locations, it was pointed out that the misalliance problem of "○vs. □-model" could often take place, and the modifications of J-type skill have been made in similar manners as in Singapore and Malaysia.

[4] The original idea of "○vs.□-model" [Figure 3 and Figure 4] was proposed by Ishida (1982, 1994), where the misalliance between Japanese firms and foreign employees was explained with the notion of "gray areas".

In Hayashi (2004, 2005), while generally consistent with the idea of Ishida, based on the findings in interviews, several modifications are made to illustrate another version of "○vs.□-model" [Figure 1 and Figure 2]. For instance, in these figures, (1) gray areas are remained not only in ○-model but also in □-model, (2) gray areas are associated with three dimensional aspects (i.e., manners of tasks and job assignment, mode of skills and knowledge, manners of coordination).

<Figure 3 & Figure 4>

<Recent Evolution: Convergence between Japanese Parents and Asian Affiliates >

Finally, in section 5, focusing on the recent evolution in Japanese parents, possible implications of "○vs.□-model" are discussed. According to some cases of author's interviews in 2002 and 2007, due to the recent changes in business environment, possible demerits of conventional "○-model" seem to be growing (e.g., too much redundancy in gray areas, encouraging the "local optimization" without achieving "global optimization"), and Japanese parents have introduced "□-model elements" in order to modify their original "J-type skills".

Thus, in section 5, "another hybrid of ○&□-model" in Japanese parents is briefly examined, and possible implications of this "convergence" between Japanese parents and Asian affiliates" are explored in the context of recent globalization of Japanese MNEs.

2. Towards Misalliance Problem (1): "Long Term Commitment" vs "High Mobility"

In this section, the misalliance problem is discussed focusing on the aspect of "long term commitment" vs. "higher mobility".

Firstly, the main characteristics of J-type skill (context specific skills) as well as a particular set of institutional factors in Japan are discussed, all of which are consistent with "long term commitment". Secondly, the characteristics of the dominant skill in Singapore and Malaysia (occupational skills) as well as another particular set of institutional factors in these countries are discussed, all of which are consistent with "higher mobility. Then, considering these two opposing set of institutional factors, the misalliance problem is analyzed as possible inefficiencies in developing the "context specific skills" under the conditions where the "occupational skills" are dominant.

<J-system: Context Specific Skills based on Long Term Commitment>

In the existing literature of "J-system" such as Koike and Inoki (1987, 1990), Aoki (1988), Itoh (1996) and Asanuma (1997), the "long term commitment" and the development of "context specific skills" are pointed out as the salient features of J-system, where the skills are only gradually developed mainly through intra-firm OJT, and those skills are efficiently utilized among members who have shared the common set of "context specific experiences".

In their studies, major characteristics of context specific skills are discussed as listed on the left side column of Table 1, all of which are consistent with the long term commitment. For instance, these skills are efficiently developed through experiences

of several inter-related tasks and/or positions, and these tasks or positions are not so clearly defined with less degree of differentiation or specialization. In addition, these skills can take form of tacit knowledge which is not so readily transferable by documentation and/or illustration.

<Table 1 & Table 2>

Then, according to their studies, higher performance of J-system, or relative competitiveness achieved through the context specific skills is explained both by the static and dynamic efficiency as shown in Table 2. For instance, the static efficiency can be achieved because of the flexible capability of problem management of individual workers as well as their intensive communication and information sharing among team members who have shared the common set of context specific experiences. Furthermore, the dynamic efficiency can be expected, as team members are actively involved in mutual learning experiences, which can improve the problem management capability both for individual members and for the team as a whole.

Furthermore, another interesting aspect of the context specific skills is the complementary set of institutional factors as shown in the left side column of Table 3. According to their studies as well as to the author's interview results to Japanese MNEs in 1998, a set of "institutional factors" regarding to (i) mentality of workers, (ii) labor market conditions, and (iii) career path and incentive schemes in employment, have been dominant in Japan, all of which are consistent with the context specific skills and the long term commitment.

<Table 3>

For instance, as listed on the left side column of Table 3, regarding to the "mentality of workers", Japanese employees are relatively comfortable with flexible engagement in task and/or position assignment, and they are likely to have the mentality for mutual learning with knowledge and information sharing in a team. For another instance, regarding to the "career path and incentive schemes", internal promotion within internal ranking hierarchy has been dominant in Japanese firms, where the evaluation is mainly based on the degree of development and utilization of context specific skills, and the speed in the competition for promotion is relatively slow.

<Local Conditions: Occupational Skill with Higher Mobility>

In contrast, according to Tosaki (1996), JAC Recruitment (1997), and the Ministry of Labor, Singapore (1997), the "higher mobility" and the utilization of

"occupational skills" have been dominant in the local labor market in Singapore. In these studies, major characteristics of occupational skills are discussed as listed on the right side column of Table 1. For instance, these skills are mainly acquired through formal education and/or TVET institutes, and they are likely to be defined and standardized by the qualifying institutes outside of the firm. In addition, these skills can take form of explicit knowledge which is transferable by documentation and/or illustration.

