

Case Study

A Case Study of Management Control Systems in Two Japanese Overseas R&D Organizations

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ABSTRACT

This study represents an empirical inquiry that examines the management control systems in the two selected Japanese overseas R&D organizations in Malaysia and Singapore. Our analysis focused on the comprehensive management control packages including action, results and people controls as well as the performance evaluation of R&D projects. The study found that management control systems of the Japanese R&D organizations were largely effective. The management control packages in these R&D organizations were also balanced and prioritized based on the management practices of the parent company, but these packages were not optimized by the local human resources.

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INTRODUCTION

The internationalization of Japanese multinational enterprises (MNEs) has grown significantly in Southeast Asia since the mid of 1980s (Edgington & Hayter, 2000). Prior studies have shown that Japanese business network relies upon regional R&D organizations around Asia-Pacific and Southeast Asia (e.g., Asakawa & Som, 2008; Demirbag & Glaister, 2010; Giroud, 2000; Huggins et al., 2007; Yang

et al., 2009). National government policies, firm-specific resources and supplies are among the determinants that have stimulated the establishment of Japanese MNEs subsidiaries in Asia. Despite the growing trend of Japanese R&D investment in Southeast Asia, the academic research on the Japanese R&D management process has been limited. Until recently, there is a slow-growing body of literature on the Japanese R&D activities in Asia. However, the literature primarily focuses on knowledge transfer from Japanese MNEs to local companies (or subsidiaries) (e.g., Giroud, 2000, 2007; Iguchi, 2008; Rama, 2008; Tiep, 2007). Thus, there is a need to obtain knowledge about R&D management process in Japanese overseas R&D organizations, especially those in Southeast Asia.

In general, management process can be divided into objective settings, strategy formulation and control. The latter part is related to Management Control Systems (hereafter: MCSs) implementation. MCSs can be defined as the systems that combine devices, methods and techniques used by managers to influence employees' behaviour and mindset based on organizational objectives and strategies (Merchant & Van der Stede, 2012). Effective MCSs are important to ensure employees put their best effort in their work and thus, increase probability to achieve desired organizational results. Nevertheless, poor implementation of MCSs may become a hindrance to R&D (or innovation) activities (Fonseca, 2010; Haustein et al., 2014; Lukka & Granlund, 2003). Chenhall and Moers (2015) and

Taticchi et al. (2010) argued that there was a knowledge gap in understanding the MCSs as a tool of sustainable strategies to manage R&D based organizations.

Literature in contemporary management control is dominated by European and American ideologies. As such, MCSs are largely viewed as a universal function and are slightly affected by the different institutional specificity (Fonseca, 2010). There is a common belief that the modern MCSs are the best management practices. However, some scholars argue that the dominance of Anglo- Euro-Centric management control ideologies should not be accepted as a universal management practices because the implementations of MCSs may vary across institutional contexts (Fonseca, 2010; Speklé & Kruis, 2014). Management control scholars have called for more research to examine the abstractions of MCSs in different contexts, especially in emerging economies (Fonseca, 2010; Speklé & Kruis, 2014).

Specifically, some scholars have argued that the implementation of MCSs in Japanese overseas R&D organizations may deviate from Japanese management practices owing to different business and national contexts (Elger & Smith, 2010; Sekiguchi et al., 2016). Such deviations may be limited because Japanese overseas organizations largely conform to the same organizational culture and core management practices adopted by the parent companies. Traditionally, Japanese management practices are built upon a homogenous value system and instil strong

company identification through people management (Cool & Lengnick-Hall, 1985). Management practices and company network are the drivers to underpin the international knowledge transfers within Japanese organizations (Štrach & Everett, 2006). In short, we can expect Japanese organizational culture to remain intact in Japanese overseas organizations.

Our understanding of transfer of organizational practices particularly Japanese MNEs is very limited (Gamble, 2010). Japanese management practices are known to be unique and focus more on monitoring compared to people and incentive management (Bloom & Van Reenen, 2010). Our review shows that little is known about MCSs in Japanese overseas R&D organizations especially those located in Southeast Asia. The understudied context offers an ideal research setting to extend our understanding of Japanese MCSs in the literature of contemporary management control.

The objective of this study was to explore the ways in which MCSs were applied in the Japanese overseas R&D organizations. Specifically, this study explored the three dimensions of MCSs, people, results and action controls, in two selected Japanese overseas R&D organizations in Southeast Asia. This study is important because Japanese MNEs tend to transfer the Japanese management styles into their overseas organizations and thus may ignore the local culture. That is, Japanese MNEs tend to instil their Japanese organizational culture in the overseas facilities.

Following Hausteine et al. (2014) work, we adopted Merchant and Van der Stede (2012) framework to investigate the people, results and action controls as well as performance evaluation of R&D projects. The framework is one of the emerging frameworks used in the MCSs studies (Berry et al., 2009; Chenhall & Moers, 2015; Davila, 2005; Efferin & Hopper, 2007; Goebel & Weißenberger, 2016; Hausteine et al., 2014; Netland et al., 2015; Strauß & Zecher, 2013). Compared to the use of limited MCSs instruments, we believe such comprehensive framework is more appropriate to examine the overall MCSs systems in Japanese overseas R&D organizations. Comprehensive framework is also preferred because MCSs are generally designed to achieve similar desired goals although the primary control elements might differ (Abernethy & Chua, 1996).

