DBA Thesis (2013)

Control and Coordination of Functional Subsidiaries in Japanese Corporate Groups

Akira Mitsumasu

Graduate School of International Corporate Strategy
Hitotsubashi University

Table of Contents

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Abstract

This paper is an exploratory research that examines how large Japanese corporate groups manage their subsidiaries. The analysis focuses on comparing the main literatures on corporate group management with actual management practices of large corporate groups. The empirical study is based on an in-depth analysis of five Japanese Corporate Groups. The findings of the study indicate that in addition to what has been known in existing academic literatures, Japanese corporate groups have other reasons for maintaining their group boundary, such as benefits from having more transaction options, mutual dependency, ex-post parent-subsidiary lock-in, and coordinating systems that allow decentralization without damaging incentives of their subsidiaries. The findings also indicate that amongst many other factors, dependency is an important factor that affects parent and subsidiary relationship, and thus a typology that distinguishes different types of subsidiaries based on dependency could be useful as a management tool for identifying and solving parent-subsidiary issues, as well as a framework for expanding existing theories.

Keywords: Japanese Corporate Groups, coordination, decentralization, subsidiary typology.

1. Introduction – Research Questions and Approach

1.1 Research Questions

When we read in the newspapers and business magazines about large firms such as Hitachi, Panasonic, Sony and Toshiba announcing their new corporate strategies, making investments in their growth drivers, and managing their business portfolios, we are sometimes left with the impression that a large corporation is a single entity in full control of all its activities. In reality however, we know that large corporations often have multiple layers and sub-layers of divisions and departments, such that any execution of strategy requires organizational capabilities in coordinating promptly and coherently masses of activities across the corporation.

In Japan, a large corporation usually consists of a parent company and numerous subsidiary companies, each being a separate legal entity, but coordinated to achieve a common corporate goal. Despite the fact that we see many large corporations, some with hundreds of subsidiaries, there does not appear to be many literatures on corporate groups. One reason as to why little attention has been paid to subsidiaries may be because they have been regarded by many academics, especially in the U.S., to be not significantly different from business divisions, and hence do not need to be dealt with separately (Ito and Shishido 2001).

But if we see subsidiaries as a substantial part of what makes up a corporate group, its routines and its core competencies, then the control and coordination of subsidiaries becomes a crucial management issue. It is also an increasingly relevant issue today, as we witness

many corporations in Japan establishing or expanding subsidiaries, such that information asymmetries between the corporate head-office and the many layers of internal organizations and subsidiaries have become greater and much more serious (Miyajima 2011). Despite the importance of this issue, it appears that there is very little prior research on this area. As described by Ito, Kikutani and Hayashida (2008), "Either theoretical or empirical study of business group in our sense is scarce, in contrast to a large body of literature on other types of business groups." Johnston (2005) also remarked that "the headquarter-subsidiary link still remains a black box."

The primary objective of this work therefore is to bridge academic knowledge with practitioner's knowledge regarding the control and coordination of subsidiaries in corporate groups. In order to do so, I need to address two fundamental research questions:

> Question 1: Why do corporations establish subsidiaries and form corporate groups?
>
> Question 2: How do corporate groups manage their subsidiaries?

These questions will be explored and discussed in this paper. At this point, I should like to state also that the scope of this research concerns mainly with the control and coordination of activities between a parent company and its subsidiaries in their execution of the corporate group's strategy. Corporate governance issues such as the protection of parent and minority shareholders, tunnelling and squeeze out problems are not within the scope of this study.

1.2 Approach taken in this Research

In this exploratory research, I have taken an inductive research approach. Through a series of interviews with large corporate groups that were conducted between September 2012 and January 2013, and an extensive use of archival data as well as IR and news sources that are available, I was able to make observations of real life situations and compare them with related academic knowledge. Although the academic theories and knowledge that I have chosen for the purpose of this paper, ranging from transaction cost theory to agency theory as well as other theories, are neither be exhaustive nor specific to the issue of corporate group management, they were selected because each theory relates to a certain aspect of group management, and put together they provide a helpful overview, especially from a practitioner's perspective, over the many complex issues that concern group management.

In terms of approach, I have followed Van de Ven's engaged scholarship approach to research in using a wide array of materials and talking to as many companies as I can, even though officially the case studies are limited to five corporate groups. My objective is to bridge academic and practitioner's knowledge by translating and diffusing research knowledge into practice, whilst at the same time complementing research knowledge with practical knowledge that practitioners know and use.

In addition to information that I have gathered from case studies, I think it is relevant to briefly mention the fact that I have, in the course of my research, often referred to fellow members of the Group Management Research Group, which is a study group for practitioners

organised by the Business Research Institute in Tokyo. Around 40 senior managers from corporate planning and group management departments of large listed companies gather monthly in a half-day session to discuss group management issues and exchange ideas regarding solutions. Participation has helped me gain insights into real world situations as well as validate many ideas I had in the process of my research. Although I am cannot in this paper disclose corporate information obtained from the study group, I can and did use some of the information to benchmark findings from my case study.

1.3 Outline of this paper

This paper is organized as follows. Chapter 2 gives a definition of corporate group in Japan, which is the unit of analysis in this study, and an overview of its condition in Japan. A distinction is made here between a corporate group and a *keiretsu* business group, which although is a subject that has been researched and covered in many existing literatures, is not the focus of this paper. Chapter 3 provides a backdrop and context for understanding the corporate landscape in which Japanese firms today operate. The chapter also describes how corporations, triggered by legal and institutional changes, and faced with challenges on many fronts in an increasingly globalized and modularized world where the Japan model has little comparative advantage, have been adapting to these changes.

Chapters 4 and 5 provide a literature review on the major literatures that are related to the research questions of why do corporate groups exist and how are they managed? Chapter

6 attempts to bridge academic knowledge with practitioners knowledge by looking at five corporate groups: Hitachi, Panasonic, Mitsubishi Heavy Industry, Nihon Yusen and Japan Airlines, and by identifying areas where practitioner's knowledge could be used to expand existing theories or fill in gaps on areas that have not hitherto been covered in academic literatures. For example, the case study highlighted the fact that firms worry about lock-in situations not only in market transaction, but also in internal transactions when a subsidiary, once established, becomes locked-in to the firm's production process. Chapter 6 also looks at the control systems that corporate groups use in coordinating planning, in executing strategies, and in optimizing the group's overall performance.

The case study also identified "dependency" as a crucial factor that affects parent and subsidiary relationships. In chapter 7, based on this dependency relationship, a four-part classification of subsidiaries is proposed to facilitate the discussion of different issues that arise under different parent-subsidiary settings. This typology also opens up new avenues for expanding existing theories. By combining academic and practitioner's knowledge, and by applying the typology of subsidiaries, Chapter 8 attempts to draft a roadmap for successful subsidiary management. Chapter 9 concludes this paper with a brief summary of major findings and their contribution to the knowledge of corporate group management, and discusses also areas for future research.

2. Corporate Groups in Japan

2.1 Definition of a corporate group in this study

In order to define clearly what I mean by a corporate group in this study, I begin by drawing a distinction with a much related topic – that of "business groups" in general. A business group is defined as "firms which though legally independent, are bound together by a constellation of formal and informal ties and are accustomed to taking coordinated action" by Khanna and Rivkin (2001), and as "an intermediate case of organization structure between market contracting and a common-ownership integration of multiple production units called a conglomerate" by Khanna and Yafeh (2005). These definitions of a business group are somewhat arbitrary, and may be used to mean anything from the Korean *chaebols* to loose coalitions of firms in which no single firm holds controlling interests in the other firms. In the concluding remarks of a meta-analysis on business group affiliation, Carney et al.(2010) commented that "business groups come in many shapes and sizes and their heterogeneity across time and place defies any simple explanation."

With such heterogeneity, there is thus a wide range of literature concerning business groups, many of which try to explain the benefits and costs of group affiliation. For example, Granovetter (1995) quoted four often given reasons for group affiliation, namely (1) firms are rarely self-sufficient and will need to form connections with other firms upon whom they depend for resources, (2) the need for strategic alliances to cope with changing market environment, (3) collusion, (4) the desire to extract rents through coalition. Claessens, Fan

and Lang (2002) studied the benefits and costs of group affiliation in East Asia by looking at how agency problems affect firm value. Samphantharak (2007) used costs of ownership and costs of market contracting to explain the existence of business groups, and highlighted the flexibility in ownership compositions as their advantages.

In the business group literature concerning Japanese corporations, the focus would likely to be on the Japanese *keiretsu* rather than the consolidated Japanese corporate group where subsidiary companies are controlled by a single parent company. A key focus in the business group literature concerns factors that motivates and glues individual companies to form business groups. Khanna and Yafeh (2005), for example, in discussing the role of business groups, mentioned in their work that the *keiretsu* offers a form of mutual risk sharing where the group's main bank intervenes to assist distressed member firms, though this popular view of risk sharing is not evident elsewhere, where other reasons are more likely to explain the ubiquity of business groups around the world. Other reasons that explain group formation include market failure and institutional voids such as limitations in a society's financial, legal, and labour market institutions (Leff 1978), and benefits of market power by horizontal integration and collusion (Bernheim and Whinston 1990).

Despite many over-lapping areas, the term "corporate group" as used in this paper is not synonymous with the term "business group" or "*keiretsu*". A *keiretsu*, is a term used to describe groups of independent corporations that cluster, have cross ownership and

collaborate under their flagship main bank that provides finance to its member corporations. Within each *keiretsu* group is usually also a large trading company that coordinates and fosters transactions within the group. There are six large financial *keiretsus*, namely Mitsubishi, Sumitomo, Mitsui, Fuyo, Sanwa and Ichikan. Member firms within the keiretsu display a high degree of institutional isomorphism, and reflect a rather homogeneous national model with relative low variation across firms relative to more liberal market economies. However, with the restructuring of Japanese corporations in the post bubble period of the 1990s, active cross boundary collaborations and consolidation of banks into mega banks, the boundary of these financial *keiretsus* have become vague. Financial dependence and intra-keiretsu procurement have declined, and many member companies now participate in multiple *keiretsu* presidents' councils (which are essentially cross share-holder meetings).

The focus of this research is therefore not on the much researched *keiretsu*, but on the less discussed but yet increasing important presence of corporate groups, which the revision of Securities and Exchange Act in 2000 has made mandatory the disclosure of their consolidated financial statements. Companies have thence become more conscious of consolidated financial performance, of corporate social responsibilities as a group, and of the board of directors' legal responsibilities in maintaining appropriate control over activities of their subsidiaries and related companies within the corporate group.

The study of corporate groups in Japan can perhaps be seen as a subset of the wider

context of business groups. There are many areas in common such as the Coasian question: Why do firms or business groups exist? The research field on relational contracts, which focuses on how self-enforceable terms can be supported without the use of enforceable contract, is also an area in common because it posits that repeated interaction within a well-defined group such as a business or corporate group with a set of shared norms governing the behaviour of group members leads to cooperation and implicit self-enforcing obligations. But there are differences as well. For example, the issue of linkage motivation (such as kinship, ethnic background and trust) among component firms would be a more relevant topic in the study of business groups, but not necessarily so in the study of corporate groups, where financial origins and control rights mandate solidarity. The corporate group deserves more attention as an area of research because despite the fact that the control and coordination of the myriad activities inside the corporate group affects strategy execution and have implications on economic performance, there appears to be very little previous research on the topic and a lack of holistic structure that would facilitate knowledge transfer to practitioners.

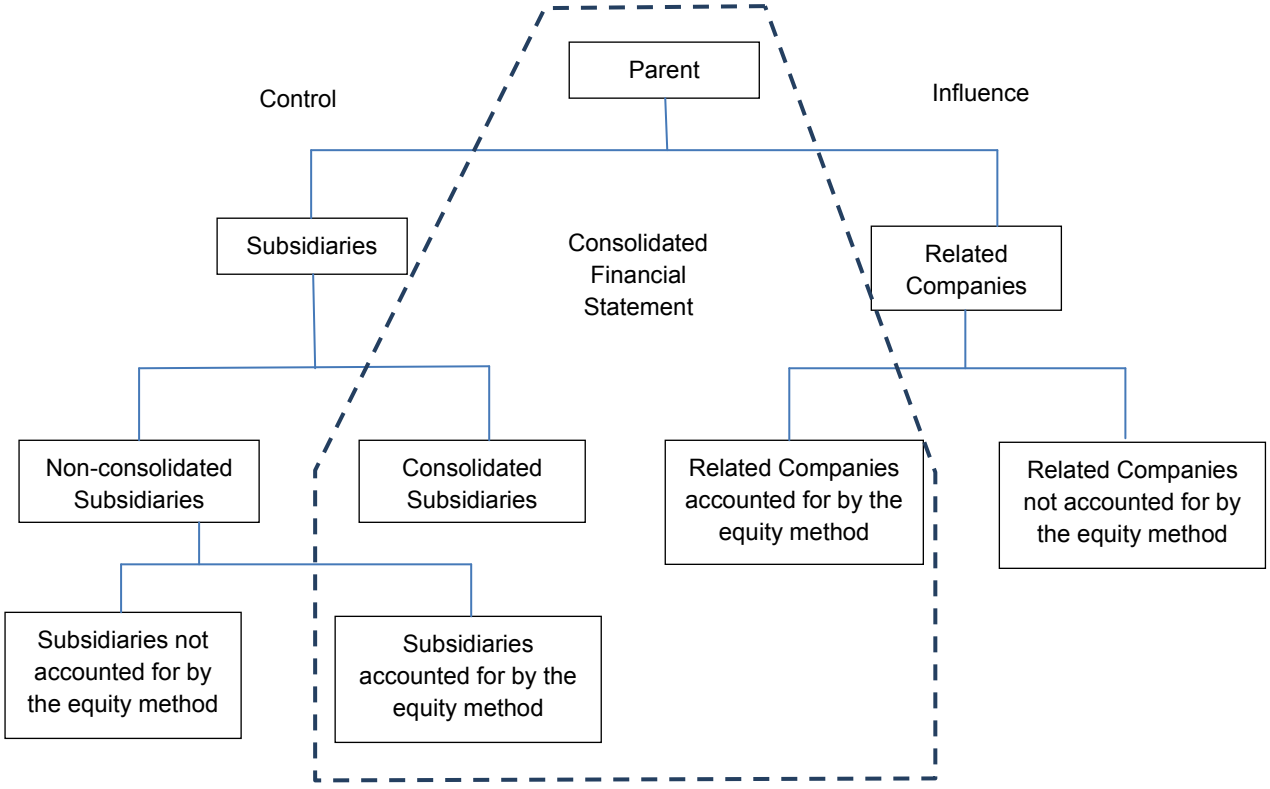
Having made a distinction between a business group and a corporate group, let us now look at some formal definitions regarding Corporate Groups in Japan. According to article 2-1-26 of Securities Listing Regulations in Japan, a Corporate Group is defined as a corporation together with its subsidiaries and related companies. A similar definition is given in article 4-1-1 of Regulation concerning Consolidated Financial Statements (also Cabinet

Ordinance No.45 of 30th September 2010), which states that a Corporate Group is the Corporate and its subsidiaries that submit a Consolidated Financial Statement.

A subsidiary is defined under article 2-3 of Company Law as a company whose majority voting rights are being held by another company, and whose management is also controlled by that company. Article 3-1 of Order for Enforcement of the Companies Act adds that a subsidiary is such when the decisions of its financial and business policies are being controlled by another company.

There is a distinction between a subsidiary company, which is controlled by its parent company, and a related company which is influenced by its parent company. In other words, the degree of control and influence determines whether an affiliated company is a subsidiary or whether it is a related company. Figure-1 below illustrates this distinction. The figure also shows that a corporate group consists of consolidated subsidiaries and related companies as well as non-consolidated subsidiaries and related companies, with the latter having negligible impact on the corporate group's performance.

Figure 1. Corporate Group



Control refers to:
- Ownership exceeding 50%
- 50%～40% + either of (a) ～ (e)
- Less than 40% + a and either of (b) ～ (e)

Influence refers to
- Ownership of 50%～20%
- 20%～15% + either of (g) ～ (k)
- Less than 15% + (f) and either of (g) ～ (k)

(a) Together with persons of close relationship and persons in agreement (e.g. people who would exercise voting rights in agreement on issues such as investment, technology, transaction, HR and wages), the sum of voting rights exceeds 50%

(b) Executive directors or persons capable of exerting influence over important financial and strategic decisions, have majority control over the board of directors or equivalent function.
(c) There exists contracts that enable control over important financial and strategic decisions.
(d) Provider of over 50% of total finance or collaterals.
(e) Where there exists evidence of control by other decision making institutions.
(f) Together with persons of close relationship and persons in agreement, the sum of voting rights exceeds 20%
(g) Where the parent's executive director or others assume important roles in the subsidiary such as CEO or board member.
(h) Provider(s) of important finance or collaterals.
(i) Provider(s) of important technology.
(j) Important client or transaction partner.
(k) Where there exists evidence of substantial influence over financial and business decisions.

The above definition is the result of financial reporting requirements aimed at increasing the transparency of Japanese corporations. For the period ending 31st March 2000, publicly listed firms were required for the first time to provide consolidated financial statements that included results from subsidiaries and related companies over which they had de facto control or substantial influence.

Although a corporate group consists of both subsidiary and related companies, the focus of this paper concerns subsidiary companies only. There are two reasons for choosing to do so. Firstly, my interest is on the intriguing characteristic of parent and subsidiary relationship which may range from a high degree of control by the parent over its subsidiary, to a more arm's length market transaction like relationship between the parent and its subsidiary. As for related companies, because ownership is only partial, it is not easy for the parent to exert direct control, unless there are pre-agreed contractual terms that allow control over specific areas. Secondly, the diversity of related companies, which may range from an important manufacturing sub-contractor to an interest-based relationship, such as for the sake of having a stake and a voice in an entity for industry political reasons, makes generalization difficult and increases complexity without necessarily adding value to the focus of this research.