Furthermore, according to these studies as well as to the author's interview results to Japanese MNEs in Singapore and Malaysia in 1998, some complementary set of "institutional factors" regarding to (i) mentality of workers, (ii) labor market conditions, and (iii) career path and incentive schemes in employment, have been dominant in these countries, all of which are consistent with the occupational skills with higher labor mobility. For instance, as listed on the right side column of Table 3, as for the "mentality of workers", local employees are likely to have stronger sense of specialized professionalism, and they are comfortable with "well-defined engagement" in task and/or positions formally assigned by the firm. For another instance, as for the "career path and incentive schemes", local employees are likely to upgrade their skill levels by changing firms and taking the best opportunities for their own specialty, where their skills are evaluated based on the level of qualification in the open market.[5]

<Misalliance Problem in the Development of Context Specific Skills>

Then, given these contrasting characteristics between "J-system" (context specific skills based on long term commitment) and "local conditions" (occupational skills with higher mobility), how can we explain the misalliance problem of Japanese MNEs to develop context specific skills in their Asian affiliates?

In exploring this question, "characteristics of context specific skills" (left side of Table 1) and "institutional factors in Asian affiliates" (right side of Table 3) are jointly considered. Then, as shown in Table 4, it is naturally expected that there can be various difficulties in the development and utilization of context specific skills.

<Table 4>

Firstly, due to their misalliance, context specific skills cannot be efficiently developed in Asian affiliates. As observed in case #28 (1998), context specific skills are

[5] As shown in Table 3-2 in Hayashi (1998, p356), this particular set of mentalities of local employees was widely observed among 32 cases of 1998 interviews [i.e., well - defined engagement (26 cases), weaker commitment to the firm (25 cases), stronger sense of specialized professionalism (13 cases), and mentality for own learning (11 cases)].

expected to be developed with going through experiences of several inter-related tasks and/or positions. However, due to the sense of specialized professionalism, local employees in Asian affiliates are generally reluctant to go through the intra-firm career path which includes tasks and/or positions out of his specialty.

Secondly, due to their misalliance, the static efficiency of J-system cannot be fully achieved in Asian affiliates. As observed in case #25 (1998), in case of context specific skills, the tasks and positions are not so clearly defined with less degree of specialization. However, due to the mentality for well-defined engagement in task/positions of local employees, the flexible capability of problem management is not likely to be achieved both for individual workers as well as for the team.

Thirdly, due to their misalliance, the dynamic efficiency of J-system cannot be fully achieved in Asian affiliates. As observed in case #31 (1998), the dynamic efficiency can be developed through active commitment by workers to their mutual learning to improve their flexible problem management capability as a team. However, due to their mentality of own learning with less knowledge and information sharing, their mutual learning processes cannot be fully activated to improve their capability.

3. Towards Misalliance Problem (2): ○vs.□-model Approach

In this section, focusing on the aspect of "flexible engagement" vs. "well-defined commitment", the analytical framework of "○vs.□-model approach" is proposed.

As discussed in section 1, examining the interviews' results in 1998, the visual image of the misalliance between flexible engagement vs. well-defined engagement can be illustrated as "○vs.□-model" in Figure 1 and Figure 2. In ○-model (Fig. 1), the size of gray areas is relatively large, which is consistent with the flexible engagement by Japanese employees based on context specific skills. In □-model (Fig. 2), the size of gray areas is relatively small, which is consistent with the well-defined engagement by local employees based on occupational skills.

Furthermore, examining the nature of gray areas, it is likely that the gray areas are associated with three dimensional aspects of skills (i.e., [1] manners of tasks and job assignment, [2] mode of skills and knowledge, and [3] manners of coordination), and for these three dimensions, the opposing characteristics between ○-model and □-model were observed. Here, these opposing characteristics are contrasted in Table 5, and some additional comments are noted with respect to these three dimensions.

<Table 5>

<Manners of Tasks and Job Assignment>

Firstly, as for the manners of tasks and job assignment of ○-model, it should be noted that the gray areas are relatively large, and they are likely to become "overlapping areas", because individual workers have developed their "context specific skills", and they are comfortable with "managing these gray areas" while supporting other workers within the same section as well as those across neighboring sections.

In contrast, in case of □-model, gray areas are intended to be minimized by the firm, as individual workers have developed their "occupational skills" and they are comfortable with "well-defined engagement". And then, if some areas of tasks or jobs are remained to be "gray areas", these areas are likely to become "vacant areas" (rather than "overlapping areas"), which have to be managed by upper rank managers who are ultimately responsible for the assigned areas.

< Mode of Skills and Knowledge >

Secondly, as for the mode of skills and knowledge of ○-model, it should be noted that knowledge and information are likely to be shared among workers within the same section as well as those across neighboring sections through their intensive coordination and communication with each other.

In contrast, in case of □-model, it should be noted that the motivation for sharing knowledge and information among workers are not so strong, as each worker has the mentality for well-defined engagement and their own learning.

< Manners of Coordination and Collaboration >

Thirdly, as for the manners of coordination and collaboration of ○-model, the "horizontal coordination" is likely to be promoted, where the tasks and/or problems within and/or across sections are directly managed by their members without much reliance on the "vertical hierarchical structure" of the firm. Here, consistent with the idea of "group dynamics" by Kagono et al. (1983), higher efficiency is expected through (i) knowledge and information sharing, (ii) flexible collaboration, and (iii) autonomous learning among members.

In contrast, in case of □-model, the "vertical coordination" is likely to be promoted, where the tasks and/or problems within and/or across sections are managed based on the "vertical hierarchical structure" of the firm, and thus, "report to the boss" and "mission from the boss" are emphasized. Here, consistent with the idea of "bureaucratic dynamics" by Kagono et al. (1983), higher efficiency is expected through (i) organizational division of labor and its hierarchical structure, and (ii) specialized skills of workers.