LITERATURE REVIEW

An Overview of Japanese MNEs in Southeast Asia

In 1990s, the Japanese government encouraged Japanese corporations to strengthen their economic ties with Asian countries (Hatch, 2001). As a result, the Japanese corporations began to invest manufacturing facilities in Asian countries. Most of the Japanese corporations were involved in “intermediate” forms of overseas investment through franchising contracts and technology licensing agreements with their business partners in Asian countries. The Japanese electronics companies created vertical intra-network supply chains

in Asian regions (Hatch, 2001). In this network, Japanese electronics companies supplied production technologies and high-tech components whereas the Asian affiliates of these Japanese MNEs assembled finished products. The presence of Japanese corporations in Asian countries was significant as it accelerated the growth of the Asian countries. It was estimated that two-thirds of overseas Japanese manufacturing factories were located in Asia during 1990s.

At the beginning of 1990s, the Japanese companies were reluctant to set up overseas R&D facilities and slow in localizing the management (Hatch, 2001). The primary reason was that the Japanese companies used their East Asian networks as one of the integrated extensions of Japanese domestic production systems (Hatch, 2001; Sato, 2014). In late 1990s, the Japanese electronics companies, such as Matsushita, Toshiba and Hitachi began to establish R&D centres in Singapore, Malaysia, Indonesia, the Philippines, and Thailand (Bartels & Freeman, 2012; Legewie, 1999; Legewie & Meyer-Ohle, 2004). These Japanese overseas R&D centres were involved in carrying out basic R&D activities to find ways in which the product cost can be reduced and the product designs can be optimized to meet local demands (Aggarwal & Urata, 2002; Hatch, 2001). These R&D centres were not involved in basic research and mainly utilize the production lines that transferred from Japan without major technical changes. With the establishment of the R&D centres, more local engineers were hired. These Japanese companies, however,

favour Japanese expatriate managers to operate overseas affiliates instead of hiring local management staff. The autonomies of these R&D centres were generally restricted due to the unwillingness of the Japanese parent companies to transfer decision-making power to their overseas subsidiaries (Iguchi, 2012; Legewie, 1999). In short, the decision-making autonomy of Japanese overseas R&D centres were still influenced by Japanese parent companies.

Japanese Management Practices

Beechler and Bird (1999) had characterized the management systems of Japanese companies. The company is team-oriented and emphasized on information sharing and the presence of unity. There is inadequate job classifications and inconclusive job descriptions. Staffing is based on internal and years of service that serve as the guideline for promotions. Continuous educational activities and job rotation are the forms of training provided and loyalty is a respected element. The labour-management strategies employed by Japanese companies can be characterized by the intensive trainings. The Japanese parent companies regularly imported workers from their regional affiliates to receive on-job-training in Japan. When they faced shortage of manpower, they imported workers from their overseas affiliates through on-job-training for short-term countermeasures. In addition, they re-located export-oriented assembly lines and jobs back to Japan or to other Asian affiliates to save cost based on exchange rate fluctuation.

Discussion above shows that the Japanese management system is centred on the human resource practices. Human assets are critical in contributing to the success of an organization and therefore the strategies to protect these assets include providing secure employment; articulating an exclusive company philosophy; and integrating employees into the company while the techniques comprise sluggish promotion, job rotation, and internal training; multifaceted appraisal system; prioritize on work groups; open and pervasive communication; advisory decision making; and apprehension for the employee (Hatvany & Pucik, 1981). The transfer of Japanese management practices to overseas weigh on the Japanese human resource management, which ranged from job rotation practices to the benefits, salary and on-the-job privileges (Beechler & Yang, 1994). The manufacturing plants in Asia also exhibit compelling domestic market inclination (Beechler & Bird, 1999). Japanese had started their overseas investment as early as 1970s, which had led to restricted changes in the approaches of management and control in the overseas operations in Southeast Asia as headquarters still took charge of the Japanese subsidiaries in terms of surveillance, rules and pure normative mechanisms (Beechler, 1992). However, the level of usage for rules and surveillance varies for high and low performers (Beechler, 1992). Therefore, the element of control is significant in the Japanese management systems that ground on the human resource practices.

Theoretical Framework for Management Control Systems

MCSs are the backbone of how the management is carried out (Merchant & Van der Stede, 2012). The function of MCSs is to resolve three major problems that may hinder the management process. First, MCSs help employees to understand and align with organizational expectations and objectives. Second, MCSs serve as an instrument to influence employee motivation to enhance job performance. One of the purposes of MCSs is to alleviate the issue where employees are reluctant to subordinate personal interests to the company's well-being. Finally, MCSs reduce the problem of wrong allocation of employees into position or assigned tasks. An effective MCSs allow managers to recognize individual job-specific capabilities and subsequently allocate suitable work allocation to the employees (Merchant & Van der Stede, 2012). The MCSs comprise various control systems, which are action controls, result controls, people controls.

Action Controls

MCSs are important instruments in management process to influence employees' actions in an organization (Merchant & Van der Stede, 2012). The main objective of action controls is to inform employees concerning acceptable and unacceptable actions in the organizations. The action controls not only offer guidance for employees to work based on the given objective-oriented tasks, but also how to carry out the tasks. The action controls also

facilitate the coordination between inter-department and ensure the actions taken by employees are highly predictable. For example, low motivated employees can follow the guidelines and procedures during work which can increase the probability of accomplishing the assigned tasks. The action controls have little influence in stimulating self-motivation of the employees. However, these action controls can be used to mitigate the wrong decision-making due to false overconfidence employees. That is, action controls prevent employees from overdoing their authorized actions in the organizations. Some organizations may view that action controls are not cost effective because these actions involve the implementation of expensive tracking systems.