2.2 A Brief Overview of Corporate Groups in Japan

With the term "corporate group" defined in the previous section, this section gives a brief overview of corporate groups in Japan. According to the 2009 Economy Census published by

the Ministry of Internal Affairs and Communications in December 2011, there are 26,701 corporate groups in Japan, with a total of 63,163 subsidiary companies. Tables 1, 2 and 3 below taken from the census data show the number of corporate group and their subsidiaries by firm size measured by capital, the number of subsidiaries per corporate group and the number of employees respectively.

Table 1. Number of corporate groups by firm size

		Number of Corporate Groups	Number of Subsidiary Companies
Size of Parent Company by Capital	Less than 3 million yen	127	159
	3 ～ 5 million yen	1,114	1,210
	5 ～ 10 million yen	597	657
	10 ～ 30 million yen	9,570	11,694
	30 ～ 50 million yen	4,366	6,010
	50 ～ 100 million yen	4,646	7,854
	100 ～ 300 million yen	2,199	4,723
	300 ～ 1 billion yen	1,510	4,523
	1 ～ 5 billion yen	1,293	5,782
	More than 5 billion yen	1,251	20,516
	Total	26,701	63,163

Table 2. Number of subsidiaries within corporate groups

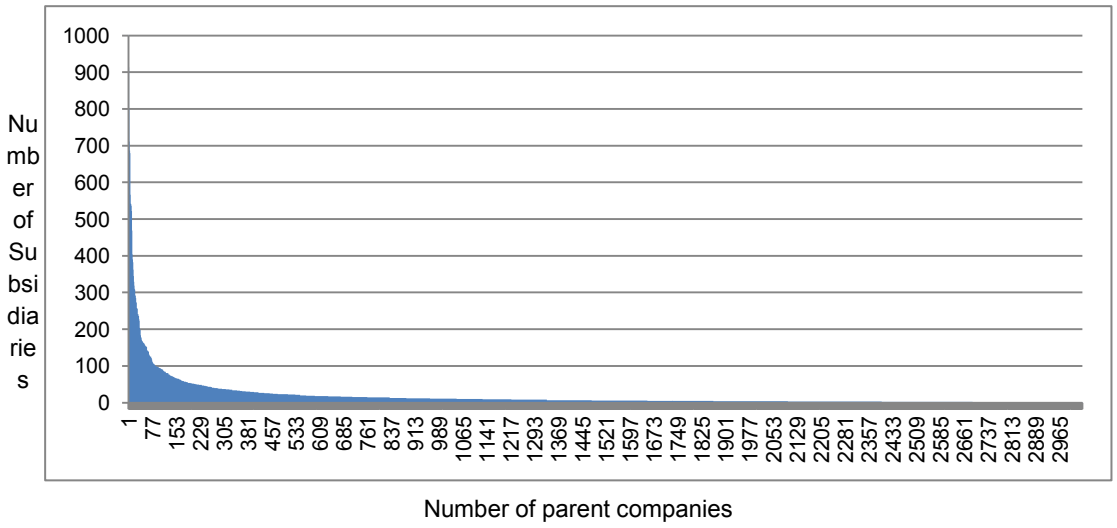
Number of Subsidiaries within Group	Number of Corporate Groups	Percentage
1	18,742	70.2%
2	3,725	14.0%
3	1,530	5.7%
4	707	2.6%
5 ～ 9	1,207	4.5%
10 ～ 19	458	1.7%
20 ～ 29	132	0.5%
30 ～ 49	104	0.4%
More than 50	96	0.4%
Total	26,701	100.0%

Table 3. Number of employees within corporate groups

Number of Full Time Employees in Parent Company	Number of Corporate Groups	Number of Subsidiary Companies	Number of Offices	Total Number of Employees	Paid Executives	Full Time Employees	Temporary Employees
0 ～ 9	2,551	5,220	5,642	25,452	9,936	12,785	2,731
10 ～ 19	2,745	5,708	6,955	55,416	11,949	39,445	4,022
20 ～ 29	2,267	4,849	6,608	70,650	11,161	55,023	4,466
30 ～ 49	3,400	7,471	12,084	158,930	18,674	132,125	8,131
50 ～ 99	4,598	10,598	22,351	375,390	29,807	329,005	16,578
100 ～ 299	5,801	15,304	51,045	1,096,022	50,368	1,005,639	40,015
300 ～ 999	3,272	12,378	73,764	1,864,545	44,219	1,737,997	82,329
1,000 ～ 1,999	896	5,479	47,792	1,331,254	20,594	1,260,338	50,322
2,000 ～ 4,999	638	6,227	70,544	2,122,181	22,438	1,962,770	136,973
5,000 ～ 9,999	262	4,584	51,975	1,933,530	15,819	1,836,511	81,200
10,000 ～ 19,999	135	3,848	56,116	1,949,651	14,794	1,861,829	73,028
20,000 ～ 49,999	96	4,597	68,747	2,916,523	16,956	2,808,942	90,625
More than 50,000	40	3,601	104,133	4,519,027	15,665	4,374,752	128,610
Total	26,701	89,864	577,756	18,418,571	282,380	17,417,161	719,030

It can be observed that the majority of corporate groups have just a few subsidiaries. But then there are these very large corporate groups such as Sony (1,277), Hitachi (913), Orix (784), NTT (756), Nihon Yusen (687), Panasonic (633), Sumitomo Trading (578), Fujitsu (555), Toyota (511) and Toshiba (498) that have hundreds of subsidiaries. (Their numbers, which are indicated in the above parenthesis, are taken from year 2010's financial reports). Figure 2 below shows the distribution of the number of subsidiaries for 3,037 listed parent companies in the Tokyo Stock Exchange.

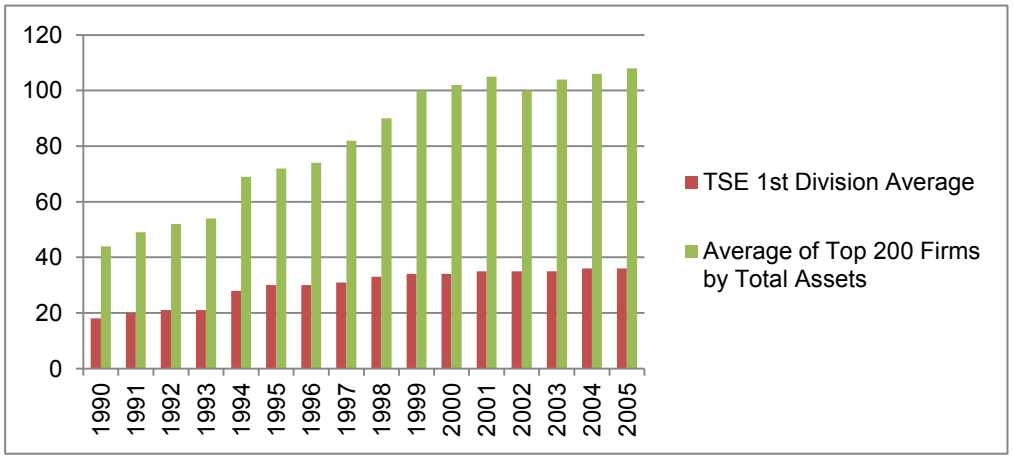
Figure 2. Number of subsidiary companies



Source: Data obtained in February 2011 from a securities company.

If we look only at the Tokyo Stock Exchange's first section, the average number of consolidated subsidiaries has nearly doubled from 18 in 1990 to 34 in 2000. This rise since has been moderate with an average of 36 subsidiaries in 2005. The average of the largest 200 firms has risen substantially from around 45 in 1990 to 108 in 2005.

Figure 3. Average Number of Subsidiary Companies



Source: Miyajima 2011 p.257 Fig.6-3

According to the annual Basic Survey of Corporate Activities (*Kigyou Katsudo Kihon Chousa*) conducted by the Ministry of Economy, Trade and Industry (METI) as of 31st March 2012, in which data were collected from 29,570 firms, 12,361 (43.6%) have affiliated companies(subsidiary or related companies). The number of affiliated companies amounts to 85,352, with 51,312 (60%) inside Japan, and 34,040 (40%) outside Japan. In year 2011, there was an increase of 2,045 affiliated companies in Japan and 2,201 outside Japan, whilst there was a decrease of 3,293 in Japan and 1,544 outside Japan.

Table 4. Number of companies that have affiliated companies

	2008	2009	2010	2011
T o t a l	11,753	11,816	12,050	12,361
Manufacturing	5,890	5,903	5,943	5,986
Electricity and Gas	84	84	80	87
Information and Telecommunication	785	833	870	886
Wholesale	2,831	2,815	2,850	2,985
Retail	1,211	1,199	1,250	1,255
Others	952	982	1,057	1,162

The manufacturing sector has the largest number of affiliated companies, and the proportion of overseas affiliated companies has been on the rise over the past two decades, as more and more manufacturing companies shift production overseas.

Figure 4. Percentage of manufacturing firms that have affiliated companies

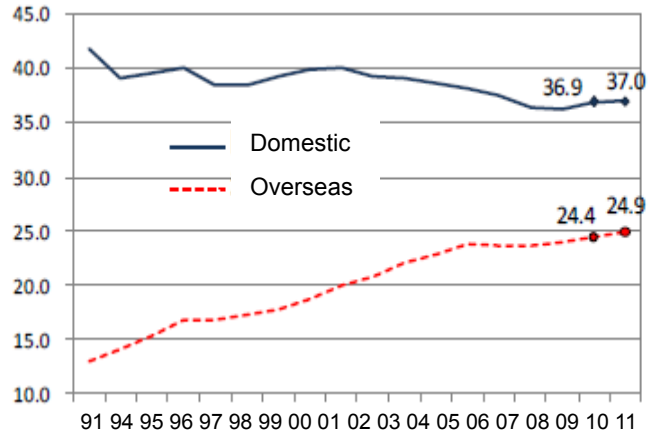
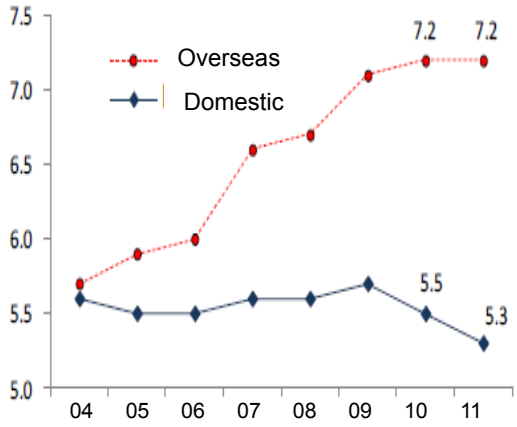


Figure 5. Number of affiliated companies per manufacturing firm



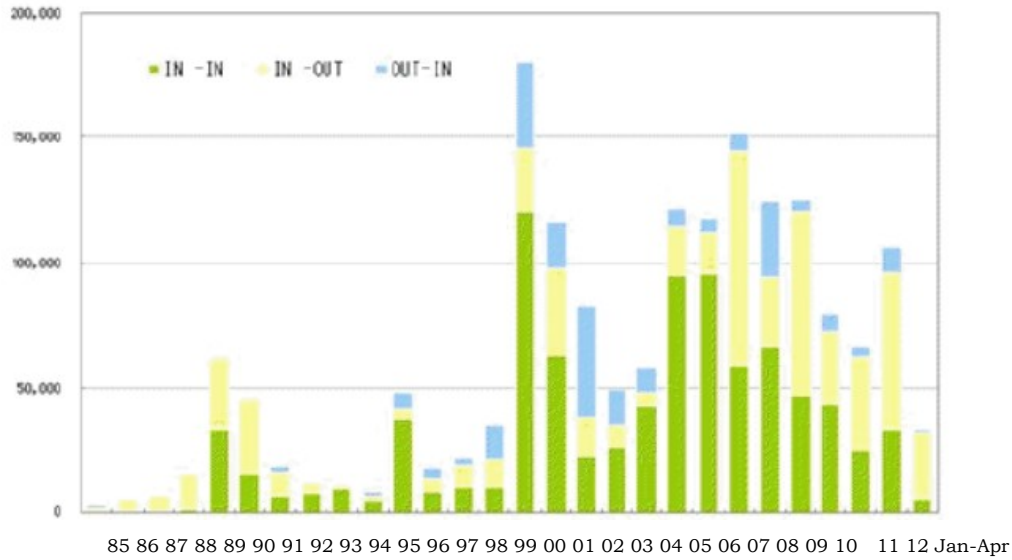
All these statistics show that more and more Japanese companies are pursuing group formation or expansion as their strategy.

With regards to the relationship between the consolidated group and its affiliated companies, investment on and finance provided to affiliated companies constitute nearly 70% of total investment and assets, whilst transactions with affiliated companies amount to 20.3% (33.7% in manufacturing) of total revenue, and 24.6% (33.o% in manufacturing) of total procurement. Payments to affiliated companies for technology amount to 23% of total technology payments to all companies, whilst revenue from affiliated companies for technology makes up 51% of total technology revenue from all companies. These figures show

that there is a certain amount of interdependency between the affiliated companies and the consolidated business group.

Concerning group formation, subsidiaries may be hived off from a corporate function or business division, or established as a new venture, or acquired through M&A. The number of IN-OUT M&A[1] which were active in the bubble period of the 1980s diminished in the post bubble years or choose and focus, and we witnessed instead a surge in IN-IN M&A as shown in the figure below.

Figure 6. M&A Trend over the last two decades



Source: Recof MARR Statistics. Green denotes In-In, Pink: In-Out, Blue: Out-In

This change can be attributed to a number of factors, such as anti-trust deregulation in 1997, the introduction of share exchange system in 1999 and company separation system in

[1] In-Out M&A denotes Japanese company's acquisition of foreign company. Out-In M&A denotes foreign company's acquisition of Japanese company. In-In M&A denotes Japanese company's acquisition of Japanese company.

2000, and regulatory consolidated financial reporting that prompted many companies to review the portfolio of their businesses and subsidiaries. The post bubble period of choose and focus witnessed restructuring in many industries, as companies merged their subsidiaries, or regrouped them sometimes even with other companies in the same industry. Although it was then worried that M&A might destroy firm specific capabilities of the acquired firm, especially when the takeover is hostile, many companies found it favourable as it helped them increase market power, save tax, reduce redundancies and costs, form complementarities of assets and capabilities, and also access key competencies.

There are many literatures that show the effects of M&A during that period. For example, Okabe and Seki (2006), using capital retention profitability, interest coverage and ROE as their measurement, showed that the 157 M&A in 2001 that they have analysed did have positive results, and thus could be considered as having contributed to Japan's economic restructure. Miyajima (2006) too, upon inquiring the economic benefits of M&A, showed that it had positive effects on improving efficiency in organization and in resource allocation. Hence it appears that during this period of corporate restructuring, deregulation and other institutional changes have made it easier for firm to actively use of M&A as a means to acquire competencies and speed up restructuring.

More recently, regardless of whether a subsidiary is acquired or newly established, a weak economy and a shrinking domestic market has deemed it necessary for many firms to

seek abroad for business prospects and markets. A strong yen, especially over the past five years, has also prompted many firms to establish production sites abroad. As shown in figures 4 and 5 as well as in the Appendix, many companies are pursuing a group strategy and are using subsidiaries as their growth drivers. The management issue of controlling and coordinating with subsidiaries both domestic and foreign has become a vital issue to many large corporations in Japan. This issue is therefore also the core subject which this paper intends to explore.

3. Evolution of the Japanese Corporate System

Before I begin my discussion concerning corporate groups in Japan, I believe it is appropriate as a backdrop to the chapters that follow, to briefly describe the characteristics of the Japanese corporate system, and discuss how it has evolved or remain unchanged over what has been dubbed the "lost decades" since the economic bubble burst in 1991. This will provide a general picture of Japan's corporate landscape as well as some context for understanding Japanese corporate groups.

In this chapter therefore, I will romp through the changes in legal and institutional framework that have affected corporate groups in Japan. I will also describe how, during this period, we witnessed an increase in organizational diversity as firms strived to adapt to changes. And finally, I will discuss briefly whether the well-known community aspect of Japanese firms has wavered in response to changes, and whether Japan's renowned skill regime still has a good fit with today's increasingly globalized, commoditized, and modularized business environment that is witnessed in many industries.

3.1 Changes in Legal and Institutional Framework

Japan has changed dramatically over the past two decades, as firms strived to restructure themselves to be more competitive. Schaede (2008) wrote that 75% of 472 companies in the Nikkei 500 have engaged in at least one form of reorganization, namely, divestiture, consolidation or reorganization, and that 34% have adopted multiple measures.

Schaede saw the period between 1998 and 2006 to be a "strategic inflection point" for Japanese businesses, a period when the competitive environment changed such that the balance of forces shifted away from previous ways of doing business to new ones. For example, from overemphasizing ancient craftsmanship and from being mass producers of high quality standardized products to being strategic providers of new product concepts with differentiated value proposition, and from making things to selling things. Many corporations needed to reconfigure their capabilities and to evolve from being just producers to providers of full line services and solutions. As a senior manager at Hitachi describes,

> "Many of our clients are governments, and being able to deliver top quality products is just not good enough when they are requiring full line services and solutions from product delivery to after maintenance and operations management, and when our major competitors are all proposing total solutions."

Looking back over the past few decades, there have been a series of related events that triggered what Schaede calls the inflection point. Liberalization of the financial market that began from 1980 enabled firms to raise capital from the market instead of relying on their main banks. Whittaker and Deakin (2009) described various pressures for change such as the weakening of bank led monitoring, the decline of cross-shareholdings, the growth of foreign ownership and institutional shareholders, and the shrinking coverage of life time employment. There were many other changes too including accounting reforms as part of the financial Big Bang in 1996, the complete liberalization of corporate bond issuance in the same year, the introduction of share swap and transfer system in 1999 which triggered an unprecedented

post war M&A and IPO boom, the relaxation of anti-trust law which enabled corporations to form pure holding companies, the revision of Company Law in 2002 which triggered corporate governance reforms, and the revision of Commercial Law in 2002 that made mandatory the disclosure of consolidated financial statement. Together, these changes in legal and institutional framework served as accelerator for changes in management style and organizational structure.