4. Managing Misalliance Problem: Stepwise Hybrid of □&○-Model

In this section, using the framework of "○vs.□-model", the stylized pattern of the modification for J-type skill is illustrated.

As discussed in section 1, in many cases of author's interviews in 2002 and 2007, Asian affiliates have modified their "J-type skill", so that possible gray areas can be managed more efficiently by local employees. In most of those cases, various types of modifications have been made, each of which can be interpreted as the stepwise combination of □-model elements (1st & 2nd step) and ○-model elements (2nd step) as shown in Table 6.

<Table 6>

Hence, this stylized pattern of the modification of J-type skill is called a "stepwise hybrid of □&○-model", which can be summarized as described below. Here, this stylized pattern is going to be illustrated along with the three dimensions of "○vs. □-model" (i.e., [1] manners of tasks and job assignment, [2] mode of skills and knowledge, and [3] manners of coordination).

1) □-model adjustment (1st step modification): Some elements of □-model are implemented to mitigate possible inefficiency due to the misalliance problem
2) ○&□-skill development (2nd step & dynamic modification): Both elements of ○ &□ skills are developed to improve "flexible capability of gray areas management"

< □-model adjustment (1st step modification) >

As for the □-model adjustment, firstly, in terms of manners of tasks and job assignment, there were several cases where the gray areas were reduced by standardizing the contents of tasks. For instance, in case #8 (2002), compared with her Japanese parent, extra efforts have been made by her Malaysian affiliate, so that one production line can be divided into more clearly standardized modules, and the "step by step learning" can be more regularly implemented; i.e., a newly hired worker starts from the easiest module, and then, moves to more difficult modules to acquire his/her skills more smoothly.

Secondly, in terms of the mode of skills and knowledge, there were many cases where more user-friendly manuals and illustrations were prepared. For instance, in case #3 (1998), compared with her Japanese parent, extra efforts have been made by her Singapore affiliate to prepare user-friendly manuals as well as update them more frequently. There, it was emphasized that a well-prepared manual is very effective to mitigate possible knowledge erosions in cases of workers quitting as well as in cases of

the replacement of Japanese managers and engineers.

Thirdly, in terms of manners of coordination and collaboration, there were several cases where the heavier reliance on the "vertical hierarchical structure" was pointed out. For instance, in case #31 (1998), it was discussed that the knowledge and information sharing among members within and across sections were not yet sufficient in Malaysian affiliate. And hence, the "system of responsibility and authorization" needs to be more clearly defined, so that the tasks and/or problems across sections could be managed based on the "vertical hierarchical structure".

< ○&□-skill development (2nd step & dynamic modification) >

As for the ○&□-skill development, firstly, in terms of manners of tasks and job assignment, there were several cases where the "hybrid skills" were gradually developed as shown in Figure 5, so that the borderline for "authority and responsibility" was clear (□-model), while the borderline for "gray areas management" was flexible (○-model). For instance, in case #8 and #16 (2002), this type of hybrid skills was successfully developed along with the stepwise implementation of the "cell production system", whose explanation is in the footnotes of Figure 6-1 to Figure 6-3. There, at the third stage (i.e., Figure 6-3), the experienced workers are explicitly assigned to modules A, B, and C (clear borderlines for authority and responsibility), while they are capable of flexibly managing the surrounding areas of A', B', and X (flexible borderlines for gray area management).

<Figure 5, Figure 6-1 ~ 6-3>

Secondly, in terms of the mode of skills and knowledge, there were several cases where a dynamic feedback of tacit knowledge (○-model) and explicit knowledge (□-model) was promoted through QC-circle activities as well as activities of upgrading documented manuals. In particular, according to case #3 (1998) and in case #11 (2002), this dynamic feedback was explained along with the following stages. The first stage is during the QC circle activities, where new creative ideas are explored thorough intensive interactions among team members. The second stage is the presentation session, where newly created ideas from each team are proposed and shared by all the participating members. Then, the third stage is the upgrading of documented manuals, where the proposed ideas from QC circle activities are included into the new version of manuals. Here, following the discussion of Nonaka and Takeuchi (1995), it is likely that during these three stages, the dynamic feedback between tacit and explicit knowledge can play important roles to create and share new ideas among members.

Thirdly, in terms of manners of coordination and collaboration, there were

several cases where both "vertical hierarchical structure" and "horizontal coordination" are jointly utilized. For instance, in case #8 (2002), it was discussed that, as individual workers have acquired their context specific skills with better understandings on neighboring sections, horizontal coordination is promoted where the tasks or problems across sections are encouraged to be directly managed without receiving formal missions from their bosses. However, at the same time, additional efforts have been made to reinforce the existing vertical structure, because a sole reliance on the horizontal coordination may lead to the "local optimization" for these sections, but may not lead to the "global optimization" for the entire firm. Accordingly, in this particular case, in order to reinforce the existing vertical structure, an intra-net system of real-time monitoring was newly installed, and the ex-post reporting system was also implemented.

5. Further Discussions: Ongoing Evolution in Hybrid of ○&□-model

Here, before concluding this paper, possible implications of this "hybrid of ○& □-model" in Asian affiliates of Japanese MNEs are going to be explored in the context of the ongoing evolution of their Japanese parents.