Results Control

The implementation of the MCSs' results control influences employees to focus on achieving desired outcomes of their tasks (Merchant & Van der Stede, 2012; Verbeeten & Speklé, 2015). Results control helps employees to understand the assigned task objectives so that they can accomplish their tasks based on the requirements (Merchant & Van der Stede, 2012; Verbeeten & Speklé, 2015). Such influence is important to ensure that the work or actions taken by employees would not deviate from their organizational interests. In this regard, transparent reward and sanction systems are the preconditions to establish results control in MCSs. Such administrative systems are designed to reward high-performing employees but penalize those who failed to achieve organizational objectives.

One should note that result controls are cost-effective instruments compared to expensive action tracking systems. Nevertheless, the poor implementation of result controls may cause unintended consequences among employees. The effectiveness of result controls is underpinned by effective job allocations in the organizations. For example, supervisors who do not possess understanding of individual employee's capability may lead to poor job allocations to unqualified employees. Such problem tends to happen because supervisors may wrongly assign difficult tasks to highly motivated employees who lack adequate job-specific skills and knowledge. These motivated employees may make mistakes although they intend to act in the best interests of the firms.

People and Social Controls

People controls can be further be categorized into personnel controls and cultural controls (Merchant & Van der Stede, 2012). Personnel controls are built upon the belief that managers would select right and motivated candidates to fill vacancies in the organizations. As such, the right candidates would have fewer problems in the organizations and can fit into the implemented MCSs. The cultural controls, on the other hand, are intended to generate a desired common working culture in the organizations. The working cultures are important to streamline the operation of organizations. This can be done if every employee has same working cultural beliefs and behave in the same

way in accordance with the company philosophy. Finally, social controls, an informal social mechanism, are used to enhance the influence of formal MCSs and formation of organizational culture through socialization processes (Collier, 2005; Sandelin, 2008). Such socialization practices can be used to complement cultural control in an organization (Barrena-Martínez et al., 2016; Collier, 2005; Sandelin, 2008).

Performance Evaluation of R&D Projects

Balanced ScoreCard as Performance Evaluation Methodology. Performance measurement is of paramount importance for supporting results-oriented culture in organizations (Govender et al., 2015; Mardani et al., 2016; Thomas & Ambrosini, 2015; Verbeeten & Speklé, 2015). Balanced ScoreCard (hereafter: BSC) is a strategic management tool that can be used to evaluate the performance of R&D projects (Kaplan & Norton, 2007; Merchant & Van der Stede, 2012). BSC is also a widely-used framework in various management fields such as strategic management, management control and performance measurement (Grigoroudis et al., 2012; Hoque, 2014; Trotta et al., 2013). The BSC, which is developed by Dr. Robert S. Kaplan, is based upon the assumption that there is a cause-and-effect relationship that exists for (1) 'Organizational Learning', (2) 'Business Process', (3) 'Customer Perspective' and (4) 'Financial Perspective' in chronological order (Kaplan & Norton, 2007). Applying four perspectives in BSC to examine the

performance evaluation system by R&D organizations is appropriate since the R&D outputs fit into these perspectives.

Typically, the BSC includes financial measures that emphasize interest of shareholders (i.e. increase operating income and return on equity) and operational measures. Three aspects of operational measures are 'Customer Perspective', 'Business Processes' and 'Organizational Learning'. The 'Customer Perspective' includes on time-delivery, quality of product, and servicing. 'Business Processes' focuses on improving internal processes such as productivity, cycle time and efficiency. The 'Organizational Learning' ensures that the firm would continue to learn and improve innovative capabilities in creating new products and thus can preserve its competitive advantages in the market.

Controllability Principle in Performance Evaluation. According to Merchant and Van der Stede (2012), most employees are risk-averse, prefer an incentive system based on work effort, and dislike factors or risks beyond their controls. They also have the tendencies to behave in a way that minimizes the risk of uncontrollable events, which may contradict the best interests of the firms. Thus, when they fail to accomplish their tasks, they attribute these failures to unexpected and uncontrollable events.

In the R&D organizations, investment risks are the main challenge of MCSs. The reason is risk level of many R&D projects is high and it is difficult to perfectly predict

the development activities. Traditional corporate finance literature offers some insights to overcome the problem. That is, the business risks can be shifted from employees to shareholders if shareholders are risk neutral and capable to diversify their portfolio (Martin & Sayrak, 2003). From the management controls perspective, Merchant and Van der Stede (2012) suggested some potential solutions to address uncontrollability events or risks in performance evaluation. First, managers can utilize the 'Flexible Performance Standards' in various scenarios planning and the employees are held accountable for actual scenario that have happened. Second, 'Relative Performance Evaluation' can be used to compare the organization performance with industry peer groups to eliminate the impact of uncontrollable events. Third, 'Subjective Performance Evaluation' can be used to evaluate the impact of uncontrollable events on employee or organization performance. In our opinion, investigating the controllability principle in R&D activities may give us the insights with regard to how R&D organizations manage uncontrollable negative events or risks.