In considering the many institutional and organizational changes, one might speculate from a Varieties of Capitalism (VOC)[2] perspective that, facing pressures for change, Japan might move away from a coordinated market economy (CME) towards becoming a more liberal market economy (LME). Contrary to such expectations however, it appears that Japan has not converged towards LME. Vogel (2006), in his case study of eight Japanese firms, identified a distinctly Japanese approach towards corporate restructuring in which companies responded to cutting costs by exercising voice rather than exiting with long-term partners, including workers, banks, and suppliers. Japanese firms strived to adjust as much as possible without undermining cooperative relationships and to leverage these relationships

[2] Hall and Soskice categorized capitalist economies into two distinct types: liberal market economies (LME) and coordinated market economies (CME). In LMEs such as the US and the UK, firms coordinate their activities primarily via hierarchies, competitive market arrangements and formal contracting. In CMEs such as Germany and Japan, firms tend to depend more heavily on non-market relations, which entail more informal contracting and reliance on collaboration as opposed to competitive relationships. The VOC approach argues that the two types of economies have quite different capacities for innovation, with LMEs suitable for radical innovations whilst CMEs more suitable for incremental innovations. Variations can also be found within each type. For example northern European CMEs focus on industry-based coordination, whilst in Japan and South Korea group-based coordination is fostered.

to overcome their problems. Vogel saw Japan's transition as one that is different from both Japanese institutions of the past and U.S. institutions of the present, and that Japanese companies have re-evaluated their long-term relationships with worker, banks, and other firms, and that they have become more selective. But they have also become more differentiated and variable in their practices, and more open, as they have more foreign owners, managers, and business partners than ever before.

3.2 Adaptive Change and Organizational Diversity

During this period of focus and change, firms adapted to changes in different ways and as a result we see an increase in diversity concerning organization types. From a corporate governance perspective, Jackson and Miyajima (2008) posited a typology of corporation types based on their analysis on survey data that were collected by the Policy Research Institute of the Ministry of Finance in 2003. This policy research itself too has indicated increasing diversity in the 1990s in organization structure, corporate governance and factors that fostered corporate group formation and expansion.

Their typology is based on cluster analysis which highlighted three common variables within the sampled firms. Namely, (a) market oriented or relational finance and ownership, (b) outsider or insider oriented board and management, and (c) market oriented or relational employment and incentive characteristics. Results suggest that Japanese firms fall into the following three broad groups.

- Traditional (J-type): Strong relational characteristics on all three dimensions. This type makes up 42% of the sample firms and 16% of employment.
- Hybrid model: Market finance but insider board and relational employment. (24% of sample firms and 67% of total employment)
- Intermediate: Relational finance or insider board, but with more market oriented employment. (34% of sample firms, 18% of employment)

It appears from the cluster analysis that the hybrid model, while being small in the number of firms, is becoming the predominant pattern amongst large Japanese firms. Miyajima (2011) noted however, that this growth in diversity took place concurrently with a decline in the presence of Japan's leading companies within the global market. There were for example in 1995, 141 Japanese companies in the Fortune 500, making up 35.2% of the index's revenue share. The number of Japanese firms declined to 68 in 2008, and its revenue share fell to 11.2%. This decline in global presence and performance may have to do with the high costs that were incurred in the process of institutional transformation. Miyajima hypothesised that:

- The transition from an existing system to a new system (such as the hybrid type) may be hindered by organizational rigidity and lock-in, such that many firms find the process of restructuring and transformation to be slow.
- Change in organization architecture incurs coordination costs. For example, excessive power delegation may lead to control loss and wasteful redundancies in duplicated functions. The 2003 Policy Report by the Ministry of Finance also stated that the increase

in corporate groups has led to significantly higher consolidated indirect costs, indicating duplication of corporate functions. On the other hand, insufficient power delegation also increases information processing costs. A lack of complementary institutions, such as effective monitoring to reduce agency costs, is also a factor that relates to poor performance.

- Hybrid arrangement incurs additional costs, such as the cost of selecting external board members, and the cost of giving up previous institutional complementarities. Dissolving cross-shareholdings would also dissolve risk sharing relationships.

Regarding how Japan has adapted to changes, although the organizational rigidity and isomorphism described above could be seen as what slows down change, it also reflects a quintessentially Japanese attitude towards western learning. Whittaker and Dean (2009) argued that a strong case can be made for the movement along the path in which executives seek to adapt producer capitalism to new circumstances. *Wakon Yosai* (harmonizing western brilliance with Japanese spirit) has historically been Japan's way towards adaptive change. They wrote that "Marketization, financialization, and global standards of accounting practices and corporate governance triggers change that is difficult to bring about endogenously for they are held in tension with existing norms and practices." Changes therefore have to be maintained with underlying continuity in the internal balances and implicit contracts of coordinated market capitalism.

From an incentive perspective towards organizational rigidity, Aoki (2010) posed the interesting question that if there are differences in performance among different modes of organizational architecture, why then does a certain pattern of organizational architecture tend to appear as a national or regional convention even in markets for which it appears to be inappropriate? Aoki explained that different types of human cognitive assets of organizational relevance may co-evolve with corresponding organizational architectural modes. If a certain mode becomes the dominant mode of organizational architecture, the next generation of managers and workers tend to invest in the type of human assets that match that mode better, such that eventually that mode would become the established convention across all industries in that region even if it lacks comparative advantage.

3.3 Resilient Community-ism

Community-ism, characterised by management and employees being important stakeholders of the firm, long term or life time employment, seniority-based wage system, and long term development of firm-specific skills based on OJT, is a well-known aspect that can be recognized in many Japanese firms. Many literatures such as Dore (1973) have contrasted Japan's organization-oriented system, in which the firm belongs principally to the employees, who are its members, against the western market-oriented system in which shareholders, being owners, are principals, and managers are agents who contract at arm's length with employees who provide labour. In a Japanese community firm, the top management are not

significantly constrained by either the board of directors or the auditors, but they are constrained however by their responsibilities as senior key members of the community. It is not surprising therefore, that adaptive changes resulted in the rise of new Hybrid type firms, which use market finance, but yet continue to favour insider board and relational employment.

Given the many changes during this period, one might expect that the community characteristics of Japanese corporations would have changed too. But empirical research by Inagami and Whittaker (2005) over the period 1975-2000, showed that there is little statistical evidence of the collapse of lifetime employment, and that the seniority-based pay, although weakened has not died. The principal means of developing skills is still through OJT. They however hinted that this resilient Japanese model could be problematic if it fails to provide solutions for emerging issues faced by Japanese companies, and warned that Japanese companies are being pushed relentlessly in the direction of high value added, knowledge-based, aesthetically creative products and services, and therefore need an employment system that can deliver these. In other words, there is a greater need in today's business environment for company professionals, who are expected to be not merely white collar support staff or supervisors to raise manufacturing efficiency, but to be sources and contributors of value added outputs.

Inagami and Whittaker also distinguished between creative workers and routine

workers, and investigated whether the Japanese model of employment practices are compatible with the high expectations placed on employees. Interestingly, they found no fundamental contradiction between creative work and the classic Japanese model of employment practices. Contrary to popular view, Japanese creative workers do not change jobs frequently to seek more challenging work and higher wages. They have long-term employment orientations and a strong sense of affiliation with their company.

However, their survey however highlighted some serious obstacles to working creatively, owing to poor work design and management, such as a lack of delegation of authority, frenetic work place, lack of support staff and long meetings. Managers who were asked the proportion of their employees who are engaged in creative work (defined as work that is not fixed and has a high discretionary content such that performance can vary greatly according to the individual and the output can have a major influence on the company), replied that the average is 32% in creative departments and 23% in routine departments. Employees themselves gave lower figures, 23% in creative departments and 20% in routine departments. In a community firm where reputation matters, and where the capability of taking on punishing amount of heavy work gains recognition, departments are often chronically understaffed, such that workers have little time and energy left to invest in creative work.

From the empirical findings described above, one may conclude that the Japanese community firm model remains resilient as an established convention, and that it is

compatible with creative work, but that work practices may need to be changed to facilitate more creativity.

3.4 Shift in Comparative Advantage

Another aspect of many Japanese firms is their emphasis on "*suriawase*" or working through coordination. This may be coordination with suppliers, sub-contractors, subsidiaries or other entities within the firm's value production network. However, it has been noted that this systems, which has hitherto worked well, is no longer effective in some industries. Motohashi (2003) wrote that the Japanese relational model, which tend to stress information sharing, is effective in sectors, such as automobile, where different divisions are highly complementary in the decision making process and *suriawase* (coordination) is required. But in sectors such as electronics where the degree of modularity increases and the speedy innovation is required, coordination in this relational model becomes and obstacle and does not work well. Referring to Nonaka and Takeuchi's SECI model, Motohashi also noted that Japanese firms are relatively good at externalizing (creation of formal knowledge from tacit knowledge) and using tacit knowledge, but they do not make effective use of formal knowledge outside the company, and are thus especially weak in the area of combination, such as productive development in cooperation with outside organizations. This suggests that there have been a shift in comparative advantage, such that there are now sectors of the economy where the Japanese model still continues to offers comparative advantage, and

sectors where it does not. To be able to compete successfully in modularized industries, it is important to formulate a corporate strategy that stresses speed and collaboration.

3.5 Shift in Required Skills and Skill Formation

Shifts in comparative advantage also imply a shift in required skills, but skill formation depends on the skill regime of the country. Coordinated market economies (CME) such as Japan tend to have highly skilled employees with task-specific or industry-specific skills working with low-risk institutional contexts such as life-time employment, with high social and employment protection. They are therefore more likely to be able to support organizational strategies requiring incremental improvements to product lines provided by contributions from employees throughout the organizational hierarchy. On the other hand, in liberal market economies (LME) where radical innovations are critical, competition is often cost based, and first mover advantage plays an important part in firm success. Employment security and protection tend to be much weaker in LMEs, but in turn institutional structures support the development of portable and generic skills.

In many industries where radical innovation is a required key competence, having a CME skill regime may be a handicap because innovation is often incremental. Hall and Soskice (2001) argued that national institutional environments differ in their capability to meet organizational demands for radical or incremental innovations. Regarding CMEs,

Whitley et al. (2003) wrote that:

> Firms that encourage key staff to develop organization-specific, generalist, skills and knowledge through long term careers, as in Japan, find it difficult to attract and retain highly skilled specialists who seek to enhance their generic competences on external labour markets. … Developing new organization-wide capabilities through incorporating the knowledge and skills of overseas subsidiaries into novel managerial routines is more problematic. … This also suggests that companies with generalist career structures may be at some disadvantage in industries primarily organized around project teams composed of specialized experts in highly fluid labour markets.

So to what extend are these claims true? And if true, are firms aware of such shifts in comparative advantage and required skills? The 16th Corporate White Paper (2009) of the *Keizai Doyukai* still states a strong bottom-up frontline-ism based on long-term employment and relational trust to be their major core competence. But many firms and institutions including the METI are acutely aware of areas where the Japanese model no longer works well, especially areas that have ceded substantial global share in recent years.

Yanagawa et al. (2009) attributed the limitations of the Japanese model to an over reliance on firm specific skills. They argued that having exceptional proprietary skills is insufficient if the firm is slow in bringing the product to market, and if prices are not competitive. Although many Japanese firms claim to have strong firm specific skills, which in themselves are not always related to productivity, they often lack professional or industry skills that are required to complement firm specific skills. This is worrisome, especially in

light of Japan's ageing population, more innovation and value-added activities are needed to raise Japan's TFP.

Column: Japanese Firm Specific Skills

I hope the reader will excuse me for dwelling on the issue of skill. But I can justify the need for doing so because understanding "Japanese firm specific skills" helps one understand how companies perceive capabilities and competencies. For if a corporate group and its subsidiaries are regarded as having competitive advantage, because of the firm specific skills that employees develop over the course of their career under long-term employment, what then are these skills?

Except for manufacturing technicians, most managerial white collars' skills are quite general and broad in nature, even though they are often labelled as firm specific. Busemeyer (2009) wrote that in the case of Japan, firms engage in the formation of broad occupational skills and try to reduce labour mobility at the same time. Japan's firm-based skill regime is Williamsonian rather than Beckerian, in that it is firm-specific in the sense of more bilateral dependency rather than narrower and fewer skills. Bilateral dependency arises for the firm because the worker could leave and try to sell his or her skills to another employer. The worker on the other hand, depends on the firm's willingness to value his or her investments in specific skills by paying higher wages.

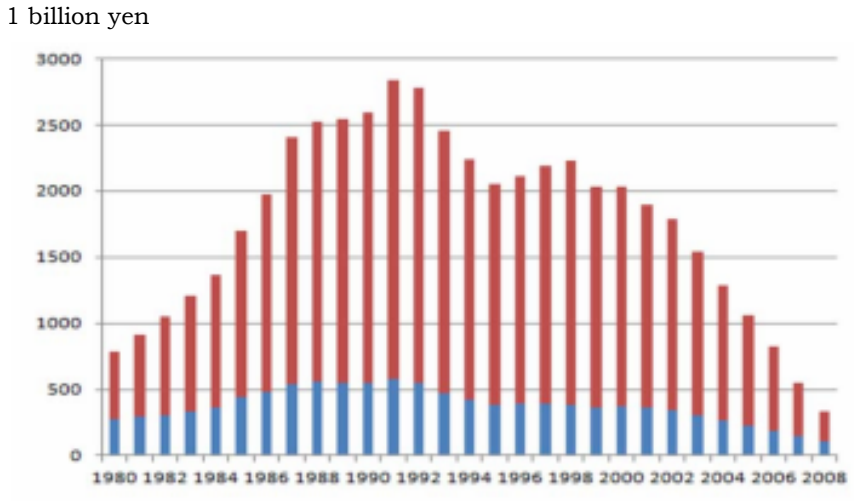
This bilateral dependency can perhaps be easier to understand if we see it as a case of adverse selection, Asao (2004) posited that because of information asymmetries, the market wage is often the weighted average of talented skilled workers and poorly skilled workers, such that the former would prefer to remain in the company rather than accepting the average market wage, and thus leaving the market with workers of poorer quality. Because the company is able to benefit from this surplus as long as wage is below marginal productivity, the company will have the incentive to invest in both firm-specific as well as general skills. Two equilibria emerge as outcomes of information asymmetries concerning the quality of workers. One in which there is high labour mobility and under-investment in skills (because when mobility is high, the risk of workers leaving with skills invested by the firm will also be high), and another in which there is low labour mobility and a high level of investment in skills.

One would have assumed that in a generous welfare state like Japan, workers will be more willingness to invest in more firm specific skills, because social security mitigate the labour market risks associated with investments in firm specific skills that has little market value. With such reduced risks however, it would also be easier for workers to change jobs, such that higher levels of labour mobility lower firms' willingness to invest in training. But in Japan, the life-time employment provided by firms, acts as providers of social security, and such predominance of company based welfare policies has prevented the emergence of a

generous welfare state (Miwa 2006, Yanagawa 2009). This may explain why Japan's firm-based skill regime is Williamsonian

With the two equilibria that can be expected from the bilateral dependency of Japan's firm specificity, it appears that equilibrium has tilted somewhat towards higher labour mobility and under-investment by firms in general skills. Under-investment by workers in general skills also causes firms too to reduce investment in firm-specific skills because of the complementarity nature of both skills. According to statistics from the Cabinet's Office[3], firms appear to have reduced investments in OFF-JTs as shown in Figure 7.

Figure 7. Investment in OFF-JT by firms (Manufacturing and non-manufacturing combined)



Source: Cabinet office statistics report 2012

But it is not just mobility that has caused firms to cut back on OFF-JT investments. Much has to do with many firm's HR practices. Heavy emphasis was placed in the 90s that employees are to be responsible for their own skill development, and it was considered ideal

[3] Working Group Report on the State of the Japanese Economy and Policies, Document 2-2, p.5

that employees should invest in portable skills that they could use when they consider changing jobs. This was also a period when long-term employment was being criticised. But presently, according to the Ministry of Health, Labour and Welfare's 2012 annual skill development survey, firms are beginning to have employee develop skills based on their job skill requirement and the firm's strategy. In other words, firms are beginning to have employees develop skills through perfecting the work, and through experiencing and thus perfecting multiple kinds of work. Whether companies can succeed in training their employees and equipping them with required skills will be extremely crucial not just to the companies but to Japan's economy as a whole.

Earlier we discussed how comparative advantages have changed, and how different kinds of skills and capabilities are now required. So how are Japanese firms equipping themselves? The Ministry of Health, Labour and Welfare's report revealed that 68% of companies have problem with human resource and skill development, and that problems lie in both training and in evaluating skills.

So although this paper concerns the control and coordination of subsidiaries, it should be borne in mind also that coordination outcome ultimately depends also on how equipped employees are in the skills that are required in order to sustain and enhance competencies. A research by Sendai, Park and Hirano (2011) showed much depends on HR management practices, but that will be beyond the scope of this research.

4. Why do Corporate Groups Exist?

This chapter addresses the question of "why do corporate groups exist?" by looking at several related theories such as the transaction cost theory, the property rights approach, the resource based view, and the contingency theory based view. This question is important because it addresses the phenomena and economic rationale of Japanese corporation's use of the parent-subsidiary governance mode, and relates also to the second research question concerning the management of subsidiaries.

4.1 The Coasian Question Revisited – Transaction Cost and Boundary of the Firm

Firms exist because it is costly to use the pricing system to coordinate economic activity. Ronald Coase (1960) and Oliver Williamson (1985) highlighted costs – such as cost of finding transaction partners, cost of negotiation and renegotiation (because most contracts are by nature incomplete), cost of writing and enforcing contracts - involved in using the pricing system, and the role organizations play in reducing transaction costs. Coase's model shows that when the external transaction costs are higher than the internal transaction costs, the company will grow. This can be seen as a market failure situation where market governance is replaced by hierarchical governance. If however, the external transaction costs are lower than the internal transaction costs the company will downsize by outsourcing. By doing so, the company can reduce the cost of coordinating between divisions.