< New Environment, and Another Hybrid of ○&□-Model in Japanese Parents >

Recently, it has been widely discussed that the relative advantages of conventional J-system has been considerably deteriorated due to drastic changes in business environment such as the evolution of economic globalization, a recent development in ICT, and a rapid catching up of firms from emerging Asian economies.

Facing these challenges, Japanese firms seem to have explored to restructure their conventional J-system and J-type skills. For instance, as in Jo (2005) and Kato (2005), in terms of their employment system, the conventional long-term employment and seniority system have been modified, so that the evaluation and promotion of individual workers are more heavily dependent on their current performance rather than on their long term commitment to the firm. For another instance, as in Itoh (2002) and Nobeoka and Tanaka (2002), in terms of their management system, the conventional corporate governance structure has been modified, so that a stronger leadership of top management can be assured for their speedy and bold decision making in their business strategies.

According to author's interviews in 2002 and 2007, generally consistent with these trends of Japanese MNEs, there have been quite a few interesting cases where the conventional J-system, or "○-model", has been significantly modified in their Japanese parents. There, various elements of □-model have been introduced, so that

another version of "hybrid of ○&□-model" were observed in Japanese parents similar to that in Asian affiliates in following manners.

In case #10 (2002) and case #8 (2007), in terms of the manners of tasks and job assignment, a possible demerit in conventional ○-model was explained as "too-much redundancy in gray areas" such as the excessive time and efforts spent on "not-clearly defined supporting activities". Then, in order to reduce these "excessive redundancy", recently, there has been a refinement in the flow of daily operations, so that the contents of jobs and tasks are clarified and standardized, and the concise and practical manuals are made and they are regularly updated.

In case #3 (2002), in terms of the skill development, a possible demerit of conventional ○-model was explained as the "excessive time and efforts of trainings mainly spent on OJTs"; e.g., in the past, even for newly graduated engineers with high educational backgrounds, they were required for going through various kinds of OJT experiences including jobs of line workers and/or sales workers. Then, recently, in order to reduce these excessive OJT experiences, so called a "skill map" is utilized so that the career ladder of individual employees can be formed more efficiently by going through only "minimum but necessary" OJT experiences considering their specialties.

In case #7 (2002) and case #8 (2007), in terms of the manners of coordination and collaboration, a possible demerit of conventional ○-model was explained that the horizontal coordination among workers within the section and/or across neighboring sections was more likely to encourage their "local optimization" without achieving "global optimization" for the firm. Then, recently, in order to pursue for the global optimization, the vertical hierarchical structure is strengthened with a more clarified system of rules and localized authorizations, so that a strong leadership of top management as well as a flexible collaboration within and across sections are to be promoted simultaneously. [6]

< Implications of Convergence between Japanese Parents and Asian Affiliates >

In brief, there seems to be a recent trend towards "hybrid of ○&□-model" in Japanese parents which is similar to that in Asian affiliates, although we need more careful and detailed studies on their similarities as well as their differences. Then, suppose this trend of "convergence" between Asian affiliates and Japanese parents will become dominant for more number of Japanese MNEs, what are possible implications for the ongoing evolution in their "globalization"? Of course, further and detailed

[6] Looking into these cases, it is interesting to find that their modification towards "hybrid of ○&□-model" seems to be consistent with the well-known TPS (Toyota Production System), because their modification shares the essence of TPS such as "muda-tori" (refining unnecessary redundancies), "mieru-ka" (visualization) and "shikumi-ka" (schematization) as discussed in Wakamatsu (2007).

researches will be necessary for this question. However, from some findings of author's interviews, at least, the following two points seem to be worth considering.

Firstly, due to this convergence, it is likely that the intra-firm network across Japanese parents and their Asian affiliates becomes much closer. Indeed, as pointed out in case #13 (2007), in the past, due to the "gap between ○-model and □-model", considerable time and efforts used to be required for the communication and coordination between Japanese parents and Asian affiliates, where Japanese expatriates in Asian affiliates played the pivotal role as their interface. However, in recent years, due to this convergence, the communication between Japanese parents and Asian affiliates becomes much smoother, and their speedy and active collaboration and coordination are likely to become possible, as employees both in Japanese parents and Asian affiliates have acquired the similar skills and knowledge which are based on the" hybrid of ○&□-model".

Secondly, due to this convergence, the direction of flows in the knowledge and information seems to be diversified from one way to both directions. As has been discussed in Ishida (1994) and Hayashi (2003), the direction used to be only one way from Japanese parents to Asian affiliates, as Japanese parents played the exclusively important role as the technological resource base. However, in recent years, Asian affiliates seem to play more strategic roles as the resource base, especially in terms of technical knowhow and information relating to the daily operations in large scale productions. For instance, as observed in case #9 (2007), the largest scale of production was engaged in their Chinese affiliate, and their technical center in China was playing the leading role in building their resource base, where the research and designing as well as trainings of engineers and technicians were carried out. For some product categories, their stock of knowledge and information was very valuable for their Japanese parent, and thus, a training sessions was planned to be organized there for technicians and engineers including those from Japanese parents.

In sum, facing various challenges, in the next stages of globalization of Japanese MNEs, a possible "convergence" towards "hybrid of ○&□-model" is likely to be very crucial, especially for their pursuit of a closer coordination and collaboration across their global production network, while building and strengthening their technological resource base. In this context, the ongoing evolution in "hybrid of ○&□-model of Japanese MNEs" can be a very interesting topic for further researches.