METHODS

Research Method

There are various forms of research methods such as experiment, survey, archival analysis, history and case study (Yin, 2013). This research utilized a case study approach and collected evidence from field research and document search (Taticchi et al., 2010). A case study, which is a qualitative

research approach, is suitable to explore an understudied contemporary phenomenon (Yin, 2013). In this research, case study was appropriate as it investigated the MCSs in Japanese overseas R&D organizations and the research questions mainly focused on ways in which MCSs was implemented in the selected R&D organizations. We made no attempt to control or manipulate the behavioural events. We solely focused on observation and investigation and there was no intervention performed. Additionally, this research also employed fieldwork studies as the data enhanced the richness of research findings concerning the organizational processes beyond publicly announced official reports and statements (Parker et al., 2008).

Two organizations were chosen for this case study in which the first R&D organization was located in Johor Bahru, Malaysia and the second R&D organization was located in Singapore (Table 1). The former was represented as R&D organization 'M' whereas the latter was R&D organization 'S'. The names of the R&D organizations were not disclosed here due to the requests of the participants. The R&D organizations 'M' and 'S' are owned by different Japanese MNEs. Both organizations are the subsidiary companies and the major operations are R&D activities. The core business of R&D organization 'M' is consumer-electronics products, whereas R&D organization 'S' focuses on manufacturing and engineering services.

Both R&D organizations were selected based on two criteria. First, the R&D organizations have substantial R&D

Table 1
The profiles of R&D organizations

	R&D organization 'M'	R&D organization 'S'
Location	Johor Bahru, Malaysia	Singapore
Business	Consumer electronics	Manufacturing and engineering services
Department name	R&D department	Engineering department
Number of engineers	More than 100 engineers	More than 60 engineers
Customer base	Asia (except Japan)	Asia (except Japan)

presence in the region. It is important to note that the business groups of both R&D organizations are market leaders in their specialized industries, respectively. Thus, we believe the R&D organizations provide an interesting setting for us to explore the application of MCSs in Japanese Overseas R&D organizations located in Southeast Asia. Second, the R&D organizations employ more than 50 engineers.

Field research was conducted in the selected organizations. We conducted 6 in-depth interviews with 1 engineering manager in R&D organization 'M' and 2 engineering managers in R&D organization 'S'. The engineering manager from the R&D organization "M" had more than 10 years of working experience with the organization. The two engineering managers who worked for R&D organization 'S' had worked for the organization since its inception and for 6 years, respectively. All the participants for this interview were suitable to provide information related to the application of MCSs in their respective organizations.

Semi-structured interviews were conducted. The reason is that these 3 participants possess only undergraduate degrees in engineering fields and do not

have formal management education. Semi-structured interview was used by the researchers with a list of questions (or topics) to guide the participants during the interview. Despite the list, the participants were given the freedom to explain their experiences and issues in MCSs that they deemed important. We followed a protocol to collect participants' views related to experiences and opinions on the MCSs. We followed up by conducting the phone interview with the participants to gather more information on the unclear points. In addition to interviews, we also collected data from archival records including performance measurement documents, code of conducts and employees' handbook. We did not examine the websites because these websites represented the whole business groups in Asian region, not the subsidiary companies.

FINDINGS AND DISCUSSIONS

The case study findings were organized around the major themes, which included people (personnel and cultural), actions and results controls as well as performance evaluation.

General Management Practices

All participants explained that their organizations largely adopted Japanese management practices similar to their parent companies. The R&D organization 'M' strongly emphasized *kaizen* initiatives and 5-S practices. The *kaizen* refers to the "continuous improvement" and it is viewed as the important determinant to produce high-quality products. The organization had a strong control over the quality process during R&D activities. Furthermore, the management had a policy to solicit ideas from all employees to improve the processes in the department. Furthermore, employees were required to perform their work based on the established standard. In this regard, the management was actively involved in problem solving activities in the R&D department. The R&D organization 'M' also adopted 5-S practices in their management. The management views that integrating the value of the business group into the workplace was a priority. The cleanliness and neatness of the workplace were regarded as important and the employees were required to perform 5-S to clean their workplace every day. In addition, the work tasks at the workplace were clearly defined and were highly standardized.

R&D organization 'S' also adopted *kaizen* initiatives in its management but in a different way. The participants explained that the organization had been involved in many different R&D activities, and thus did not emphasize the standardization of the R&D activities. This is due to

the fact that the organization did not possess in-house consumers and retail brand products. Instead, they provided customized R&D solutions to customers who were the manufacturers of electronic appliances. Such R&D solutions that are bundled with own electronic components. As such, the technology transfers from the R&D organization 'S' to customers would establish a long-term business relationship in which customers would have to purchase electronic components from the organization. Nevertheless, the standardizations of R&D solutions were prioritized to facilitate future technology transfers with new customers and other entities in the same business group. In this regard, R&D solutions represent the 'intangible' products provided by the organization. The standardization of R&D solutions is to ensure that the quality of R&D solutions meet customers' needs and requirements. We interpreted that such standardization provided a guide to the employees to develop R&D solutions in the most efficient and satisfying way. This practice is based on the *kaizen* concept.

The above discussions show that the industrial background of the organizations leads to different management control system between organizations 'S' and 'M'. The function of organization 'S' is to support the parent company, which is the maker of consumer electronics with a global household name. Therefore, the MCSs of organization 'S' is geared to support customer satisfaction through a

strong control over the quality process during R&D activities and continuous improvement in terms of product quality. In addition, organization 'S' emphasizes innovative value of R&D solutions to meet the customers' needs. Therefore, the standardization occurs at R&D solutions level and not the R&D activities.