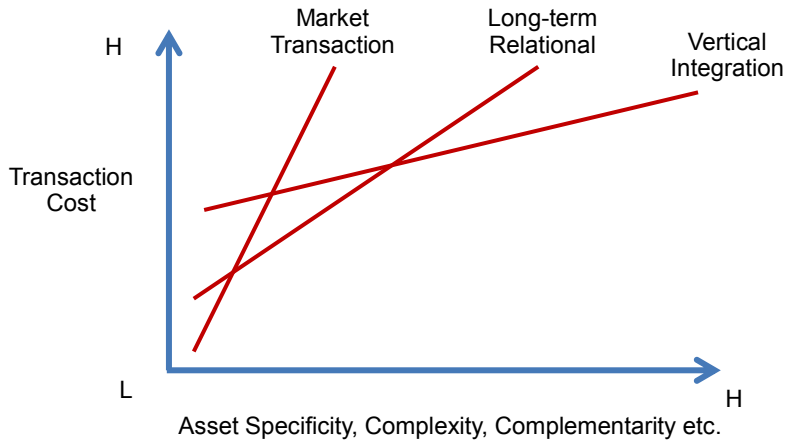
For Williamson, the existence of firms derives from asset specificity in production. Firm

specific assets cause problems if the assets are owned by different firms because both agents are likely to be locked into a position where they are no longer competing with a number of agents in the market, such that ex-post opportunistic behaviour may arise. Transaction costs may further increase if the transaction concerned is complex and bears uncertainties, such that re-negotiation may be necessary. Where transaction costs are deemed to be high, firms will have the incentive to save transaction costs by having full ownership over those firm specific assets through vertical integration.

The fundamental choice among governance mechanism is whether to externally organize transactions outside the boundary of the firm in the market, or whether to internally organize transactions within the firm's boundaries.

In transaction cost economics, the mode of governance reflects the type of transaction. For transactions that are of high frequency and long periods, that are complex and have high uncertainty, that are hard to evaluate and measure, that are related to other assets and production such that changes require difficult coordination beyond firm boundary, relational contract or in-house transaction is often the preferred mode of governance. This relationship between the modes of governance and the types of transactions is shown in Figure 8 below.

Figure 8. Asset specificity, transaction cost and mode of transaction



In real life situations however, firm boundary is often less straight forward and can be quite complicated. An empirical research by Shinya (2008) on car manufacturers in Japan showed for example that correlation between complexity and vertical integration can be both positive and negative depending on the issue at stake. Increased complexity in car manufacturing and assembly increased coordination costs with suppliers of auto parts and this caused car manufacturers to further integrate, thus conforming to the Coasian expectation. However, increased complexity also caused some manufacturers to reduce integration and rely more on specialized suppliers. Some manufacturers respond to increased complexity by switching from specialized parts to standardized and modularized parts that can easily be specified and evaluated, thus reducing transaction costs.

The issue of firm boundary become more complicated when we consider a corporate group in which the parent-subsidiary relationship can be quasi-market like but yet maintains formal or informal ties to the corporate hierarchy. A subsidiary can behave like a virtual internal department taking orders from the corporate group headquarter, or it can be involved

in a long term relational contracts, or it can be treated by the corporate headquarter as merely one of many suppliers in the market.

In addressing the economic rational of using subsidiaries by Japanese corporations, K. Ito (1995) posited that this form of governance balances two transaction costs simultaneously. This is because if the parent has complete control over the subsidiary, it may restrict productivity and hinder growth of the subsidiary's highly promising business. If, on the other hand, the parent chooses market transaction, costs may become prohibitively high. Quasi-market transactions with subsidiaries therefore balance the costs associated with market transaction and costs associated with the hierarchy.

Although Ito analysis explains the economic benefit of using a spinoff subsidiary, which is defined as "a firm that is partially owned by the parent, but independently managed and sometimes listed on the various stock markets", this idea of balancing transaction costs can be expanded and used to explain the economic rationale of other types of subsidiaries.

For example, if the subsidiary is a manufacturing unit that supplies machine parts solely to its parent company, such that the relationship requires more control than an individual business spinoff subsidiary, the rationale could perhaps then be to balance the cost of transferring tacit knowledge, which may be cheaper inside the firm, and labour costs, which may be cheaper outside the firm.

4.2 Property Rights Approach

Closely related to the transaction cost approach described above is Grossman and Hart (1986), and Hart and Moore's (1990) property rights approach, which also sheds light on why firms would form corporate groups and have ownership over subsidiary companies. When it is too costly for one firm to specify in a contract a long list of specific rights it desires over another firm's assets, it may be efficient ex ante to purchase all the rights except for those specifically mentioned in the contract. Ownership is the purchase of these residual rights

According to their theory, ownership matters when the relationship specific investment is important, and when there exists different opportunities in utilizing firm assets and relation specific assets. If the parent company of a 100% owned subsidiary has claims to its residual returns, the parent will have the incentive to invest in and provide training to the subsidiary. If it is not a subsidiary, such investments in training would be economically inefficient as it would only increase the seller's quasi-rent. Also when there is uncertainty or when the contract is incomplete (as most contracts are), resource allocation can be more efficient by having residual control rights over various asset utilization options.

Thus if returns on relation specific human assets are high, the parent company will choose to own and use its subsidiary. If on the other hand, returns are lower than returns from general human assets, the firm will outsource. It is important to note here that relation specific human assets such as management and employee skills create value only when they are used in conjunction with related assets. Whether or not to own such related assets

depends on whether they are independent or strictly complementary. When the related assets (e.g. retail stores and delivery system) are independent, it is desirable for each firm to own their specific assets (e.g. marketing and product development capability), because if one party takes over ownership of all assets, the merged party, seeing any further investment as action that would increase the other party's quasi rent at its own expense, may cease to invest in relation specific assets. In other words, it can distort incentives and create efficiency losses sufficiently to make common ownership harmful. On the other hand, when it is desirable for one firm to own both sets of assets, the assets are not independent, and owning the assets will increase the value of the firm's relation specific investments. Thus for a merger to be effective, assets have to be strictly complementary. Assets are strictly complementary when, without employing both assets, relation specific assets do not create value.

In his analysis of Japanese subsidiaries, K. Ito (1996) posited that ownership is good only when the parent's control increases the productivity of management more than the loss of control (by the subsidiary) decreases the productivity of the subsidiary's management, and that the quasi-market, which balances ownership, is effective if there are potentially high costs to allocating control rights exclusively to one party. However when situations (such as a conflict of interests between shareholders that slows down the parent's strategy execution) occur that makes such a balance impractical, a sell off or a 100 percent ownership may be preferable

Although it would appear that ownership provides residual rights of control, and therefore enlarges the range of actions open to the owner company, it should be noted also that the owner cannot commit itself to intervene only selectively in its subsidiary's operations since by their very definition, residual rights refers to powers that cannot be specified ex ante. Integration can therefore impose costs as well as benefits.

4.3 Resource Based View

While market failure explains the existence of the firm, the resource based view posits heterogeneous firms as the outcome of certain types of market failure, and thus helps management on the choice of governance structure (Coase 1937). Productive activity requires the cooperation and coordination of teams of resources, and routines are to the organization what skills are to the individual. Organizational routines involve a large component of tacit knowledge (Grant 1991). Organizational routines are firm specific assets assembled in integrated clusters spanning individuals or groups so that they enable distinctive activities to be carried out. Dynamic capabilities refer to the firm's ability to integrate, build and reconfigure internal and external competencies to address rapidly changing environments (Teece 1997). Managers, when building core competencies, decide whether to make or buy needed inputs (Prahalad and Hamel 1990). Competencies should be durable and inimitable; in other words they should not be transparent, transferable and replicable (Grant 1991).

The incentive based transaction cost theory has been made to carry too much of the weight of explanation in the theory of organizations. Langlois and Foss (1997) pointed out that this tends to "reduce virtually all problems of economic organization to problems of misaligned incentives attendant on imperfect information." In what they called generically the "capabilities view", they added two theoretical avenues to the incentive alignment approach. One is the possibility that knowledge about how to produce is imperfect, and the second is the possibility that knowledge about how to link together productive knowledge with that of another is also imperfect. They proposed that the fundamental role of an organization is to help cooperating parties to align not just their incentives, but also their knowledge.

Indeed, individuals and organizations are limited in what they know how to do well, and in a world of tacit knowledge, having the same blueprints as one's competitors is unlikely to translate into having the same costs of production. Knowledge is also not universal because of social embedded-ness. A key implication is that capabilities may be an independent causal factor determining what will be done in the organization and what by the market. Because of cognitive constraints, all organizations need to specialize, and the costs of integrating across diverse capabilities in many links may become so high that on the whole, the limitations of capabilities may outweigh transaction costs. Foss (1996) however added that there is a clear complementarity between the incentive theory and the capabilities view. The full realization

of the rent-yielding potential of capabilities requires for example, “incentives that harmonize the actions of resource owners and provide stimuli to invest in the accumulation of human capital.”

Capabilities are not bound to individual input-owners but are tied to clusters of interacting input-owners. Tacit knowledge makes trading of capabilities difficult, and this may explain why capabilities may determine the boundaries of firm. The organizational question is whether new capabilities are best acquired through the market, through internal learning, or through some hybrid organizational form. It is however not easy to discern the extent to which firms consciously draw their boundaries based on capabilities. The statistics below on Japanese firms show a rather meshed picture of make or buy.

The METI 2007 White Paper, which collected data from a sample of 140,000 firms in the manufacturing industry, shows that there are multiple layers of transactions. 773 firms listed in the first section of the Tokyo Exchange have transactions directly or indirectly with around 80,000 firms (directly with 40,880 first tier firms, directly or indirectly with 29,305 second tier firms, and 12,032 with third to sixth tier firms). Depending on the manufacturing sector, the internal transaction rate within this vertically integrated chain ranges from 33% to a high 86%, with an average of 57%. The data however does not show the number of subsidiary companies within the tiers, though it is reasonable to assume that they include both subsidiaries and non-subsidiaries.

Looking also again at the annual Basic Survey of Corporate Activities (*Kigyou Katsudo Kihon Chousa*) conducted by METI as of 31st March 2012, in which data were collected from 29,570 firms, 45.1% of the surveyed firms reported outsourcing for manufacturing, and 43.7% for purposes other than manufacturing, while roughly a third (33.6%) replied that they do not outsource. Areas of non-manufacturing outsourcing are shown in Table 5 below.

Table 5. Percentage of firms that outsourcing for the following activities:

Logistics	46.7%
Environment and Security	44.3%
Specialized areas such as accounting and tax	35.6%
Information systems related	35.1%
Routine general office work	24.9%
Employee training	18.8%
Employee welfare and fringe benefit related	12.8%
Survey and marketing	11.8%
Design and product development	11.1%
R&D related	10.8%
Public relations	4.9%
Others	24.0%

Of the total amount paid for manufacturing outsourcing, 39.9% (36.2% domestic, 3.7% overseas) were paid to affiliated companies. For non-manufacturing outsourcing, 35.5% (33.0% domestic, 2.4% overseas) of total payment were made to affiliated companies. It appears that for the same kind of activities, there is a mixed usage of both outsourcing and affiliated companies.

The question here that requires further investigation is whether the use of subsidiaries is arbitrary. Is the alignment of knowledge, and especially tacit knowledge, specific to corporate

groups but not to business group settings of companies and their relational transaction-based long-term suppliers? Japan has been renowned for its cooperative capitalism, and companies for their strength in *suriawase* or co-production through sharing of tacit-knowledge. Yet it is arguable that subsidiaries, because of the roles they fulfil within the production value chain, may be more important or require more tacit knowledge in coordinating with the parent company or other subsidiary companies within the corporate group. The costs of sharing and transferring tacit knowledge and of coordinating activities may be one of the factors that determine what will be done within the corporate group and what by the market.

4.4 Organizational Design Perspective – Contingency Theory Based View

Contingency theory posits that there is no best way to organize a corporation, and that the optimal course of action is contingent upon the company's internal and external environment. The organization of production activities into a corporate group system consisting of a parent company and its subsidiaries can be understood as a matter of organizational design in response to existing environments. Kali (2002), for example, posits that activities are more costly to measure subjectively the farther they are located from the core firm, and that organizational design is often tailored in response to the best relational contract. Enright and Subramanian (2012) wrote that the types of subsidiaries and their roles within a corporate group have often been regarded by researchers as second-order effects deriving primarily from an overall strategy choice.

Delegation to Subsidiaries Contingent upon Complementarity

Another organizational structure approach can be seen in the analytical framework of Aoki and Okuno (1996). According to their model, where different operational divisions are highly complementary, the most advantageous institution is one in which the different divisions engage extensively in information sharing while devolving decision-making power to the level of shop floor. On the other hand, where different operational divisions ate not highly complementary, and where it is not necessary to invest in coordination, the most advantageous institution features centralised top-down decision making.

Subsidiary as a means to solve incentive and commitment problems

In response to a need to motivate business units to invest in their specialized areas of business, hiving-off business units into subsidiary companies is a strategy that can be used to solve incentive problems that often accompany decentralization. A CEO, in his or her desire to induce employees to make firm specific investments, may delegate power to employees, but then the CEO may also renege on his or her promise, and interfere ex-post with the decisions made by the employees. The employees, foreseeing this ex-ante, will lose incentive to make firm specific investments. Ito, Kikutani and Hayashida (1997), posited that one way to resolve this type of incentive problem is to reinforce commitment by hiving off departments or business units into separate legal entities such as subsidiary companies. Hiving-off increases independent-ness and accountability of the subsidiary turned business units, and also speeds

up decision making, which is often required in fast changing business environments.

In their empirical study, a field research was done on six large corporate groups, and a survey on 849 manufacturing firms. The survey results (see Table 6 below) show reasons corporate groups give for hiving out, and it can be observed that many firms actively use hiving-off strategies to enhance incentives.

Table 6. Reasons for Hiving-off

1. To specialize and allocate resource to on business with growth potential	51%
2. To strengthen management of the corporate group	41%
3. To separate businesses and transactions of different nature	21%
4. To be clear about responsibility and accountability	20%
5. To slim down parent company as part of restructuring effort	19%
6. To expand manufacturing and sales to other regions	18%
7. To facilitate business with firms outside the corporate group	18%
8. To enhance power delegation	13%
9. To secure employment	12%
10. To reduce labour costs	11%
11. To confine risks in new business venture to the subsidiary	10%
12. To implement labour practices that are different from that of the parent company	10%
13. To separate unprofitable businesses	3%
14. To benefit from tax and finance	2%
15. Other reasons	11%

Source: Ito, Hayashida, Kikutani (1997)

This incentive based theory, which posits that management's intervention ex-post may destroy ex-ante incentives, is same as the premise K. Ito' used in the arguments described earlier in sections 4.1 and 4.2, in which the loss of control is said to be balanced by using the quasi-market transaction.

Based on another survey which was conducted in 2007, Aoki and Miyajima (2011) showed the preferences companies have towards internal organization versus completely owned subsidiary. The results are summarised in Table 7 below. Companies appear to

recognize the merits of using subsidiaries for being able to make possible the usage of multiple and hence flexible wage patterns, enhance responsibility and accountability, speed up decision making thus making it possible to respond more quickly to customer demand and market conditions. On the other hand however, companies appear to favour internal organizations because coordination of activities across departments is easier than coordinating with subsidiary companies. The results show that there is a trade-off between the benefits of decentralization and control losses in the choice of organizational architecture.

Table 7. Merits of using internal organization versus completely owned subsidiary

(Merits of using subsidiaries)	n	Internal	Subsidiary
Flexible usage of labour cost structure	167	7.2%	64.1%
Clear accountability, monitoring costs	169	13.6%	42.0%
Speed in decision making	169	21.3%	42.0%
Quick response to customer market demand	169	12.4%	41.4%
(Merits of using internal organization)	n	Internal	Subsidiary
Consolidated basic strategy	169	53.3%	8.3%
Coordination between organizations	168	48.8%	14.9%
Ease of HR transfers within organization	169	47.3%	17.2%
Synergies between business units	169	33.1%	7.1%
Ease of business restructuring	169	32.5%	27.8%
Utilization of production facilities	166	25.9%	12.7%
Efficient allocation of finances	169	25.4%	10.7%

Adapted from Aoki and Miyajima (2011)

Subsidiary as a response to diversification

From the above survey data, Aoki and Miyajima also investigated the drivers of decentralization. Using the level of decentralization as the dependent variable, and diversification, globalization, organization structure as independent variables, controlled for company size and industry sector, they conducted an OLS regression. The model showed that

of the independent variables, diversification (entropy index) best explains (at 1% significant level) what drives companies to delegate power to business units. A similar model was established to test power delegation to subsidiary companies. Again, decentralization is used as the dependent variable, whilst globalization, group formation and organization structure were used as independent variables, controlled for company size and industry sector. Here too, results show that diversification explains (at 5% significant level) power delegation to subsidiary companies.

However, rather contrary to expectations, the relationship between the level of group formation and power delegation was not identified. This may however be because the *rentan* ratio (consolidated revenue divided by non-consolidated revenue of the parent company) was used to operationalize the measurement of group formation. The use of *rentan* ratio as a measurement of group formation is appropriate only when most of the subsidiaries are individual revenue generating businesses different from the parent's core business. However, subsidiaries may also be functional in the sense they are suppliers within the value chain of the parent's core business. It is possible that a large corporate group may have expanded to have hundreds of functional subsidiaries, but yet have a low *rentan* ratio.

Following Aoki and Miyajima's empirical finding that diversification drives power delegation, I wanted to verify also that diversification drives group formation measured by the number of subsidiaries. One would expect that with greater diversification, the company

may need to delegate power to business subsidiaries to enable quicker decision making and to allow the subsidiary to develop its own management mind-set that is appropriate to the business. And if diversification concerns manufacturing units that are new to the parent, the parent may want to use its subsidiary to develop specific production knowledge that is different from that of the parent company. I analysed 28 corporate groups in the manufacturing sector, and the results, which are given in Appendix 1, show that there is a strong positive relation between diversification and group formation.