Appendix: Overview of Interviews to Japanese MNEs

In order to examine possible roles of Japanese MNEs in developing Asian economies, a series of interviews were carried out by the author in 1998, which was a part of the research project on "FDI (foreign direct investment) in Asia" by Economic Research Institute, Economic Planning Agency, Government of Japan. Subsequently, two series of interviews were carried out in 2002 and 2007 by the author, which followed up the first series.

The overview of these series of interviews is as follows, and the list of 17 cases in 2002 interviews is illustrated as Table A-1.

	Interview Period	Locations	Number of Cases	Description of Case #
1)	Aug.-Dec.1998	Sg, Ml.	32 cases	Hayashi (1998, 1999)
2)	Jul.-Sept.2002	Jp, Sg, Ml, Ch.	17 cases	Hayashi (2004)
3)	Jun.-Sept.2007	Jp, Ch, Ml, Th.	24 cases	Hayashi (2008b)

<Table A-1>

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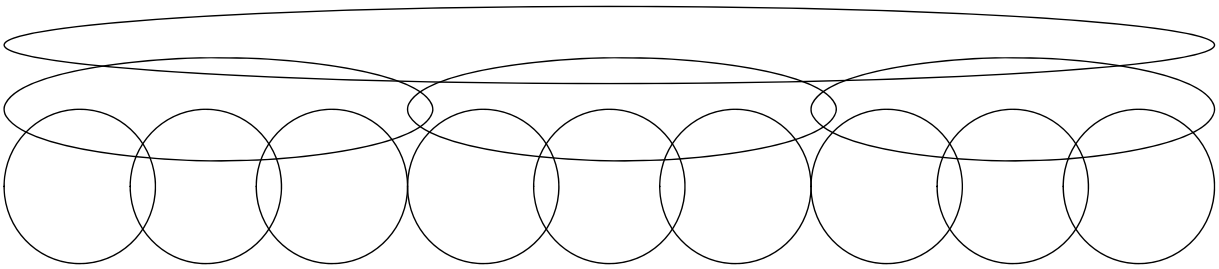


Figure 1. ○-Model

Note: "Gray areas" are likely to become "overlapping areas", as they are efficiently managed by flexible collaboration of team members.

Source: Hayashi (2004)

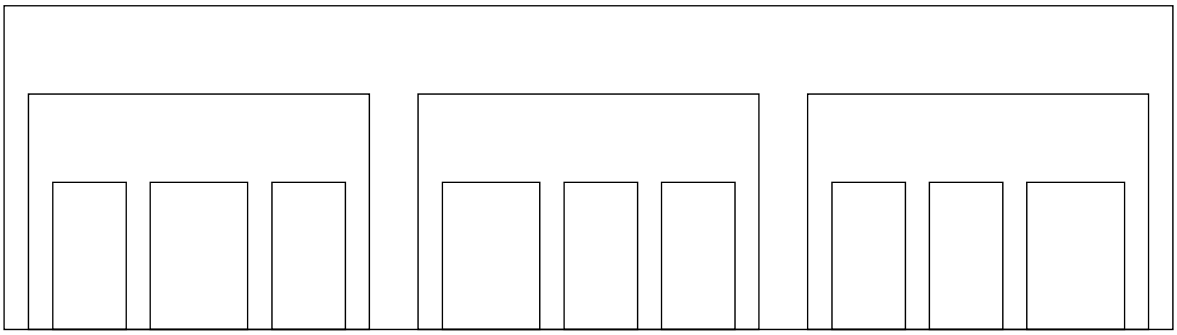


Figure 2. □-Model

Note: "Gray areas" are likely to become "vacant areas", which are supposed to be managed by the responsible upper rank managers.

Source: Hayashi (2004)

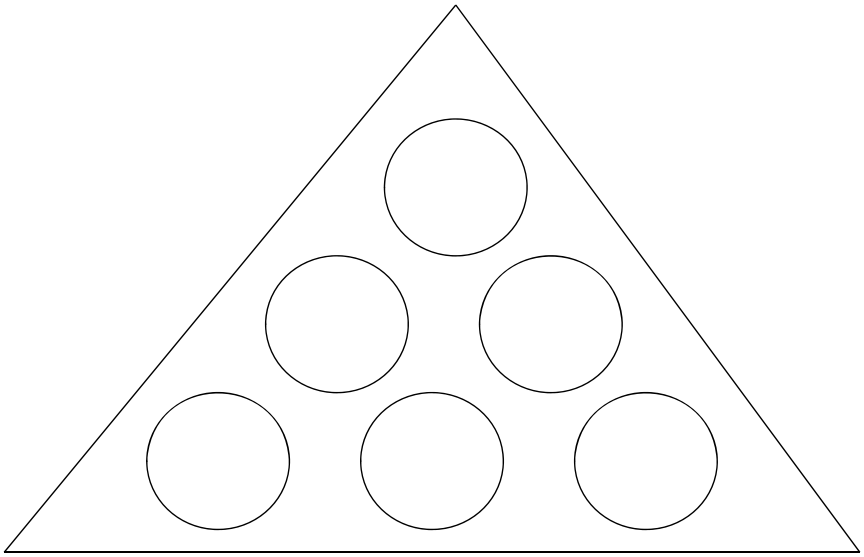


Figure 3. ○(J)-Type

Note: Gray zones are intentionally utilized in order to improve efficiency by flexible cooperation among members.