Management Control Packages: Personnel Controls

All participants emphasized the importance of identifying the candidates to fill the vacancies in the organizations. Both organizations followed a strict policy and would only consider a job application only if the applicant had completely fulfilled the stipulated requirements. For example, applicants would not be considered if their educational background did not match the requirements. Additionally, new employees were required to undergo a probation period from 3-month to 1-year. The new employees would be guided by senior engineers under a mentor-mentee system. The performance of employees would be carefully evaluated. For R&D organization 'S', new employees were required to submit a personal evaluation report on their job performance during the probation period. As such, the management could understand employee workload and performance. All participants highlighted that the management would consider extending the probation period for new employees who failed to deliver satisfactory progress. However, all participants stated that the

management rarely terminated employment of new employees or transferred them to another position during the probation period. The termination of employment was more likely to occur due to disciplinary problems that were against the written rules of employment.

Based on the above findings, we infer that personnel controls have been adequately established in both studied organizations. The organizations seem to have various choices and authorities to extend the probation period so that they have more time to examine the new employees. However, both organizations did not have reasonable efforts to screen the successful applicants during hiring. Screening is important to ensure job applicants are not blacklisted by some professional organizations or have a reputation in ethical problems. Such screening is vital to lower the probability of hiring problematic individuals that may harm the organization in the long run. On the other hand, both organizations lack of comprehensive personnel control because terminating employments are rarely practiced when new employees are unable to meet required job performance during probation period. Nevertheless, all participants believed that new employees were able to enhance job performance after going through appropriate on-job trainings during extended probation period. Furthermore, we believe that the implemented MCSs are influenced by the long-term employment in Japanese management practices.

Management Control Packages: Cultural Controls

All participants revealed that their organizations generally adopted organizational culture of Japanese parent companies. Such culture represents a form of informal rules that govern the behaviours of employees. The culture of a management of an organization can be reflected through human resource management system and practices. All participants stated that the company continued to assimilate the Japanese management or organizational culture into local employees.

Our findings showed that both organizations adopted values, beliefs and assumptions corresponding to the corporate philosophy and visions of their parent companies. For R&D organization 'S', the corporation, with its creative and innovative characteristics, aims to become a trustworthy semiconductor in the world. The organization has the philosophy of contributing to the prosperity of the world with their strengths in new technologies. The R&D organization also abide by the "Code of Conduct" of the business group for fast decision-making in operation management. These corporate visions, philosophy and code of conducts are available on company website and are communicated to employees through management discourse. The company also has a written non-discrimination policy stating that employee is prohibited to disrespect or damage the reputation of other employees based on race, sex, age, religion and physical characteristics. On the other hand, the

corporate vision of R&D organization 'M' is to continuously improve the well-being of people around the world. The company adopts several principles as the company creeds. These principles highlight the importance of contributing to the society in a fair and honest way. Additionally, the teamwork and commitment are required for continuous improvement with courtesy and humility gratitude. These corporate visions, philosophy and code of conducts are available on the company website and employee handbook.

By observing their corporate visions and philosophy, it could be seen that both R&D organizations had strong cultural controls. Therefore, we believe that each organization has its own defined culture and may have established strong cultural influences among employees. We also observed that R&D organization 'S' included the codes of conduct and embraced non-discrimination policy. This may be useful to guide employees to behave ethically and non-discriminatory ways in their culture. We believe such strong cultural controls would induce mutual peer monitoring that is a commonly accepted norm in both organizations (Merchant & Van der Stede, 2012).

All participants of R&D organization 'S' stated that the group-reward criteria were adopted and group performance influenced the given compensation packages to group members. The group-reward criteria, combined with individual performance criteria, would determine the compensation package to employees. Specifically, group-reward criteria would be considered first

in the compensation process, followed by individual performance criteria. As the group-reward scheme may not create strong direct incentive effects to members who are not group leaders (Merchant & Van der Stede, 2012), it is difficult to judge the effectiveness of group-reward in the R&D organization 'S' as the details of performance evaluation are not disclosed. This can be explained by arguing that the effectiveness of group-reward to create cultural controls depends on the weight between group and individual criteria in incentive systems (Merchant & Van der Stede, 2012). If the weight of group criteria is strong, then it is more possible that the cultural controls are effective. However, the "free-rider" problem may occur in a team when the group-reward criteria are used.

Socialization and learning take place between Japanese and non-Japanese employees at the managerial level. Japanese managers generally occupy most of the top management positions in both organizations, for example, general managers and senior managers. Local managers only occupy management positions at low and middle levels. These local managers occasionally travel to Japan's headquarters to participate in meetings and be involved in new product developments, transferred to their organizations. Most of these local managers have attended trainings at Japan's headquarters, when they started working with the companies. The duration of these trainings ranged from several months to 2 years. Some of the local managers are well-versed in Japanese language which facilitates their communications with

Japanese managers in their organizations and at headquarter companies. Japanese expats at the managerial level in both organizations often become a bridge for communication between headquarters and local organizations.