Performance of Hived-Off Subsidiaries

In a recent survey on 3,444 companies, Morikawa (2012) described that 60.8% of the companies that have used hiving-off strategies gave clear accountability and responsibility as their reason. 27.3% gave quicker decision making, 21% gave cost reduction, and 19% gave sales expansion as their reasons. When asked whether performance has improved after hiving-off business units into subsidiaries, 2/3 of the companies replied that “performance has improved” or “performance has generally improved”.

Another organizational structure approach can be seen in the analytical framework of Aoki and Okuno (1996). According to their model, where different operational divisions are highly complementary, the most advantageous institution is one in which the different divisions engage extensively in information sharing while devolving decision-making power to the level of shop floor. On the other hand, where different operational divisions ate not highly

complementary, the most advantageous institution features centralised top-down decision making.

Subsidiary as a Means of Fulfilling the Community Firm's Commitments.

In Chapter 3 we saw that the community aspect of Japanese firms has remained resilient despite adaptive response to changes in business and institutional environment. Although a corporate group is not exactly an internal labour market where information is complete and where staff talent and staff needs are matched efficiently. As Dore (2000) described, "The so called internal labour market is internal but not market as people are posted by HR rather than through competition for vacancies."

Subsidiaries are often used as a means to absorb the parent's labour. This is not necessarily because labour is redundant, but because within the community firm, it is necessary to find positions for competent employees in subsidiaries when positions available are limited. As K. Ito (1996) describes, many subsidiaries are created as "places to reallocate some employees from the parent firm … This occurs because there is a limited number of available positions at upper management levels in any organization."

This practice of reallocation is also related to the embedded presumption that these elite and experienced generalists are competent employees. But as firms diversify to unrelated businesses, in which these firm specific generalists have little knowledge of, especially as these generalists are often former division managers with the parent's mind-set and logic,

rather than corporate officers equipped with management experience and competence required for the business, this community-purposed reallocation may cause serious problems to the subsidiaries concerned.

In this chapter I have shown some of the major theories and empirical research from existing literatures that can be applied to explain why subsidiaries exist and why they are preferred to market transactions as well as to internal business divisions. We looked at how a subsidiary's quasi-market transaction can be used to balance high transactions costs in using the market and high internal costs that hierarchical transaction incurs. We looked at the importance of owning subsidiaries and hence residual rights when there are multiple opportunities in using the assets and when there is uncertainty and incomplete contracts, and also when residual returns on relation specific human assets are high, which then motivates the parent to invest in such assets. Returns however depend on whether the related assets are independent or complementary. Here again, a quasi-market is effective if there are high costs to allocating control rights solely to one party. We looked also at how tacit knowledge which is costly to transfer, and which may outweigh transaction costs, can determine whether activities should be performed within the corporate group or outsourced. And finally, we looked at how the design and choice of organization are contingent upon internal and external environments.

Although the theories and empirical literatures that I have referred to in this chapter

are not exhaustive, I believe they are sufficient in highlighting, at least from an economic rationale point of view, the intermediary characteristic of subsidiaries that lie between market and in-house transaction, and ways in which firms take advantage of this characteristic to optimize their organization contingent upon existing internal and external environment. In the next chapter, I will address the question of how corporate groups manage their subsidiaries by looking at the major theories and existing literatures.

5. How are Subsidiary Companies Managed?

In the previous chapter, we looked at the question of why firms form corporate groups and their economic rationale for doing so. One suggested reason is that the use of subsidiaries balances internal and external transaction costs simultaneously. This rationale is very much related to the second research question and the topic of this chapter, and that is how are subsidiary companies being managed? For the economic rationale to hold, the benefits of owning and managing subsidiaries have to outweigh the costs of doing so. Managing one company is hard enough, so the idea of managing hundreds of subsidiaries and coordinating their masses and masses of activities sounds like a daunting and highly costly task. But yet the management of subsidiaries is being performed daily by the many large corporate groups we see around us in Japan. How do companies do it?

In this chapter I will be looking at various aspects of subsidiary management. A large and diversified corporate group will need to delegate decision rights to its subsidiaries, because it would be slow and prohibitively costly to make all decisions centrally. However, delegation incurs control loss, and the parent will therefore have to decide on a level of delegation that is optimal. Other management issues include coordination of activities, especially when what the subsidiary performs is integrated into the production value chain of the parent company, in which case delegation will have to be balanced with appropriate control. Monitoring of performance may vary in frequency and detail, and evaluation criteria may be financial or non-financial as in the case of product and service quality, There is the

issue of conflict management, such as when the parent and subsidiary face different pressures and have conflicting interests. There also needs to be some form of self-enforcement to allow members within the group to act coherently. I will look at each of these aspects and see how academic literatures have addressed them.

5.1 Delegation of Power

The several empirical studies that were mentioned in the previous chapter illustrate the trade-offs that exist in choosing between internal organization and subsidiary companies. With increasing globalization, diversification, complexity of business activities, and a need for greater accountability, as well as a need to develop core competencies that fuel growth in new businesses, many firms choose to decentralize decision making by delegating power to subsidiary companies.

However, there are costs and benefits related to decentralization. Mookherjee (2005) wrote that costs of communication and information can be lowered through decentralization, but this may lead to power abuse and loss of control. But with some departures from the revelation principle, Mookherjee showed that incentive problems can be overcome by judicious design of a delegation arrangement. Conditions for delegation to be optimal are (1)Observability of subcontract costs or allocation, (2)Top-down contracting, and (3)Risk neutrality and absence of limited liability constraints. In the absence of these incentive problems, coordination across different units can be achieved by a hierarchical

communication system that resembles a management accounting system. A parent company can for example contract with Subsidiary X to select profit targets. Subsidiary X report costs or bid on projects to its parent company after receiving cost reports from its subordinate Subsidiary Y. The parent company then could aggregate all information and make output decision that would again flow down the hierarchy to its subsidiaries. Mookherjee posited that any hierarchy that is consistent with the above conditions can achieve the same expected results as the optimal centralised outcomes. However, the conditions that are described for achieving optimality of delegation are very restrictive. Nonetheless it is interesting to note that this technology described by Mookherjee resembles very much the kind of bottom-up planning known as "*tsumiage*" used in many Japanese companies, where lower layers of the hierarchy report budget plans, which would be used by the subsequent layer to report to its next higher layer, whilst all the budget targets are based on instruction given by top management..

Delegation however involves incentive costs and if they are substantial, the choice between centralization and decentralization will involve trade-offs between incentive costs of delegation (or loss of control if incentives fail) and benefits of delegation such as communication, information processing and flexibility of production decision.

Another useful insight worth noting is the superiority of decentralization in obtaining local information which cannot be accessed by a central mechanism. This is because of

information restrictions. Mookherjee reasoned that if upper bound on the size of message space is not large enough to permit agents to communicate everything they know, centralized decision making cannot access all the information that delegation mechanism utilizes.

But to certain extent this restriction applies to a delegation mechanism as well. The bottom layer may have masses of information, but as the information move up the hierarchy, they become more selective because of size restriction, such that the top layer could only have access to a very abridged version of all information. In the course of selection, it is also possible that selection error will occur such that important information fails to be transmitted. Knowing what information to select and process is a very important coordination issue. Because of such information restriction, it is important firstly, to delegate decision rights to an appropriate level in the organization which has the capability to act according to the management's intention whilst making use of local information to improve decision making, and secondly, to maintain a system that ensures the quality of information that flows up the hierarchy to the management.

The optimal location of decision rights also involves a trade-off between agency costs (in shifting the decision rights to the individual who possess the knowledge) and knowledge transfer costs including delays (in moving information to the individual who possesses the decision rights). In their empirical research, Zoghi and Mohr (2007) identified that size is strongly related to decision rights. In larger establishments where information transmission

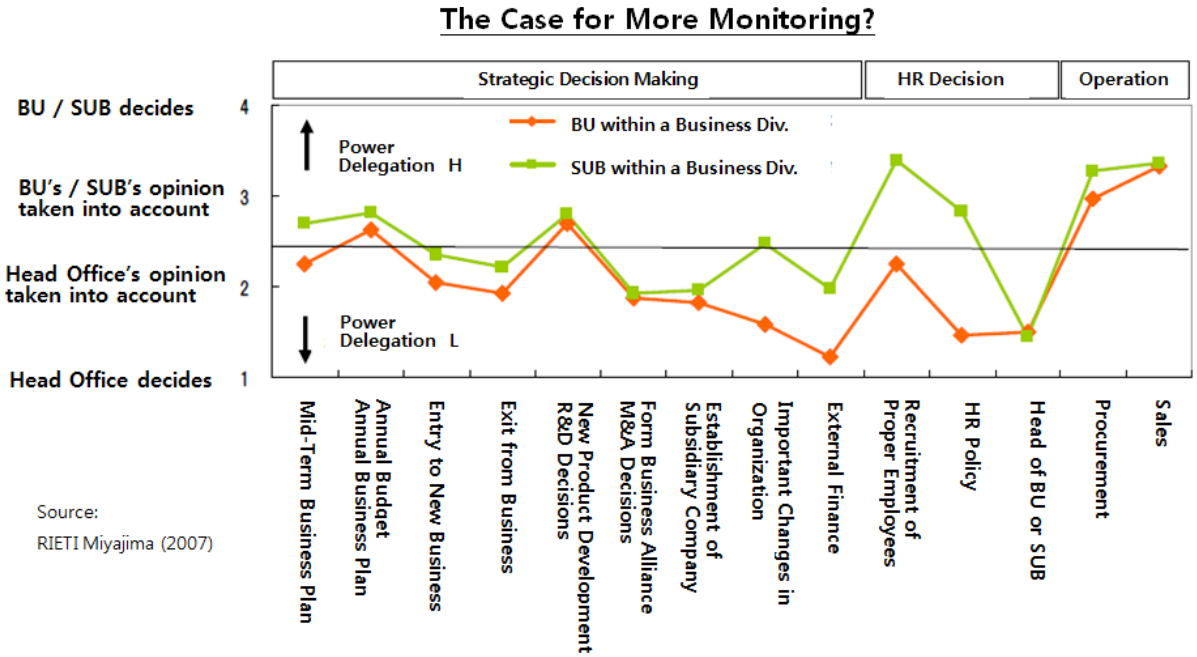
can be much slower, decisions are more likely to be delegated. There is however difference in types of decisions that are particularly likely to be decentralized. There are firm characteristics such as firm size and complexity of required knowledge that increase how long it may take to make decisions, and firm characteristics such as inability to monitor workers that increase agency costs. There are also characteristics such as strong unions and use of information technologies that affect both time taken in decision making and agency costs. These characteristics affect the choice of distribution of decision rights.

Given considerations concerning decentralization trade-offs, I now turn my attention to the degree of power delegation to subsidiary companies. All the companies that I have talked to have internal rules that define the level of power delegation that is allowed to subsidiaries. Ito, Kikutani, and hayashida (1997) showed in their empirical research that on average, the extent of power delegation (measured by survey data on whether the parent or subsidiary gets to make decisions) is greater in a parent-subsidiary setting than in a head-office-business division setting. Power delegation is also greater in cases where personnel connections are relatively weak (measured by percentage of board member and employee secondments and transfers from the parent company), where ownership by parent company is less than 50%, where subsidiaries use external finance, and for strategic decisions, where subsidiaries are horizontally instead of vertically integrated. The study also showed varying degrees of delegation depending on the activity concerned. For example, power delegation shows to be

higher in operational decisions than in strategic decisions.

A more recent empirical research was conducted by Miyajima in conjunction with the Research Institute of Economy Trade and Industry (RIETI) and the Ministry of Economy Trade and Industry (METI), in which 251 companies were surveyed. Consistent with Ito et al.'s findings, Miyajima also identified varying degrees of power delegation dependent on the activity concerned as shown in the figure below.

Figure 9. Comparison of power delegation to business divisions and subsidiaries



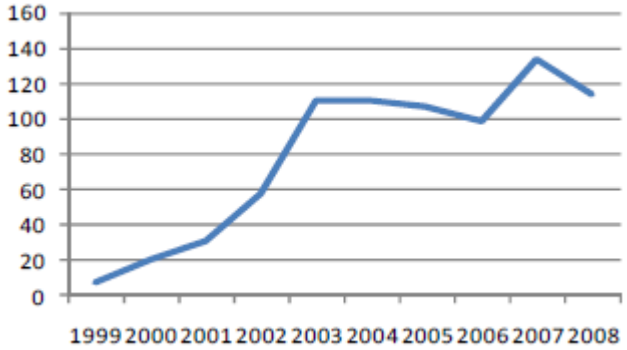
It can be identified from the above figure that subsidiaries have more autonomy than business units. But although subsidiaries have decision rights over HR (except for top personnel) and operations, many strategic decision-making still remain in the hands of the corporate head-office.

5.2 Complete Ownership

In Chapter 4, we discussed from a property right's approach that ownership of assets that are used in conjunction with relation specific human assets creates value when the assets complement each other, and that when there are high costs to allocating control rights exclusively to one party such as the parent company, using a quasi-market in the form of subsidiaries is effective because it balances increase in productivity though control against decrease in productivity through excessive interference.

Given that subsidiaries can be used as a means to balance control, it is interesting to note that the growth of companies forming or expanding subsidiaries appears to be accompanied by another phenomenon - that of increasing control over subsidiary companies by having 100% ownership as shown in Figure 10 below.

Figure 10. Cases of consolidation into 100% subsidiary



Source: Recof MARR Statistics

A survey conducted by Teikoku Databank, a company that specializes in collecting and analysing corporate data, showed that of the 649 companies that were delisted from the stock

exchange market in Japan for the period commencing from 2005 to July 2009, 341 (53%) was a result of parent companies acquiring full ownership of their subsidiaries.

This trend reflects the fact that there are situations that make a balanced control impractical. This may be because many parent companies need to take a leading role in restructuring businesses and in centralizing strategic decision making. As Kikutani and Saito (2006) have pointed out, the phenomenon is particularly interesting because many parent companies already have ownership in excess of 50%, but yet pursue to yield full ownership.

The implication of removing minority shareholders to gain freedom over the control of a subsidiary, is that firstly, where there are strong synergies between the parent's and subsidiary's businesses, there is a strong incentive for the parent company to have full control over the subsidiary. Secondly, where there are overlapping business activities, the parent may want to take the leading role in restructuring those activities so as to improve the group's overall efficiency. And thirdly, in addition to the above control reasons, there may exist, conflict of interest over the distribution of a residual profit. A parent company may want to withhold distribution of residual profit to the minority shareholders, and use the retained earnings instead to reinvest in growth.

5.3 Vertical and Horizontal Coordination

This section looks at the coordination systems that corporations use to manage subsidiaries. A theory that appears to match well with Japanese company practices can be

found in Owan and Kato (2011)* model that compares three information processing systems: vertical, horizontal and hybrid. According to their model, there are two types of information that affect the choice of optimal actions. First, there is systematic environmental information that affects the optimal action in each task systematically. For example, macro-economic conditions, emergence of new technology and changes in customer taste. Then there is also local environmental information that is observed only by those working on each task. Adaptation calls for the use of local information, and firms choose their information processing system that minimizes their total costs.

In what they described as a vertical control system, decision rights are retained in the hands of the management to coordinate perfectly among tasks at the expense of adaptation. When the systematic information possessed at the top is sufficient to infer the local information collected at the lower levels of organization relatively precisely, management will try to pre-specify both primary and complementary actions to minimize coordination losses. Management's instructions, however, are not necessarily understood correctly by their employees. There could be communication errors, distortion, or delay in implementation during which the environment may change. Workers may not use their discretion because they may not have adequate knowledge, and thus may not be capable of figuring out how they can improve upon the instructions of management. Had workers fully understood the production technology, they would have wanted to adjust the management's instructions

whilst using the local information they perfectly observe even with the hierarchical coordination in the vertical control systems. Such an arrangement is what Owan and Kato describe as the hybrid type coordination.

In the case of a horizontal coordination system, tasks are bundled and delegated to teams to enhance the capability for adaptation and achieve perfect coordination within teams. Firm optimally chooses degree of task bundling and multitasking and investment in communication quality (i.e. probability that worker will perfectly understand and take complementary action) given predetermined conditions (i.e. capability of training its employees for better workplace communication and team activities. This capability depends on the firm's pre-existing conditions such as labour management relations, corporate culture, adoption of multi-skilling practices such as job rotation, and quality of existing work force). Total adaptation and coordination cost includes expenditure for team formation, human capital investment, and horizontal communication. The management will choose to minimise this cost function. Employees in charge of the task do not necessarily choose the action that adapts to the environment perfectly, because it raises the cost of coordination failure that takes place when communications with other employees fail. The use of teamwork and communication channels will be more extensive as the importance of adaptation, the uncertainty of the business environment, and the firm's capability of team building and supporting horizontal communication are greater.

Management chooses higher degree of teamwork and higher investment in communication quality for greater importance of adaptation. Primary actions employees choose get closer to the true state of the environment to reduce adaptation losses as the importance of adaptation increases.

Horizontal coordination becomes advantageous when importance of adaptation exceeds a certain threshold. Delegating strategically or operationally critical decisions to lower-level employees is very unlikely when adaptation is less critical because the horizontal coordination system typically requires substantial investment in employee training and is not worth doing unless the adaptation effort generates sufficient return. As the technological and market changes become more disruptive as is the case today, primary actions and coordination responsibilities are less likely to be delegated to lower-level employees, because local information is less likely to be sufficient for the employees to engage in complex coordination activities in such occasions.

As systematic information becomes more important and labour-management communication involves less noise, the vertical control system becomes more desirable. On the other hand, as the pre-conditions that facilitate team formation and inter-team communication prevail, the horizontal coordination system is likely to be superior. Team organization is more likely to be adopted, and investment in horizontal communication channels to raise communication quality is likely to be greater, as adaptation to a new

environment becomes more important.

Although hierarchical structures are often perceived to be incompatible with delegation or team organizations, an increasing number of firms seem to try to combine the empowerment approach with the traditional hierarchical structure. In hybrid organizations, employees adjust their actions according to local information, after receiving instructions from management.