Source: Ishida (1994, p7)

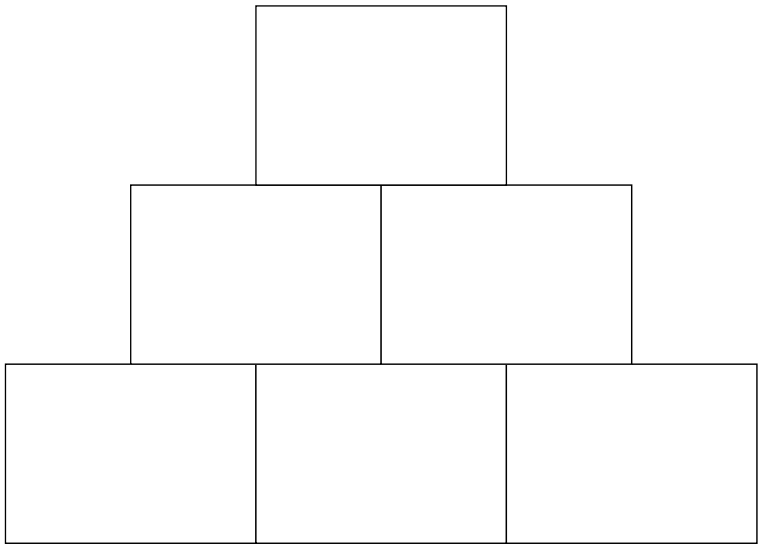


Figure 4. □(F)-Type

Note: Gray zones are expected to be minimized, so that the division of labor can be smoothly achieved.

Source: Ishida (1994, p7)

Table 1. “Context Specific Skill” vs. “Occupational Skill”

Context Specific Skill: Long Term Commitment	Occupational Skill: High Mobility
① **OJT & Longer Time** … It is developed mainly through OJT, while taking longer time. ② **Career Path with Some Range**… It is efficiently developed through experiences of several inter-related tasks and/or positions. ③ **Vaguely Defined Tasks** … These tasks or positions are not so clearly defined with less degree of differentiation or specialization. ④ **Tacit Knowledge** … It is likely to take form of tacit knowledge which is not readily transferable by documentation and/or illustration.	① **Formal Education & Training** … It is likely to be acquired through formal education or training institutes outside of the firm. ② **Standardized Qualification** … It is likely to be defined and standardized by the qualifying institutes outside of the firm. ③ **Specialized & Differentiated** … It is likely to be specialized, and similar ones are likely to be differentiated with each other. ④ **Explicit Knowledge** … It is likely to take form of explicit knowledge which is readily transferable by documentation and/or illustration.

Source: Hayashi (1999)

Table 2. Static and Dynamic Efficiency of J-system

[Static Efficiency]

① **Speedy and efficient problem management**, which is based on context specific skills (i.e., flexible problem management capability) of individual workers

② **Speedy and efficient horizontal coordination**, which is based on intensive communication and information sharing among neighboring sections

[Dynamic Efficiency]

① **Dynamic improvement in problem management capability**, which is through flexible commitment to gray areas & mutual learning experiences with knowledge & information sharing

Source: Hayashi (1999)

Table 3. Institutional Factors : "Context Specific Skill" vs. "Occupational Skill"

	Context Specific Skill: Long Term Commitment	Occupational Skill: High Mobility
Mentality of workers	① Stronger commitment to the firm ② Weaker sense of specialized professionalism ③ Comfortable with flexible engagement in task and/or position sssignment ④ Mentality for mutual learning with knowledge and information sharing	① Weaker commitment to the Firm ② Stronger sense of specialized professionalism ③ Comfortable with well-defined engagement in task and/or position assignment ④ Mentality for own learning and less sttention to knowledge and information sharing
Labor Market Conditions	① Context specific skill is dominantly utilized by majority of firms. ② New graduate recruitment is dominant. ③ Social and pecuniary penalty for job hopping is high.	① Occupational skill is dominantly utilized by majority of firms. ② New graduate recruitment is not necessarily dominant. ③ Social and pecuniary penalty for job hopping is minimal.
Career Path & Incentive Schemes	① Internal promotion within internal ranking hierarchy ② Evaluation based on development & utilization of context specific skill ③ Slower speed in competition for promotion ④ Seniority wage system & lump sum payment at retirement	① Upgrading specialized skill by changing firms and taking best opportunities ② Evaluation based on the level of occupational skill qualified in the open market ③ Higher speed in competition for promotion ④ Wage is based on the level in the occupational market and retirement payment is minimal.

Source: Hayashi (1999)

Table 4. Possible Inefficiency due to Misalliance

Characteristics of J-system	Local Conditions	Possible Inefficiency in HRD due to Misalliance
Developed through OJT & taking longer time	Weaker commitment to the firm	Context specific skill cannot be fully developed and utilized.
Career path of inter-related tasks & positions	Stronger sense of specialized Professionalism	Intra-firm career path of inter-related positions cannot be experienced.
Vaguely defined tasks with less specialization	① Mentality of well-defined commitment ② mentality of own learning with less knowledge and information sharing	① Flexible engagement in gray areas & efficient problem management cannot be achieved. ② Dynamic improvement in problem management capability cannot be expected through neither flexible commitment nor mutual learning
① Seniority wage system & retire payment ② Slower competition for promotion	① Weaker commitment to firm & specialized professionalism ② Occupational skill is dominant. ③ Minimal penalty for job hopping	① Facing the trade-off of "high wage vs. high rate of job-hopping" ② Misapplied equality can be the case, and not sufficient chances are given to highly evaluated workers.