Management Control Packages: Action Controls

Both organizations provided and distributed "Employee's Handbook" to every employee. This handbook consists of company rules such as working hours, policy to use the internet and export controls. The handbook also provides guidelines on how employee should act to protect company's assets, intellectual properties and confidential information. For R&D organization 'S', the handbook also includes "grievance procedures" where employees can lodge a complaint about their dissatisfaction. The R&D organization 'S' also requires all employees to legally accept the content of the handbook. Thus, both organizations have established effective ways to communicate the company rules and prohibited actions through "Employee's Handbook". We believe that both organizations have well-managed action controls in MCSs.

Management Control Packages: Result Controls

Both organizations use Management by Objectives (MBO) tool to carry out the performance evaluation of employees. At the end of each financial calendar year, managers would conduct a meeting with every engineer under his supervision. The

meeting is primary to formulate written plans to provide job objectives needed to be achieved by engineers. Additionally, managers would discuss the required training to assist career development of engineers. Both managers and engineers must agree with the MBO plan. In particular, employees in R&D organization 'S' are encouraged to work innovatively as long as they follow company rules and policies to achieve the results. In short, it can be expected that the job performance of employees can be influenced by MBO. The MBO practices help to communicate the objectives of the firm to employees. It also creates a buffer to protect MCSs in both organizations because employees tend to behave correctly if they are treated fairly.

Both organizations had chosen bonus, instead of a profit-sharing scheme, in the incentive reward systems. The management would decide the amount of pay-out bonuses based on the employee's performance. The bonus system for both organizations relied on two criteria: overall company profitability and individual performance. The weightage for overall company profitability was higher than the one for individual performance. These weightages were reviewed based on the latest economic conditions. For R&D organization 'S', the individual performance denoted individual contributions in winning new businesses (i.e., obtain R&D project contracts) from customers. Furthermore, project leaders who had a greater contribution in business processes and technical area were included in the consideration.

The participants in both organizations also commented that the compensation package for the engineers was based on average industry standard. Interestingly, the participants in both R&D organizations pointed out that the employee turnover, particularly the young engineers below 40 years old, were relatively high. In the organization 'M', there was more than 30% turnover rate from the company in the recent 5-year period. The turnover rate by organization 'S' was not disclosed. However, the participant reported that the organization experienced a shortage of engineers due to a high turnover rate.

The participants explained that the turnover was mainly attributed to some engineers who could get a better compensation package from other MNEs in the same regions. In particular, the R&D organization 'M' received greater challenge because there was a shortage of experienced R&D engineers in Johor Bahru area. Based on our observation, the reward systems in both R&D organizations were imperfect. Our argument is that both R&D organizations are the leading industry players in the respective markets; thus, the use of the average industry benchmark may not match to the competencies or workload of their engineers. In short, both R&D organizations have an incentive system in place to resolve the "lack of direction" problem of employees. This means that an effective results control existed within the organizations. However, the turnover of engineers occurred because the overall incentive reward system was

not competitive compared to other industry players and the system might have ignored local human-resource perspectives.

Performance Evaluation of R&D projects in R&D Organization ‘S’

The participants in R&D organization ‘S’ underscored that the R&D organization had a dedicated performance evaluation criterion for the R&D projects. This is because the main business of the organization is to win new businesses (i.e., R&D project contracts) from customers. For example, the engineering team would work together with sales teams to present new product designs (i.e. mobile phone and washing machine) to customers who were the manufacturers in electronic industries such as home-appliances, handheld devices and industrial tools. When the customer agreed to purchase the technology (i.e. proposes product design and solutions), it was considered a business-win. Thereafter, the engineering team would work on new R&D projects to develop product solutions based on customer demands. The organization included four aspects in performance evaluation for the R&D projects. These aspects were arranged according to the heaviness of weight in performance evaluation criteria: (1) financial perspective (include accounting measures), (2) customer perspective, (3) business processes perspectives and (4) innovation & learning perspective. Besides that, the organization also adopts “Key Performance Indicators” to reflect how much a R&D project would contribute to future business-wins.

We noticed that the performance evaluations of R&D project were compatible with the four perspectives of Balanced Score Card which suggests that there was a cause-and-effect relationship in these perspectives (Kaplan & Norton, 2007). The R&D organization also emphasized the “Key Performance Indicators” that examined how current R&D projects contributed to future growth. Thus, we believed that the R&D organization had an effective performance evaluation system to sustain their business growth. However, the R&D organization ranked “financial perspective” as the most important criterion, which was based on a short-term profitability criterion. It was difficult to evaluate how the organization dealt with the trade-off for short- and long-term gains because the weightage for “Financial Perspective” or “Key Performance Indicators” was not disclosed. It could be explained by the strategic management priority of the R&D organization that emphasized financial sustainability in the long run. The parent company set up the R&D organization ‘S’ to generate revenue from the Asian markets. The technology transfers from the Japan headquarter to the overseas R&D organization were geared toward sales growth through selling R&D solutions to customers. Furthermore, the R&D investments within R&D organization ‘S’ mainly focused on the latest customer demands and potential returns.

The winning of new business contracts was an important criterion for the R&D organization ‘S’. In this regard, new

business expansion denoted possibilities to establish long-term collaborations with new customers. If such trust was established, the R&D organization could continue to supply the latest technologies to the customers. In terms of business processes, it was evaluated based on whether or not the R&D teams were able to complete the customer projects timely and efficiently. Lastly, the engineers were evaluated based on innovation and learning perspective. For example, some projects required the development of new-products and engineers would be involved in carrying out new R&D activities. Such R&D activities might produce a new-product prototype which might be used for future potential customers.