In a hybrid coordination system (i.e. a hierarchical and horizontal coordination within a vertical control system), workers adjust the management's instructions using the local information they perfectly observe. Adaptation and coordination losses are smaller in the hybrid coordination system than in the vertical control system because local information is utilized in the hybrid. However, the rationality required for employees in hybrid coordination system is higher than that required for those in the vertical control system. In the vertical system, employees only need to execute what is prescribed by management. In the hybrid system, employees have to predict what complementary actions their colleagues might choose and solve the cost minimization problem. Therefore only firms with capable employees and complementary practices can implement the hybrid coordination system.

The hybrid coordination system described above relates to what Aoki (2010) describes as Reciprocal Essentialities, which is a generic mode of organizational architecture where management and workers cannot increase their marginal products in the absence of the

other's cooperation. However Aoki presented four other generic modes, and posited that the extent to which either or both management and workers are essential can condition their relative bargaining power and hence their incentives to invest in their specific skills, If only one of them is essential, then the holder of those assets can gain bargaining power even without the cooperation of the other. And if task environments are different, then cognitive sharing mat not be worth the communication costs because the information is relatively unrelated. This idea of essentiality can likewise be applied to parent-subsidiary relationship and to the coordination to activities within a corporate group.

The overall knowledge required in a hybrid type coordination resembles also what was described in Tregaskis's (2010) case study of InksCo (a printing-inks business belonging to the chemical division of an oil company),

> "To control the product modification process any process changes had to be authorized centrally as only InksCo was seen as having the overarching knowledge about the product's capability. … Equally it was seen as InksCo's role to access the necessary country-specific product knowledge [from other subsidiaries] to ensure the effective functioning of global products."

In his case study of the strategic role of world mandate subsidiaries, although not phrased as vertical and horizontal coordination, he highlights the importance of such coordination and the capability of doing so.

As I will discuss later in the case studies, many Japanese companies exhibit having such horizontal and vertical coordination systems that are used alongside the delegation of

decision rights to subsidiaries.

5.4 Monitoring of Subsidiaries

Although subsidiaries are independent legal entities, Company Law and consolidated financial reporting in Japan deems it necessary for parent companies to monitor their subsidiaries and be aware of activities that may have substantial impact on the parent company. Shareholders may regard a failure in governance as a breach of duty of diligence by the board members, and legal charges may be brought against them or directly against the board members of the subsidiary concerned. Governance includes internal control systems such as proper delegation of decision rights, vertical and horizontal coordination systems and performance management systems as described in the above sections, as well as accounting and internal auditing.

The level of monitoring may depend on many factors such as the bargaining power between the parent and its subsidiary. According to the results of an analysis of over 500 samples performed by Ito, Kikutani and Hayashida (2003), monitoring tends to increase as the bargaining power of the parent increases, and decreases as the subsidiary's bargaining power increases. Their bargaining power depends on factors such as equity ownership, amount of transaction, dependency in finance, and amount of procurement. The result was also consistent with the theoretical expectation that subsidiaries that trade extensively with entities outside the group will be disciplined by the external market, and the parent will

reduce monitoring so long as there is no conflict of interest, and the subsidiary continues to invest in firm specific assets that are required by the parent. Governance and monitoring are not seen as uniform across all parent-subsidiary relationships, but as contingent upon their bargain power and the factors that affect them.

Although they did not distinguish between different parent-subsidiary relationships as Ito et al. did, their findings show that:

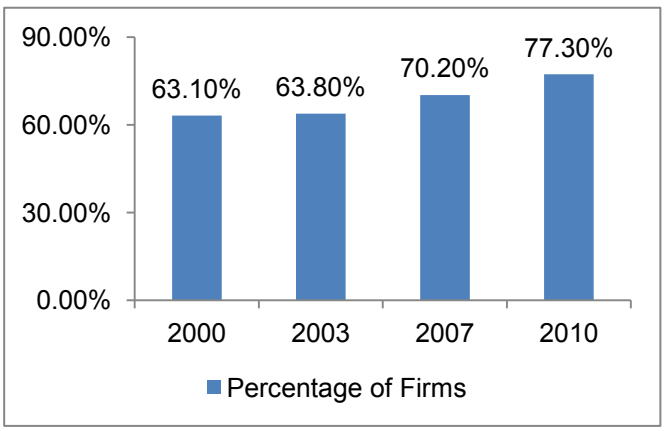
- There is negative correlation between size of subsidiary and frequency of BS/PL monitoring.
- There is positive correlation between size of subsidiary and strength of ex-post monitoring.
- Complementary relation between delegation of strategic decision making and monitoring (measured by frequency and strength) cannot be identified in governance of subsidiaries, thus indicating possibility of moral hazard and governance problems.

Despite growing number of firms forming corporate groups and delegating activities to subsidiaries, there appears to be insufficient performance monitoring by parent companies. An empirical study by Miyajima and Aoki's (2010) analysed the issue of dual agency (i.e. agency problems that exist between shareholder and top management, and also between top management and its business units and subsidiaries), and remarked that in light of the diverse and complicated business portfolio many corporate groups have today, the risks of severe information asymmetries, communication problems and dysfunctional strategic

decision making have become higher, such that in addition to conventional principal agent problems, there exists another layer of agency problems between top management and its business units and subsidiaries, that needs to be addressed. Their empirical findings show that the issue of dual agency is worrisome because the increase of delegation to subsidiaries has not been accompanied with an increase in monitoring (measured by instances of periodical performance monitoring), which should be needed to complement delegation.

However it may be arguable that using different measurements of monitoring, such as monitoring in terms of vertical and horizontal coordination or internal auditing instead of performance monitoring, may produce different results. Figure 11 below, based on the Institute of Internal Auditors Japan's survey data, shows a rise in the percentage of amongst the sampled firms that include subsidiary and related companies in their internal auditing. The emphasis of this section is that monitoring is one of many tools that a parent can use to control its subsidiaries.

Figure 11. Percentage of sample firms that conduct internal auditing on subsidiary and related companies



Source: Journal of the institute of Internal Auditors Japan No.6, 2011

Referring again to the legal responsibility of the board members to ensure appropriateness of corporate activities within the corporate group, it appears that many firms are placing more emphasis on subsidiaries in their internal auditing. Poor performance of a subsidiary can affect the share price of the parent company, and misconduct by a subsidiary can bring reputational damage to the whole group. And in either case, shareholders may bring charges against the management.

5.5 Managing Tension between Parent and Subsidiary

Managing conflict and tension between parent and subsidiary is also an important activity, not necessarily because conflicts are harmful, but because conflicts could bring improvements as well. Blazejewski and Becker-Ritterspach (2011) give a concise overview of the various different theoretical lenses that could be applied to headquarters-subsidiary conflict including:

(1) Contingency theory:

Firms face pressures for differentiation (such as local responsiveness) and pressures for integration, and the challenge is to find the right balance and trade-off in decision making while maintaining the balance between the two forces. Amongst the range of tools that can be used to manage conflicting pressures, emphasis was placed on the coordination mechanism of normative integration through socialization, in which managerial mind-sets are integrated. Managers need to be socialized in such a way that shared

understandings of the corporate group's broader purpose and goals are achieved.

(2) Agency theory:

Agency problems arise when agents take advantage of information asymmetries and pursue interests that diverge from the principal's goals. Agency problems can be reduced by applying monitoring systems and by designing contracts that are incentive compatible. Conflict also arises because headquarters and subsidiaries hold diverging information and perceptions about each other's level of competencies. Conflict generation can be countered by implementing context enhancing mechanisms such as frequent information meetings.

(3) Game Theory:

There are various types of games, and the mixed motive games corresponds well to the situation of subsidiaries and headquarters, where subsidiaries pursue local interests while at the same time share an interest in the corporate group's overall prosperity and survival. The dynamics of players having different goals are introduced through repeated games. Evolutionary game theory, which will be discussed in a later section, allows players to change their strategy over time, taking into account contextual embedded-ness of conflict process.

(4) Institutionalism:

In the process of knowledge transfer, if a practice is perceived by the employees at a recipient unit to be in conflict with the regulatory, cognitive and normative institutions of

the host context, the implementation and internalization will be difficult. Institutional distance and institutional duality define the crucial causes of conflict pressures.

(5) Micro-politics:

There is the view that institutional diversity is the root cause of conflicts, and the view that actors have the ability to follow interests that are not simply reflective of macro-societal embedded-ness, that things like personal career outlook and idiosyncratic interests determine the outcomes of conflict. There is also the middle ground view that institutions set constraints within which political activity within firms can operate, shaping the preference of actors and the feasibility of certain courses of action, but they do not determine outcomes on their own.

The above theoretical perspectives are related to goal incompatibility, where practices, knowledge and tasks of the head-office are incompatible with the goals of the subsidiary.

In this line of literature, Geppert and Dorrenbacher (2011) described how multinational companies (MNCs) must comply with the different institutionalized expectations of the various institutional environments in which they operate. They discussed two conflicting isomorphic pulls. First there is the international pull of the overall strategies and structures of the MNC, then there is also the national pull of expectations within local host countries. External institutional pulls lead to tensions based on diverse institutional pressures, while internal isomorphic pulls leads to convergence and adoption of similar organizational

strategies and structures across the corporate group. Conflicting isomorphic pulls are especially a problem when institutional distance between home country of an MNC, where the organizational practice originates, and the host country, where the practices are transferred, is high, resulting in a situation where institutional pressures (such as regulative mechanisms, normative mechanisms, and cognitive-cultural mechanisms) are very different for the parent company than they are for the subsidiary.

There are other conflict related issues such as the dilemma of deciding how much power needs to be centralized at the headquarter level, and how much power needs to be shared with subsidiaries in order to be able to effectively manage operations. But the one I would like to highlight here is the issue of perception gaps that is often caused by communication problems. This is because identifying perception gaps might be the most critical coordination task involved in improving and sustaining overall performance of the corporate group. Schmid and Daniel (2011) pointed out that while perception gaps between headquarter and subsidiary concerning the subsidiary's role can generate conflict, the issue on role perception has been largely neglected in international business literature. They discussed theoretical developments such as the role theory, which can be applied to understand subsidiary roles as patterns of behaviour that are related to a specific position in the corporate group and that fulfil a particular function for the corporate group. The subsidiary, as a role occupant, and members of the role set may have different perceptions of

the subsidiary's role and consequently differing expectations regarding the related role behaviour. This occurs especially in the case when subsidiaries within the corporate group can take highly differentiated roles and fulfil different functions.

For example, a subsidiary may overestimate its own capabilities in a certain area. Or on the other hand, the head-quarter may be unaware of and therefore underestimate the subsidiary's capabilities. This implies that if there are important perception gaps regarding subsidiary roles, behaviour of members in the role set will not mesh and cooperative action may be difficult to achieve. Although perception gap is a cognitive concept, perceptions are central triggers of action. However, it should be noted that conflict is not necessarily negative, but rather it may lead to positive consequences such as innovation and change.

5.6 Norms and Self-Enforcing Governance

Apart from controls, a parent company would also have to depend on the subsidiary's self-enforcing governance. From a new institutional economics approach, North (1992) wrote that we have incomplete information and limited capacity by which to process information. Institutions – defined as rules of the game consisting formal rules and informal social norms that govern individual behaviour – are therefore formed to reduce uncertainty in human exchange. So when it is costly to transact, then institutions matter. North stresses that successful developmental policy entails an understanding of the dynamics of economic change if policies pursued are to have desired consequences. Similarly, Ostrom (2011) illustrated how

the Institutional Analysis and Developmental framework can be applied to analyse all types of institutional arrangements, including parent and subsidiary transactions. A key part of the framework is the identification of an action situation and the resulting patterns of interactions and outcomes, and evaluating those outcomes, with the potential to reform them.

For example, within the frame of an action situation is the set of actors. Assuming them to be *homo economicus* is unrealistic, and one could alternatively assume that individuals are fallible learners, and thus presume also that the various institutional arrangements offer them different incentives and opportunities to learn. When such individuals interact in frequently repeated and simple situations, it is possible to model them as if they had complete information.

In predicting outcomes within an action situation, we might assume that in many situations, individuals, instead of making completely independent decisions, may be embedded in communities where initial norms and fairness may change the structure of the situation dramatically. They may also change their strategies over time as they learn about results of past actions. The predicted outcomes as well as other likely outcomes and trade-offs that could be achieved under alternative institutional arrangements may then be evaluated.

Action situations can be viewed as partially dependent on rules. Institutional analysis first attempts to understand the working rules and norms that individuals use in making decisions. For example, one can be interested in rule configuration and in how the stability of

formal rule-ordered actions is dependent on the shared meaning assigned to words used to formulate the rules. If no shared meaning exists (such as regarding the role of a subsidiary), or if the meanings (such as role expectation of a subsidiary) are changed, confusion will exists about what actions are required. Or one can be interested in how informal rules such as shared value systems affect the ways individuals organize their relationship with one another. Many rules in use are not written down or even conceptualized by participants as rules. There may also be settings where rules have evolved over long periods of time and are understood implicitly by old participants but not new comers.

Aoki (2001) focuses on the issue of enforceability, and questions when do rules of the game become enforceable. Aoki posited that rules of the game are endogenously generated, and thus become self-enforcing through the strategic interactions of the agents including the enforcer of the rules. The basic agenda is to understand the complexity of institutional arrangements as an instance of multiple equilibria of some kind, and to understand the mechanism of institutional change in a framework consistent with the equilibrium view of institutions. Aoki uses what is called the Comparative Institutional Analysis to understand why particular institutional arrangements have evolved in one economy but not in others.

From a game theory perspective, Hurwicz (1993) formalizes the notion of enforceability in terms of Nash equilibrium where no player has the incentive to change his strategy. In order for a set of humanly devised rules to be enforceable, it must contain a Nash equilibrium.

The concern is to inquire the possibility of designing an institution which can implement a given social goal in a way that is compatible with the incentives of the players. If the mechanism is not self-enforceable, then it needs to be supplemented by an enforcement mechanism. Within this equilibrium–of-the-game notion of institution, the repeated game approach attempts to understand mechanisms that enable institutions to remain stable. The underlying condition is that an economically rational player selects his strategy whilst acknowledging his relationship of mutual dependency with other players. Although this approach captures the aspect of self-enforceability of institutions, it does not explain the process of what forms the institution or how multiple equilibria are converged to one equilibrium. The evolutionary game approach is better suited to address these issues (Abe and Kawakami 2010).

Aoki (2010), in considering the self-governing question, argues that different modes of corporate associational (group-level) cognition call for different forms of governance in order to satisfy the fundamental requirement of self-governance. Aoki posited that if cognitions organized within an organization in some systematic way, then reasonable coherent decisions may be made for collective action, and that to facilitate and exploit this possibility is one of the most important *raison d'être* of a corporation. By intentional design as well as through conventions and routines that evolve during overlapping generations of its members, cognitions are systematically distributed among managers and workers. Although agency

problems cannot be completely controlled, Aoki posited that organizational mode is not selected primarily in order to control opportunistic behaviour, but rather to benefit from working together.

Aoki proposed that at the societal level, the strategies of individuals and organizations together shape the process of co-evolution. Given an evolutionary outcome of this outcome at the societal level, the general rules (understanding) lead to the concept of the organizational field where corporate organizations of a similar mode cluster and compete. With such rules as a basic referential frame, individuals then form their own cognitive frames of organizational games that they play. It is such shared general understanding that essentially makes business corporations self-governing. Although individual cognitive frames are different from one another in specific level, within a particular organization, these frames meet together and generate a common frame for team-play. There can however be subtle differences in the cognitive orientation of the agents, depending on the types of organizational architecture.

Of societal rules and norms, Aoki added that although rules may be seen as constraining because ignoring them will not be beneficial, they are also enabling because rules can aid individual's knowledge of how others are likely to play, thus helping them to play effectively by providing prescriptions for effective action choices. Once a norm is established, each member no longer needs to calculate prescribed strategies from scratch. The norm provides a cognitive frame for the members to which they can offload their cognitive burden. For

example, in a workplace, the culture of setting individual work target was generated by the workers themselves, but once established it was experienced as a set of externally imposed shop floor norms.

Later in the case studies we will see how norms help parent and subsidiary can use their shared knowledge to coordinate activities effectively.

5.7 Diffusion of Knowledge

We now look at another aspect of managing subsidiaries - that of diffusion of knowledge, rules, and best practices. But this diffusion can flow from both directions, from the parent to the subsidiary, as well as from the subsidiary to the parent. We shall look at each of these individually.

Diffusion of Knowledge from Parent to Subsidiary

A subsidiary may adopt certain managerial ideas and best practices not necessarily because they are seen as efficient, but because adoption is seen as crucial in order to enhance the subsidiary's legitimacy. Dual institutional pressures also play an important role in defining various degrees of adoption of organizational practices. According to Geppert and Dorrenbacher (2011), in the case of MNCs, the degree of social and societal embedded-ness differs significantly between capital societies. Best practices therefore need to be adapted locally when transferred to other countries. This is also because transferring of management

practices from one context to another is not simply a matter of moving knowledge, but a generative process of producing new knowledge and new ways of knowing by engaging in the activity of performance management in the new context (Fenton-O'Creevy, Gooderham and Cerdin 2011). In other words, expertise requires extensive participation in practice, and the social institutions in which we partake frame the ways we know.