Source: Hayashi (1999)

Table 5. ○-Model vs. □-Model

Major Characteristics		○-Model	□-Model
Manners of Tasks & Job Assignment	1) Gray (not clearly defined) areas	Greater	Smaller
	2) Borderline of individual tasks and their authority & responsibility	Vague	Clear
Mode of Skill & Knowledge	3) Sharing among members & neighboring sections	High	Low
	4) Relative importance in context specific knowledge & experiences	High	Low
	5) Relative explicitness in the form of documentation & illustration	Tacit	Explicit
Manners of Coordination & Collaboration	6) Horizontal vs. vertical coordination	Horizontal	Vertical
	7) Intensity in coordination & collaboration with neighboring sections	High	Low

Source: Hayashi (2004)

Table 6. Stepwise Hybrid Hypothesis

Major Characteristics		□-model Adjustment	○&□-skill Development
Manners of Tasks & Job Assignment	1) Gray (not clearly defined) areas	Small	Responsibility : □ … Smaller Possi. Support : ○ … Greater
	2) Borderline	Clear	Responsibility : □ … Clear Possi. Support : ○ … Flexible
Mode of Skill & Knowledge	1) Sharing among members & sections	Low	+○ : Higher
	4) Context specificity	Low	○&□ : dynamic feedback of tacit & explicit knowledge
	5) Explicitness	Explicit	
Manners of Coordination & Collaboration	6) Horizontal vs. vertical coordination	Vertical	○&□ : horizontal coordination backed up by vertical checking mechanism
	7) Coordination and collaboratsection	Less important	
Workers' Mentality in facing Problems		Well-defined commitment	+○ : Flexible support & cooperation
Human Resource Management		Higher speed in picking up for promotion	○ : Opportunities for self-fulfillment → steady progress in localization → prosperous circle can start

Source: Hayashi (2004)

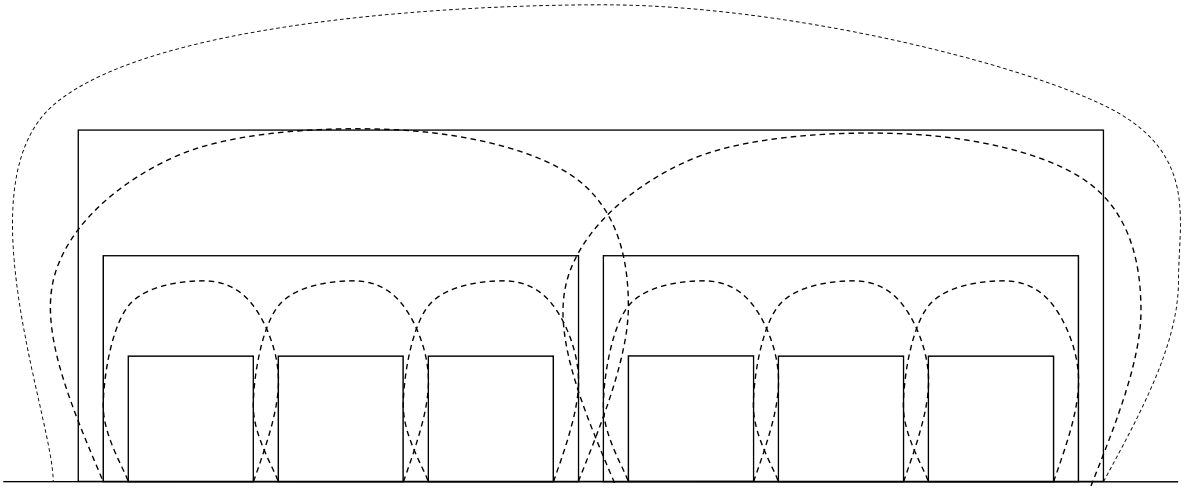
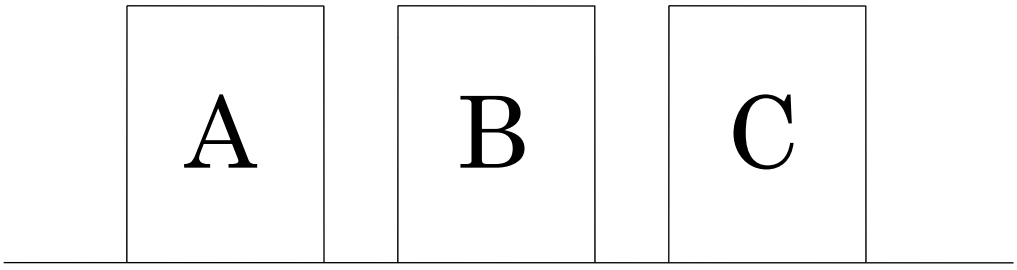