The managers in the R&D organization had done various scenarios planning. They formulated different sets of criteria for R&D projects for various potential scenarios that might occur in R&D process. The management also used subjective evaluation and own discretions on certain uncontrollable events that adversely affected the R&D works. The reason was that R&D works were typically risky and some unexpected problems might occur. While the R&D organization ‘S’ was unclear how much risk the organization should bear, the organization seemed to emphasize the accountability of individual assigned tasks. This is consistent with the view that the risk of uncontrollable events should be borne by shareholders (Merchant & Van der Stede, 2012). The controllability principle that “hold people accountable only for those result areas over which they can have

a significant influence” is suitable to be applied to R&D organizations.

Performance Evaluation of R&D projects in R&D Organization ‘M’

The participant in R&D organization ‘M’ highlighted that their R&D engineering teams were assigned to different projects based upon the customers’ orders. The R&D organization ‘M’ only carried out the projects to develop their own-brand products. The organization included three aspects in performance evaluation for the R&D projects which were financial, customers and quality perspectives. The quality criterion was the prime target, followed by customers’ requirement. The organization was willing to sacrifice the financial gain and bore the loss to uphold the quality and customer criteria. The organization viewed that the whole company, not any specified teams, were accountable to the outcomes of the R&D projects. It was important to point out that R&D organization ‘M’ did not adopt any “Key Performance Indicators” for the R&D projects. It seemed that the cultural control in R&D organization ‘M’ played a more significant role to ensure the success of R&D projects rather than using performance evaluation systems.

Table 2 summarizes the practices of action, results and people controls as well as the performance evaluation of R&D organizations ‘M’ and ‘S’. The practices of R&D organizations ‘M’ are compared to R&D organizations ‘S’. The practices of both organizations are also compared to the general theories and the Japanese practices.

Table 2
Organizations practices and general theories and the Japanese practices comparison

No.	Management Control Systems	General Theories and the Japanese Practices	R&D organization 'M' R&D organization 'S'
1.	Action Controls	<ul style="list-style-type: none"> • Inform acceptable and unacceptable actions. • Offer guidance and carry out tasks. • Facilitate coordination between inter-department and actions are highly predictable. • Mitigate wrong decision making and less influence in stimulating self-motivation. <p>In the Japanese context, negotiations are the prior concern in the decision making for related departments while whole members engagement is required in a work group (Hatvany & Pucik, 1981). Job descriptions deliver broad guidelines but not depart from companies' needs (Pudelko, 2005b).</p>	<ul style="list-style-type: none"> • Provide Employee's Handbook that comprises company rules as well as delivers guidelines on how an employee should act to protect company's assets, intellectual properties and confidential information. • Employees can lodge a complaint about their dissatisfaction. • Require all employees to legally accept the content of the handbook.
2.	Results Controls	<p>The practices of R&D organizations 'M' and 'S' are aligned with the general theories and Japanese practices.</p> <p>Influence employees to focus on achieving desired outcomes of their tasks (Merchant & Van der Stede, 2012; Verbeeten & Spekklé, 2015). Ensure work or actions not deviate from organizational interests. Transparent reward and sanction systems. Effective job allocation. In the Japanese context (Pudelko, 2005a), performance criteria reflect the achievement of group objectives by an individual. Japanese companies score a lower rank in the external remuneration equality, internal remuneration equality and the range to compare the maximum salary and the bottom wage.</p>	<ul style="list-style-type: none"> • Management by Objectives (MBO) tool, which communicate the objectives of the firm to employees, is used to carry out the performance evaluation of employees. • Bonus system is based on company profitability and individual performance. • Compensation package for engineers is based on average industry standard. • Employees are encouraged to work innovatively.
<p>The remuneration practices of R&D organizations 'M' and 'S' are aligned with the general theories while are not aligned with the Japanese practices as the Japanese companies show a lower level in external remuneration equality.</p>			

Table 2 (continue)

No.	Management Control Systems	General Theories and the Japanese Practices	R&D organization 'M'	R&D organization 'S'
3.	People Controls	<p>Personnel Controls</p> <ul style="list-style-type: none"> • Build upon the belief that managers would select right and motivated candidates to fill vacancies. In the Japanese context (Hatvany & Pucik, 1981), retraining and transferring are the solutions for weak performers instead of dismissing. The personnel policies emphasize on the internal cohesiveness progress of the firm, in which the recognition of goals and values serve as the base. Judicious selection is required to verify whether an employee fits into the company environment. 	<ul style="list-style-type: none"> • Strict policy for job applicant who needs to fulfill the stipulated requirements, undergoes 3- month to 1-year probation period, is guided by senior engineers under a mentor-mentee system. The performance of employees would be carefully evaluated. • Consider extending probation period if new employees who failed to deliver satisfactory progress. • Rarely terminate employment of new employees (except disciplinary problems) or transfer them to another position during probation period. 	<ul style="list-style-type: none"> • New employees are required to submit a personal evaluation report on job performance during probation period.
		<p>The recruitment practices of R&D organizations 'M' and 'S' are aligned with the general theories and the Japanese practices. However, there is a lack of screening process in both organizations, which is not aligned with the judicious selection of the Japanese practices.</p>		
		<p>Cultural controls</p>	<ul style="list-style-type: none"> • Generate a desired common working culture in the organizations. <p>In the Japanese context (Hatvany & Pucik, 1981), a philosophy conveys the messages about organization's objectives, norms and values, which would translate commitment to productive exertion. Japanese companies also emphasize on group motivation and collaboration.</p>	<ul style="list-style-type: none"> • Adopt organizational culture of Japanese parent company. • Adopt values, beliefs and assumptions corresponding to the corporate philosophy and visions of parent company. <ul style="list-style-type: none"> • Include code of conduct and embraces non-discrimination policy. • Group-reward and individual performance criteria determine compensation packages of employees.
		<p>The practices of R&D organizations 'M' and 'S' are aligned with the general theories and Japanese practices.</p>		