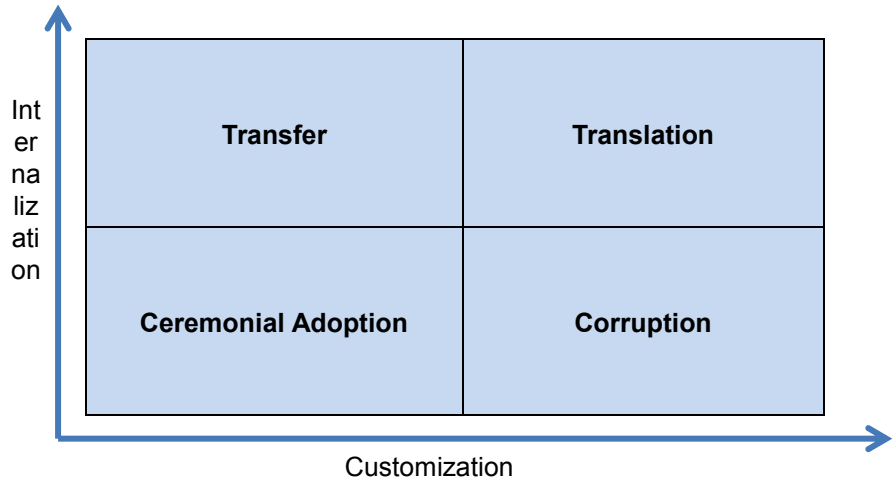
For example, a senior manager who discusses issues with other senior managers across functions is tied into a web of cognitive activity, making him part of a thinking system within the company. His expertise therefore lies in his ability to access and engage with the intellectual resources of the community in which he is part of. This explains why some star performers succeed in one company but fail when transferred to another company where he is incapable of accessing and mobilizing knowledge. If knowledge transfer is dependent on exposure to collective knowledge, it then implies that without such exposure, cognitive hurdles will prevent knowledge transfer. It also implies that parties must be motivated to be engaged in exposure processes.

The social embedded-ness in the local host country may constitute a serious challenge to the head-quarter's monopoly over strategy. This local embedded-ness may also result in knowledge that is so highly integrated in the local context that transfer is not readily achievable even in the absence of political resistance. Fenton-O'Creevy, Gooderham and Cerdin (2011) posited that a transfer of knowledge-based practices across MNCs confronts

both micro-political resistance and local cognitive hurdles, and that overcoming them depends on whether there are skilled actors who possess bridging social capital.

They presented four possible outcomes of knowledge transfer attempts (as shown in figure 12), and argued that where there is considerable exposure to shared cognitive social processes and shared goals, transfer of knowledge could be achieved with little customization. However when significant local customization is required, knowledge may be reconstructed and translated into local context, yet remain consistent with the original purpose of the transfer. They also contended that a lack of exposure to shared cognitive social processes or the absence of shared goals may lead to low internalization, and thus result in ceremonial adoption or corruption of the intended knowledge transfer.

Figure 12. Four possible outcomes of knowledge transfer



Source: Fenton-O'Creevy, Gooderham and Cerdin (2011) p.107, Fig.4.2

Conflict can produce dysfunctional outcomes. Schotter and Beamish (2011) described dysfunctional conflict behaviours that subsidiaries could exhibit. Subsidiaries could ignore

the headquarter initiative, though they could not do so indefinitely. Or subsidiaries could use distraction tactics to avoid implementation, leading to otherwise unnecessary efforts and inefficiency. Subsidiaries could also obstruct or attack the headquarter initiatives, and create intense relational conflict.

One way of handling dual pressures and conflict is to have individual agents with multiple social community memberships within a corporate group to bridge structural holes in social networks and the transfer of knowledge. Such agents are then able to bring knowledge and ways of thinking from one domain into another, thus contributing to the emergence of new ideas. On the other hand, this also implies that corporate groups that lack such bridging agents may experience considerable difficulty in integrating and brokering collective knowledge.

Diffusion of Knowledge from Subsidiary to Group

Having looked at diffusion of knowledge from parent to subsidiary, we now look at the other flow of subsidiary to group. In many international business literatures on MNCs, the role of subsidiaries has been reduced to adaptation of centrally set strategies. Focus has been on helping MNC management to overcome strategic and structural misfits in responding to external environmental pressures. But subsidiaries can be active participants in the formulation and implementation of corporate strategy.

Birkinshaw et al. (1998) showed in his research that subsidiaries (defined as operational

units controlled by the MNC and situated outside the home country) play an increasingly important role as contributors to the development of firm-specific advantages. Birkinshaw argued that firms that engage in overseas production must have some form of proprietary advantage to compensate for the natural disadvantage of competing with established firms in a foreign land. While some of these advantages or resources are location bound, others are not, and they can therefore be leveraged by the corporate group in other regions. In other words, these resources have the potential to contribute to the MNC's firm specific advantage.

But these resources need to be discovered and recognized by the corporate management otherwise they will remain resources of limited used within the local region. Recognition can be a top-down process where the corporate headquarter identifies the subsidiary's competencies through communication. Or the process can be a bottom-up one where entrepreneurial efforts by the subsidiary demonstrate their capability and willingness to take on responsibilities. Birkinshaw defines the subsidiary's contributory role as the extent to which the subsidiary has specialized (i.e. superior to those available elsewhere in the corporation) resources that are recognized by the corporation as a whole. This implies that by defining an appropriate structural context, corporate management can either promote or inhibit the development of the subsidiary's contributory role.

For example, having specialized resources are not sufficient in themselves. Subsidiary initiative and entrepreneurship are needed to make the resources know to the corporate

headquarter and thereby gain recognition. Communication and certain amount of autonomy are also necessary to empower and encourage the subsidiary to utilize those resources more effectively within the corporate group.

Whether the benefits are sufficient to counterbalance the dangers of control loss and opportunism is a separate question. The point here is that the subsidiary's initiative as well as the ability of the corporate system to effectively leverage subsidiary resources, can make the subsidiary's resources part of the firm specific advantage.

Subsidiary that has knowledge that is perceived as critical and scarce can use that knowledge as a power resource. Tregaskis (2003) showed that subsidiaries that have greater autonomy and overall responsibility over product development are more likely to encourage inter-organizational learning networks because external knowledge is often critical in the renewal of knowledge, especially where the organization has limited access to relevant skills and knowledge. The widespread adoption of the subsidiary's knowledge also signals the legitimacy of the knowledge and helps reinforce the subsidiary's strategic role. External knowledge therefore can act as a source of power when it provides the organization with capabilities it cannot generate internally.

Whitley, Morgan, Kelly and Sharpe (2003) suggested that the weak domestic economy in Japan has made foreign operations more important as possible sources of markets and profits, and as Japanese MNCs begin to produce a significant proportion of their outputs abroad, they

should consider changing their focus from merely transferring and applying domestic recipes to adapting and learning from local innovations. But the extent of change is likely to vary considerably between firms in different sectors.

In their case study of financial firms, they showed that learning from foreign operations was not a high priority for Japanese banks in the 1980s. The use of expatriate managers to acquire international "specialist" knowledge in international capital markets was restricted because it was in conflict with established "generalist" career patterns. "To be posted abroad was a sign of inferior status since all important decisions and developments were made in Tokyo and Osaka … To be an international banker was to be regarded as a specialist in an organization that valued generalist skills." This was also because domestic clients and markets continue to be the dominant source of revenue. Partly because of the highly centralized decision making that delayed major transactions, Japanese banks often suffered losses from lending to foreign borrowers, and this reinforced their preference for dealing with domestic clients. In the post bubble period of the 1990s, this pattern was evident in banks that reacted by concentrating recovery plans on serving Japanese customers. But some financial firms in the study took a more positive approach and saw the role of expatriates as one of learning and transferring new techniques from London and New York to Tokyo. This may be because of the growing recognition accorded to specialist technical skills in international banking, such that becoming a specialist became an increasingly attractive

option. Developments appeared to have gone furthest in large security firms where the balance of business had shifted from Japanese corporate client oriented towards deal making in European capital markets.

In their case study of car manufacturing companies, they identified three distinct stages in which the role of expatriate managers in overseas subsidiaries changes. During the initial phase of building plants, there was considerable reliance on Japanese managers and engineers, but after the plant has been built and operations are running well, the number of Japanese managers declined and their roles became more advisory. Most senior management posts were given to local staffs. In the third stage, which only few firms had reached, the number of expatriates was further reduced, and their role was seen as being more supportive than directive. The prevalent impression was "a rather ad hoc process of selection and assignment of expatriate managers, and limited attempts to learn systematically from their experiences when they went back to Japan." Senior managers in Japan were reluctant to cede much authority to regional units, and functional reporting to divisional head offices in Japan remains dominant. (The case study findings are consistent with the empirical research finding of Kaiho (1999), which shows a low degree of power delegation to overseas subsidiaries.) Whitley et al. concluded that on the whole, managerial careers remain relatively generalist, and this is not likely to change if firm-specific way of managing continues to be regarded as crucial to success in all markets. But while internationalization

remains based on domestic recipes, there are cases where the actual production layout is being continuously updated and modified by Japanese managers such that every new plant is different from the previous plant.

In this section we reviewed the major literatures on how knowledge is diffused to subsidiaries and how, although often overlooked, subsidiaries too can contribute in disseminating best practices to the parent or other members of the corporate group. Later in the case study we will look at the case where an IT subsidiary has managed to share best practices with its parent company. This section also highlights the importance of brokering collective knowledge by agents who can mediate from both the parent and the subsidiary's perspectives.

6. Case Study: Bridging Theory and Practice

6.1 Methodology

Having discussed the main theories and literatures regarding corporate groups in chapters 4 and 5, this chapter aims to bring together theory and practice by looking at how academic knowledge matches with real world situations that Japanese corporate groups face. The following key management aspects of corporate group management will be discussed: (a) Decision regarding boundary of the corporate group, (b) Vertical and horizontal coordination of subsidiaries, (c) Delegation of decision rights, and (d) Self-enforcing mechanisms.

Regarding methodology, I have chosen to use case studies for the following reasons. Firstly, although there are literatures on various aspects of corporate group management, there appears to be very little case studies on Japanese corporate groups that show how companies actually manage their subsidiaries. Findings from cases can be used to expand existing theories or fill gaps that have not hitherto been addressed. Secondly, because the research questions are essentially how and why questions, following the design and methods for case study research proposed by Yin (2009), the explanatory nature of this research work prompts the use of cases as a preferable method. Thirdly, this research on why firms form groups and how firms manage groups does not require control of behavioural events and experiments. And finally, the distinct advantage of using cases is that it allows me to

investigate the contemporary phenomenon of corporate groups in depth and within its real-world context. It also allows me to deal with a full variety of evidence, from documents and archival data to interviews and observations.

For the purpose of conducting an in-depth analysis, I have selected five corporate groups, three from the manufacturing industry and two from the transportation industry. The three manufacturing corporations are Hitachi, Panasonic, and Mitsubishi Heavy Industry, and the two transportation corporations are Nihon Yusen and Japan Airlines. These cases represent fairly well large corporate groups in Japan, though I must also admit there were several other firms I had originally intended to interview but have failed to obtain their consent. Nonetheless, the in-depth study of the above mentioned five corporate groups sufficiently satisfies the purpose of this research.

The cases are not meant to be used for producing any statistical generalizations of populations or universes. Rather the purpose is to provide an analytic generalization on how large corporations manage their subsidiaries. In other words, replication of findings in the cases and not sampling logic substantiates the induction that is proposed in this work.

Information on the above mentioned corporate groups were gathered based on a total of eight interviews (average 80 minutes per interview) conducted between September 2012 and January 2013, and numerous follow-up emails to clarify certain facts there have been missed out in the interviews. In order for the interviews to be conducted efficiently, a common list of

15 questions concerning reasons for establishing subsidiaries, classification and role of subsidiaries, control and coordination of subsidiaries, parent-subsidiary relationship and conflict, and competence development was sent in advance to the companies. This allowed time for the companies to assign appropriate persons and to think over the interview questions. Questions were phrased carefully so as to not to influence the respondent's answers. They were thus neither too narrow such that they would insinuate desired answers, nor were they too broad such that they would be ineffective in eliciting information that suffices the purpose of the interviews. All the persons who were interviewed were head-office managers responsible for supervising and coordinating subsidiaries.

After each interview, a case report was written to document information that was collected. Securities Report (*Yukashouken Houkokusho*) from 2007 to 2011, IR releases, publicly available information and new sources were also collected and used extensively to supplement the cases.

In this chapter, I will first bring together theory and practice, with the objective of expanding existing theories and literatures based on the case study findings. In Chapter 7, based on the key finding that there are different types of subsidiaries as well as different corresponding parent-subsidiary relationships, I will propose a classification of subsidiaries, which I will then use to further discuss the research questions that I have posed in this thesis.

6.2 An Overview of Five Corporate Groups and their Subsidiaries

This section describes briefly the following five corporate groups that have been selected for the case study: Hitachi Group, Panasonic Group, Mitsubishi Heavy Industry Group, Nihon Yusen Group and Japan Airlines Group.

・Hitachi Group

Hitachi, which began as a machines repair factory in 1910, was established as a company in 1920 by its founder Namihei Odaira. With harmony, sincerity, and frontier spirit as its founding spirit, Hitachi corporate philosophy was to contribute to the society through developing its own technology and products of excellent quality. Over its 100 years of history, Hitachi has been a major leading innovation company in Japan. Being the first to manufacture electric train in 1924, electric refrigerator in 1932, and nuclear power plant in 1974, Hitachi has also been renowned for its many other contributions such as railway seat reservations system in 1959, super computer S-810 in 1982, the 300 series bullet train in 1993. Today (as of 31st March 2012), Hitachi and its 939 consolidated subsidiary companies and 183 related companies which make up the Hitachi group, has eleven reported business segments, including information and communication systems, electric power systems, social industrial systems, electronic equipment, construction machinery, high-functional material, automotive systems, component devices, digital media and home appliances, financial service and others. Its diverse range of activities includes product development, manufacturing, sales and

services.

・Panasonic Group

Founded by Konosuke Matsushita in 1918, Panasonic (known prior to 2008 as Matsushita Electric Industrial) is a household name for home appliance products. Today (as of 31st March 2012), Panasonic and its 578 consolidated subsidiaries which make up the Panasonic Group, has eight reported business segments, including AVC networks, appliance, system communications, eco solutions, automotive systems, device, energy and others. According to the Nikkei 2012 Industry Map, Panasonic has top domestic market share in products such as washing machine, car navigation, room air conditioner, IH cooking heater, blue ray disc player, and lithium-ion battery.

・Mitsubishi Heavy Industry Group

The roots of Mitsubishi Heavy Industry (MHI) can be traced to the founding of what was to become Mitsubishi in 1870 by Yataro Iwasaki. The early ship building business expanded into other heavy industry businesses, such that by 1934, MHI has established its position as the largest private firm in Japan, manufacturing ships, heavy machinery, airplanes and railroad cars. Today (as of 31st March 2012), MHI and its 236 consolidated subsidiaries and 35 related companies which make up the MHI Group, has six reported business segments, including shipbuilding and ocean development, power systems, machinery and steel infrastructure systems, aerospace systems, general machinery and special vehicles, and

others.

・Nihon Yusen Group

Founded in 1885, the Nihon Yusen (NYK) Group is a comprehensive global logistics enterprise that offers ocean, land and air transport services. Today (as of 31st March 2012), Nihon Yusen and its 256 consolidated subsidiaries and 110 related companies which make up the NYK Group, has eight reported business segments, including liner trade, terminal and harbour transport, air cargo transportation, logistics, bulk shipping services, cruise ship services, real estate and others. NYK aims to leverage its logistics and technological capabilities to effectively capture Asia's growing transportation and supply chain needs. According to the Nikkei Industry Map, NYK liners have transported 372,440 TEUs in 2010, accounting to 3% of global market share.

・Japan Airlines Group

Established in 1951, Japan Airlines is one of Japan's major network airlines, and has services including code-sharing (as of 1st April 2012) on 289 international routes and 117 domestic routes, covering 229 airports in 40 countries and regions. Although the company filed for reorganization proceedings in January 2010, the proceedings were completed in March of the following year. After massive restructuring, which were guided by Japan's management guru, Kazuo Inamori, the company re-emerged as a much healthier company, yielding double digit operating profit margins now for two consecutive years.

All five corporate groups have head-office departments for each core business unit, and each core business unit has subsidiaries that perform activities for that business unit. Tables 12 and 13 below show the roles of some of the major subsidiaries in the five corporate groups.

Hitachi and Panasonic use what is called the *company system* to manage their diversified business units and subsidiaries. Although called a "company", it is not a separate legal entity, but essentially a large business division within the corporate group that has a high degree of autonomy and which bears responsibility over profit and losses of the businesses that it operates.

From tables 8 and 9, we can see these major subsidiaries in the five corporate groups are involved in a wide array of activities. Some subsidiaries are responsible for multiple vertically integrated functions ranging from manufacturing to sales and after-service. Some subsidiaries however specialize only in narrow up-stream activities such as product design and manufacturing, or down-stream activities such as logistics and sales within its business value chain. Some have transactions mainly with the parent company and contribute to the corporate group as cost centres, while some operate independent businesses and contribute as profit centres.

Although the tables cover only a small portion of the vast number of subsidiaries the groups in the five case studies have, we can roughly see the roles major subsidiaries have

within the corporate value chain, and we can infer from this broad picture that there has to be some form of control and coordination systems that enable these large corporate groups to coordinate masses of decisions and activities whilst executing their corporate strategies. In the following sections therefore, I will answer the research questions that I have posed initially in Chapter 1 based on the case study findings. Namely, why do corporations establish subsidiaries and form business groups? And how do corporate groups manage their subsidiaries? By answering these questions based on both theory and practice, I hope to contribute to the knowledge of corporate group management.