Figure 5. Illustrative Image of Stepwise Hybrid

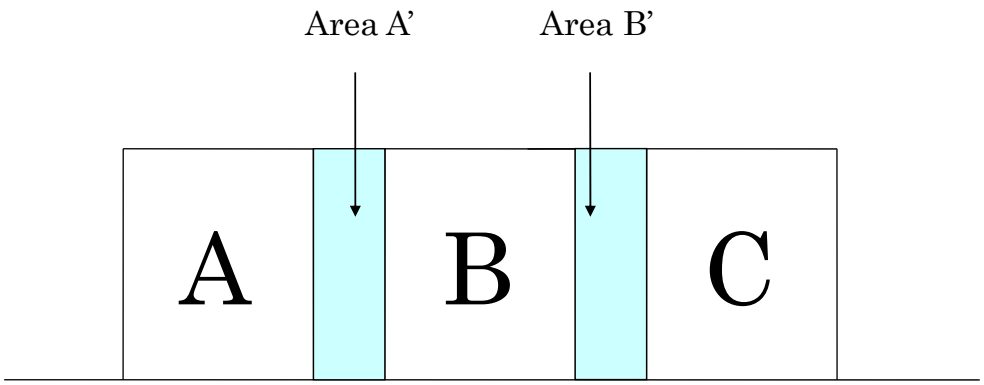
Source: Hayashi (2005)



Note: Newly employed workers are assigned to the easiest module "A" at the beginning stage.

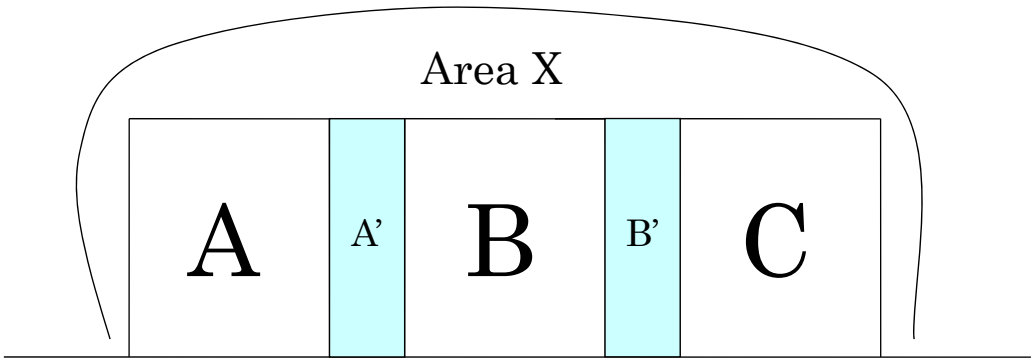
Source: Hayashi (2005) for 6－1, 6－2, and 6－3

Figure 6-1 Skill Development for Cell Production: Step 1



* As the learning progresses, they are assigned to more difficult modules "B" and "C" at the next stage.
* During this process, they have better understandings on surrounding areas such as "area A'" and "area B'".

Figure 6-2 Skill Development for Cell Production: Step 2



* Now, experienced workers are assigned to the entire line of production (i.e., modules A, B, and C).

* During this process, they have better understandings on "area X", which can upgrade the problem management capability as a team.

Figure 6-3 Skill Development for Cell Production: Step 3

Table A-1 List of Interviewed Japanese MNEs in 2002

Case #		Location 1)	Type of Activities 2)	Currently manufactured products	Year of Establi.	Position of Interviewees 3) (career background)
1		SJ	MA	Lead lines for electronic components	1990	Managing director (engineer)
2		SJ	CO	Capacitors	1978	Senior manager (administration)
3		SJ	AS	Audio-Products	1977	Managing director (engineer)
4		SJ	CO	Components for digital watches	1987	Director (engineer)
5		SS	CO	Print circuit board	1980	Deputy general manager (admin.)
6		SJ	MA	Glass components for visual products	1979	Deputy director (administration)
7		S	MA	Glass components for visual products	1979	Managing director
						Director (administration)
8		MM	CO	Components for audio, visual & IT produts	1990	Managing director (engineer)
9		MH	CO	Components for audio, visual & IT produts	1989	Manager (administration)
10		MJ	AS	Audio-visual products	1984	Representative (external relations)
11		MM	AS	Portable phones	1987	President (engineer)
12		MJ	CO	Fabricated wires and flat cables	1988	Managing director (engineer)
13		C	CO	Fabricated wires and flat cables	1994	Director (engineer)
14	4)	C	CO, AS	Speakers for audio products	1997	President (engineer)
15		C	MA	Steel plates for audio, visual & IT produts	1995	Magaging director (admin.)
						Deputy managing director (engineer)
16		C	CO	Components for audio, visual & IT produts	1994	President (engineer)
17		C	AS	Audio-visual products	1994	President (engineer)
						General Manager (admin)

(Note)

1) Abbrebiations for Lacation are as follows.
- SJ: Interviewee was in Singapore (1998), and was in Japan (2002).
- SS: Interviewee was in Singapore (1998 & 2002)
- MJ: Interviewee was in Malaysia (1998), and was in Japan (2002).
- MM: Interviewee was in Malaysia (1998 & 2002)
- MH: Interviewee was in Malaysia (1998), and was in Hong Kong (2002).
- S : Interviewee was in Singapore (2002).
- C : Interviewee was in China (2002)

2) Abbrebiations for type of activities are as follows.
- MA: Material processing
- CO: Components manufacturing
- AS: Final Assembly

3) For those interviewed both in 1998 and 2002, their positions in 1998 are listed.

4) In case 14, the firm was not a Japanese MNE. However, her co-founders are Japanese originally from an affiliate of a Japanese MNE in Taiwan.

(Source) Hayashi (2004)