Table 2 (continue)

No.	Management Control Systems	General Theories and the Japanese Practices	R&D organization 'M'	R&D organization 'S'
3.	People Controls	<p>Social Controls</p> <p>Informal social mechanism is used to enhance the influence of formal management control system and formation of organizational culture through socialization process (Collier, 2005; Sandelin, 2008).</p> <p>In the Japanese context, socialization determination is imperative to ensure employees understand the company philosophy (Hatvany & Pucik, 1981).</p>	<p>The practices of R&D organizations 'M' and 'S' are aligned with the general theories and Japanese practices.</p>	<ul style="list-style-type: none"> • Socialization and learning take place between Japanese and non-Japanese employees at the managerial level. • Local managers occasionally travel to Japan's headquarters to participate in meetings and new product developments. • Japanese expats at the managerial level often become bridge for communication between headquarters and local.
4.	Performance Evaluation	<p>Balance Score card is used to evaluate organizational learning, business process, customer perspective and financial perspective (Kaplan & Norton, 2007).</p> <p>Controllability is achieved via Flexible Performance Standards, Relative Performance Evaluation or Subjective Performance Evaluation (Merchant & Van der Stede, 2012).</p> <p>In the Japanese context, Japanese companies practice complex appraisal system that combines measurement for individual performance and team performance (Hatvany & Pucik, 1981).</p>	<p>The practices of R&D organizations 'M' and 'S' are aligned with the general theories and Japanese practices.</p>	<ul style="list-style-type: none"> • Performance evaluation criteria includes financial perspective; customer perspective; business process perspectives; and innovation and learning perspective. • Adopt Key Performance Indicators to reflect how much a R&D project would contribute to future business win.

CONCLUSIONS

The body of literature on MCSs has been growing in the past two decades (e.g., Ambos & Reitsperger, 2004; Chenhall et al., 2010; Collier, 2005; Efferin & Hopper, 2007; Haustein et al., 2014; Taticchi et al., 2010; Verbeeten & Speklé, 2015) but contemporary management control ideologies are typically dominated by European and Anglo-Saxon perspectives (Speklé & Kruis, 2014). Specifically, we have not attained the adequate understanding of MCSs in Japanese overseas R&D organizations. This study represents that first attempt to examine MCSs in two leading Japanese overseas R&D organizations in Malaysia and Singapore.

This study contributes to the management control research in several ways. First, this study provides novel evidence of the application of MCSs in Japanese overseas R&D organizations by analyzing control systems using a comprehensive framework. Second, several insights on MCSs in Japanese overseas R&D organizations are discovered through this study. These insights serve as a step towards the development of MCSs theories on how to implement effective management in Japanese overseas R&D organizations. First, our findings suggest that the transfer of Japanese management syndrome to overseas R&D organizations. The employment policies and management control practices of the two studied Japanese overseas R&D organizations are largely influenced by the management practices of their parent companies. In particular,

the MCSs are utilized to support the management philosophy in the Japanese business group. The study also reveals that the R&D organizations are effective in personnel, cultural, social and results controls. The control packages are balanced and prioritized based on the philosophy of the business group. However, such Japanese management practices are not optimized by the local human-resource management in the reward system. This has resulted in relatively high turnover rates among engineers in both studied organizations. One possible explanation is that the R&D organizations adopt Japanese lifetime employment in their people management. Lifetime employment is not a permanent employment contract but is a long-term commitment between employers and workers (Kato, 2001; Ono, 2010). Traditional Japanese employment practices are essentially based on lifetime employment. A quick scan on the literature shows that there is no evidence to show that lifetime employment practices have started in Malaysia and Singapore workforce. Furthermore, employment practices are influenced by workforce composition and economic conditions (Kato, 2001; Ono, 2010). Thus, it is perfectly possible that employees lack of lifetime employment mentality in Malaysia and Singapore. The reward system should be revised to adapt with institutional context to address the high turnover issue. In short, the implementation of MCSs in Japanese overseas R&D organizations should be optimized based on the local human resources context to reduce the employee turnover.

This study has left behind several important issues that need to be addressed in future studies. In this study, the theoretical framework suggested by Merchant and Van der Stede (2012) was used to examine how MCSs were implemented in two R&D organizations. We only considered the managerial perspectives in MCSs. This signifies that the degree of control and effectiveness of MCSs based on employees' perspective remain unexplored. Further studies can also be carried out by employee perceptions about ways in which their responses to non-financial management controls. To identify the effectiveness and the degree of control of MCSs, a questionnaire can be distributed to all employees to test their knowledge about the MCSs of the company. Finally, the study is based on two Japanese overseas R&D organizations. Similar to most qualitative studies, the generalization of the case study findings is limited to the studied subjects. Extending our research to more Japanese R&D organizations is a potential research avenue. Future studies can also consider performing a comparative study on MCSs in Japanese overseas R&D organizations located in Asia, Europe and the United States.

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