Table.8 Three Corporate Groups in the Manufacturing Industry and their Subsidiaries

	BU Divisions	Subsidiaries (Manufacturing)	Subsidiaries (Sales & Services)
Hitachi	(In-House Companies) ①Power Systems Company ②Infrastructure Systems Company ③Rail Systems Company ④Urban Planning and Development Systems Company ⑤Defense Systems Company ⑥Information & Telecommunication Systems Company (Business Divisions) ⑦Semiconductor Business Division ⑧Consumer Business Division ⑨Automotive Systems Business Management Division	①Babcock Hitachi, GE Hitachi Nuclear Energy ②Hitachi Industrial Equipment Systems, Hitachi Elevator (China) ④Hitachi Construction ⑥Hitachi Omron Terminal Solutions, Hitachi Computer Products (America), Hitachi Computer Products Europe ⑦Hitachi High-Technologies, Hitachi Koki, Hitachi Kokusai Electric, Hitachi Via Mechanics ⑧Hitachi Appliances, Hitachi Consumer Electronics, Hitachi Consumer Products (Thiland) ⑨Hitachi Automotive Systems, Clarion	①Hitachi Engineering and Service, Hitachi Power Europe, Hitachi Power Systems America ②Hitachi Building Systems, Hitachi Plant Technologies ③Hitachi Rail Europe ⑥Hitachi Information & Control Solutions, Hitachi Solutions, Hitachi Systems, Hitachi Consulting, Hitachi Data Systems, Hitachi Information & Telecommunication Systems Global Holding ⑧Hitachi LG Data Storage (Others) Hitachi Transport System
Panasonic	(In-House Companies) -Consumer Products- ①AVC Network Company ②Appliances Company -Solutions- ③Systems & Communications Company ④Eco Solutions Company ⑤Healthcare Company ⑥Manufacturing Solutions Company -Devices- ⑦Automotive Systems Company ⑧Industrial Devices Company ⑨Energy Company	①Panasonic Liquid Crystal Display, Panasonic Plasma Display, Panasonic North America, Panasonic Avionics ②Sanyo Electric, Panasonic AP Air Conditioning (Guangzhou) ③Panasonic System Networks, Panasonic Mobile Communications ④Panasonic Eco Systems, Panasonic Lighting Europe ⑤Panasonic Healthcare ⑥Panasonic Factory Solutions ⑦Panasonic Automotive Systems Dalian ⑧Panasonic Electronic Devices, Panasonic Semiconductor Asia ⑨Sanyo Electric, Sanyo Energy (Suzhou)	Panasonic Consumer Marketing, Panasonic North America, Panasonic Marketing Europe, Panasonic Asia-Pacific, Panasonic China
Mitsubishi Heavy Industries	Divisions: ①Shipbuilding & Ocean Development ②Power Systems ③Nuclear Energy Systems ④Machinery & Steel Infrastructure Systems ⑤Aerospace ⑥General Machinery & Special Vehicles ⑦Air-Conditioning & Refrigeration Systems ⑧Machine Tools	①MHI Maritech, Choryo Senpaku Koji ②③Choryo Sekkei, MHI Precision Casting, Mitsubishi FBR Systems, Mitsubishi Power Systems Americas, Mitsubishi Power Systems Europe, MHI Dongfang Gas Turbine (Guangzhou) ④MHI Printing & Packaging Machinery, MHI Bridge & Steel Structures Engineering, MHI Mechatronics Systems, MHI Plastic Technology ⑤Mitsubishi Aircraft, MHI Aerospace Systems, MHI Aerospace Vietnam, MHI ⑥Mitsubishi Catepillar Forklift America, Mitsubishi Turbocharger Asia, MHI Equipment Europe ⑦MHI Climate Control, MHI Jinling Air-Conditioners ⑧MHI Plant Engineering, Ryoin	①MHI Engineering, Kanmon Dock Service ②③MHI Energy & Service, Mitsubishi Nuclear Energy Systems, MHI Plant Construction ④MHI Printing & Packaging Machinery, MHI Bridge & Steel Structures Engineering, MHI Mechatronics Systems, MHI Plastic Technology ⑤MHI Logitech, MHI Aero Engine Service ⑥Mitsubishi Catepillar Forklift America, Mitsubishi Turbocharger Asia, MHI Equipment Europe ⑦MHI Air-Conditioning & Thermal Systems ⑧MHI Machine Tools Sales, Ryoin

Source: Securities Report for Fiscal Year 2011 and Organization Chart from Homepage

Table.11 Two Corporate Groups in the Transportation Industry and their Subsidiaries

	BU Divisions	Subsidiaries
Nihon Yusen	①Liner Trade: Conventional Cargo Transportation Group, Automotive Transportation Headquarters, Car Carrier Group ②Terminal and Harbour Transport: Harbour - Domestic Group, Harbour - Overseas Group ③Air Cargo Transportation: Air Freight Business Group ④Logistics: Global Logistics Services Headquarters, Auto-Logistics Group ⑤Bulk Shipping Services: Dry Bulk Division, Energy Division, Capesize Bulker Group, Handy Bulker Group ⑥Cruise Ship Services: Cruise Enterprise Group ⑦Real Estate and Others	①Hinode Line, Astarte Carriers, NYK Line (North America) ②Asahi Unyu, Geneq, Asia Pacific Marine, NYK Terminals, Japan Container Terminal, Yusen Koun ③Nihon Cargo Airlines ④Yusen Logistics, Kinkai Yusen Logistics, Camellia Line ⑤NYK Global Bulk, NYK Bulkship (Asia), NYK Bulkship (Atlantic), Asahi Shipping ⑥Yusen Cruise, Crystal Cruises ⑦Yusen Real Estate （Others） NYK Business Systems
Japan Airlines	Air Transportation: Route Marketing Division	Airlines: Japan Airlines, JAL Transocean Air, J-Air, JAL Express, Japan Air Commuter, Ryukyu Air Commuter Sales: JAL Sales, JALPAK, JAL Navia, JAL Mileage Bank Airport Passenger Service: JAL Sky Airport Ground Handling: JAL Ground Service Aircraft Maintenance and Engineering: JAL Engineering Inflight Catering: JAL Royal Catering Cargo and logistics: JAL Cargo Service, Jupiter Global Limited IT: JAL Information Technology

Source: NYK Securities Report for Fiscal Year 2011 and Organization Chart from Homepage

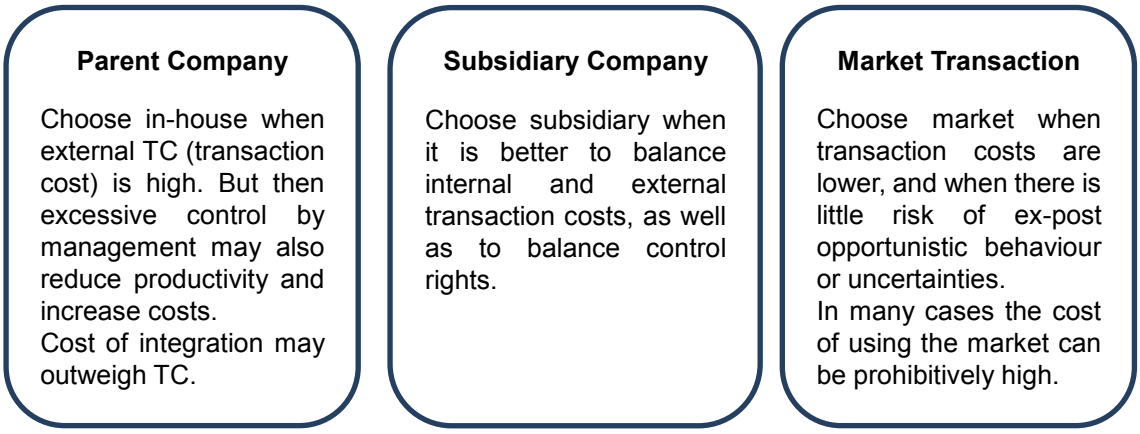
6.3 Why do Firms Establish Subsidiaries and form Corporate Groups?

In the literature review provided in chapter 4, we discussed some of the main theories and literatures concerning why corporations form business groups, and how they draw their firm boundaries. From those theories, we may expect corporate groups to establish and use subsidiaries when:

- External market transaction costs are higher than internal transaction costs within the group.
- Transactions that are of high frequency and long periods, that are complex and have high uncertainty, that are hard to evaluate and measure, that are related to other assets and production such that changes require difficult coordination beyond firm boundary.
- Subsidiaries effectively balance external market transaction costs and internal transaction costs that incur from decrease in production as a result of excessive control.
- It matters to have residual control rights over what cannot be specified ex ante in contracts which are by nature incomplete; especially when it concerns relationship specific investments that are important to the company.
- There is complementarity of related assets. In other words when relation specific assets of the parent do not create value unless employed with the related assets owned by the subsidiary company.

- Subsidiaries effectively balance control when costs of allocating control rights exclusively to one party are high.
- Capabilities need to be acquired internally rather than through the market. For example, when tacit knowledge is needed within the corporate group to help reduce costs of integrating across diverse production capabilities and activities.
- It is possible and necessary to use decentralization as a means to solve incentive problems related to ex-ante commitment by management not to interfere (and thereby curb incentives of business divisions) ex-post.
- Power delegation is necessary to cope with increasingly diversified and complex businesses, to have clear accountability, to speed up decision making, and to foster development of new logic and competencies that are needed to fuel growth in new businesses.
- It is necessary to have flexible usage of labour cost structure.

Figure 13. Choice between in-house, subsidiary, and market



Many findings from the case study appear to be partially or generally consistent with the above mentioned theories. For example, both Hitachi and Panasonic use the company system to delegate decision rights to their in-house companies and subsidiaries so as to allow swifter decision making and to enhance entrepreneurism as well as accountability. A manager at Panasonic describes the delegation to business divisions and subsidiaries as follows.

> "The creation and use of business division has been very much a key management principle of Panasonic's founder Konosuke Mastashita, who believed that employees learn and acquire competencies through business activities. For example, a manager responsible for his business division has to identify market opportunities, invest in R&D, develop and market products, manage product life cycle as well as customer relations. Other employees too are involved in managing and creating value, and it is through these activities of creating new products and entering into new markets by business divisions and subsidiaries that Panasonic grew to be what it is today."

But the case studies also revealed some other aspects that have not yet been explicitly addressed in academic literatures. This is an area where practitioner's knowledge could complement academic knowledge, and where academic knowledge could be further developed and enhanced. In this and the following sections, I will try to highlight some of these aspects.

(a) Ex-post Lock-in of Group Boundary

Firstly, although firms give careful considerations over transactions costs in their make or buy decisions, once they have decided on establishing a subsidiary, and investments have been made, they are likely to face a certain lock-in situation where it becomes hard to switch

from using the subsidiary to using the market, even when external transactions costs are lower than internal transaction costs. In other words, after a subsidiary has been established, transaction cost is not the sole defining factor that determines make or buy decisions ex-poste. A manager at Hitachi's head-office described the situation as follows:

> "Once we have built a subsidiary, say for example a manufacturing plant, it is not just costs that we have to consider, but also utilization rate of the subsidiary. It is not conceivable that we will outsource to external manufacturers when our own manufacturing subsidiary is underutilised and has the capacity to produce the required amount. This is not favouritism, but a matter of maintaining a certain acceptable level of utilization of the corporate group's resources and tangible assets. Therefore both factors of cost and utilization, as well as the resulting business performance have to be considered. Careful consideration is especially necessary when switching costs are thought to be high."

Related to the lock-in issue described above, bounded rationality, or what is sometimes referred to as mental accounting, may also be at work which justifies the lock-in of high input costs of subsidiaries. All five corporate groups said they generally apply a market price principle towards transactions with their subsidiaries. In other words, prices paid to subsidiaries for inputs are based essentially on market prices for the equivalent good or service. But in reality, it seems improbable that there exists market price for all inputs, especially when they are highly firm specific such that there are virtually no alternatives in the market. For highly firm-specific inputs, not only is it difficult to determine a fair market price (for in most cases there is no market to allow such comparison), but it is also easy to justify paying a premium for the supposedly customized and hence superior inputs of high

quality. This is especially true if the inputs provided by the subsidiary constitute part of the firm's core competencies.

Although possibly not prevalent among the case study groups, some firms appear to adopt a rather indifferent attitude towards the price they paid to their subsidiaries. One often given reason being that under consolidated financial accounting, parent-subsidiary transactions are cross-cancelled, such that high input costs are sometimes permissible because there is no actual cash outflow from the corporate group. A manager I talked to described its firm's relation with its former parent company as follows:

> "Previously, when we were Company X's subsidiary, our parent company has not been strict on the price we charged them for our products and services. But after we have been acquired by another corporate group and thence ceased to be Company X's subsidiary, Company X immediately revised its trading terms with us. Today, our transactions are strictly based on market price."

Three important insights can be derived from this issue of lock-in. Firstly, the existence of lock-in may depend on type of subsidiary and its relationship with the parent. There has to be some dependency relationship, otherwise the parent can just divest the subsidiary and remove all undesirable lock-in risks. A lock-in would be harder to unknot if the parent and subsidiary are mutual dependent on each other's output.

Secondly, lock-in may produce inefficiencies or it may be prolonged when governance mechanisms fail to detect such inefficiencies and re-evaluate the roles of subsidiaries. For example, in a mutually dependent parent-subsidiary relationship, what has become

routine transaction may breed problems that affect performance. For example, cost planning may be based on the previous year's cost figures marked up or down, rather than based on competitive market price comparisons. Furthermore, a lock-in may be prolonged and left unquestioned when governance fails to detect inefficiencies and re-evaluate roles of subsidiaries. In order to pass judgement as to whether a subsidiary is efficient, it is necessary first to have a clear understanding concerning the role of the subsidiary, and how it is expected to contribute to the corporate group. Many firms that I have talked to outside the case study firms, however, admitted to having problems with defining the mission of their subsidiaries and with evaluating their performances. And as a result it is not always clear to them as to whether the existing boundary should be maintained, or whether it should be redrawn.

Thirdly, because of lock-in situations that arise after a subsidiary has been established, group boundary may not be as flexible as supposed by the transaction cost theory.

If, according to theory, the economic rationale of Japanese companies' use of a parent-subsidiary form of governance is to balance transaction costs, then despite the intended balance, the existence of ex-post lock-in implies the possibility of situations where internal transaction costs outweigh external transaction costs.

(b) Balancing Centripetal and Centrifugal Forces

Incentive theory suggests that subsidiaries are used as a means of signalling

commitment by the parent not to interfere ex-post, such that the business divisions will have the ex-ante incentives to invest in firm specific efforts without having to worry that management will renege on their promises and interfere with their decisions. The same idea applies to the use of subsidiaries to balance high external transaction costs and high internal transaction costs that are caused by excessive management interference and control which decreases productivity.

Although corporations establish subsidiaries and make use of their centrifugal incentives to expand businesses as theory suggests, the case studies also show that companies apply centripetal forces to balance centrifugal forces and to ensure that the group's overall strategic goals are met. This is evident is the multiple coordination systems that are typically used in large corporate groups for controlling subsidiaries. In balancing centrifugal and centripetal forces, emphasis is often placed on mutual agreement between parent and subsidiary so as not to damage incentives.

Coordinating centripetally would sometimes entail taking over a business unit that belongs to a subsidiary, as was the case with Hitachi, which announced in December 2012 that it would take over the car information system business from its subsidiary Hitachi Automotive Device Systems. Hitachi's main reason for doing so is because the system was seen as a crucial key in realizing the company's plan to fortify their next generation Smart City capabilities within its social infrastructure business.

Sometimes, in order to strengthen synergies within a corporate group, even subsidiaries that have become listed companies would be delisted so that the parent company, in acquiring full ownership, could restructure or strengthen the group's businesses. For example, in 2011, we witnessed Panasonic's full ownership of Panasonic Electric Works, and in 2012, Hitachi Solutions' full ownership of Hitachi Business Solution, and Hitachi Metals' full ownership of Hitachi Tool.

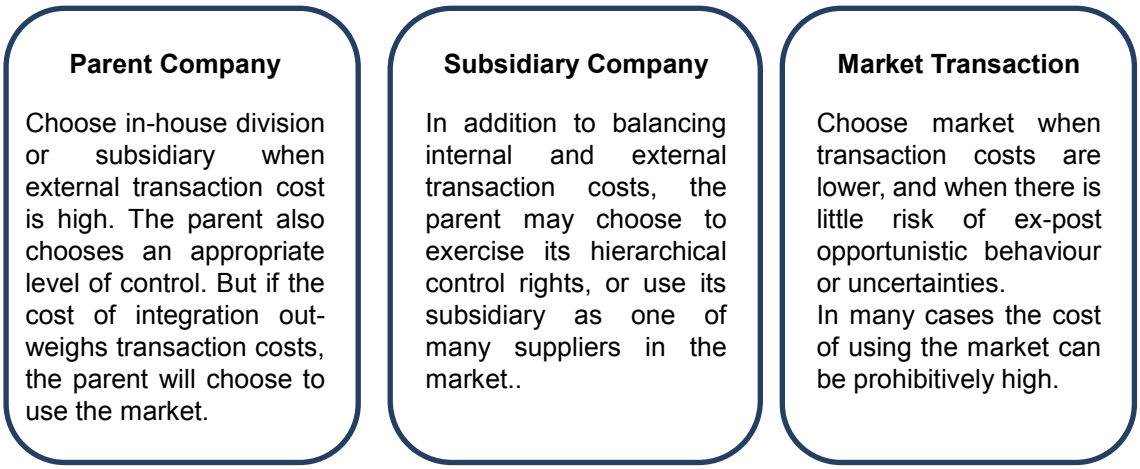
So although incentive issues are being considered, and pioneer spirit encouraged, the extent to which the corporate group tilts centripetally or centrifugally depends also on the way in which the group coordinates its activities in response to changes in its business environment.

The cases show that in addition to balancing internal and external transaction costs, firms also balance their centrifugal and centripetal forces, However if centripetal coordination decreases productivity, as the theory of balancing transaction cost posits, then such coordination would entail trade-offs between coordination benefits and productivity losses,

I however posit that such trade-offs may not always be necessary. For example, a 100% owned subsidiary by Panasonic does not necessarily mean that centripetal coordination by the parent would always damage incentives and reduce productivity. It follows from this argument that the economic rationale of forming and using subsidiaries is not restricted to balancing internal transaction costs (that arise from control that reduces productivity) and

external transaction costs of using the market, but includes also the benefits of allowing the parent company a broader strategic choice amongst options of using in-house organizations, subsidiaries, and the market, as well as various degrees of control and coordination. In other words the economic rationale is that the parent company could cherry-pick the most suitable transaction from a broader set of options.

Figure 14. Choice between in-house, subsidiary, and market revisited



(c) Knowledge defines the Group Boundary

In Chapter 4, we discussed that tacit knowledge makes trading of capabilities difficult, and that this in turn may determine the group boundary. Especially when businesses are diverse, cognitive constraints deems it necessary for divisions to specialize in their respective areas, and subsidiaries are often used to fulfil this role. But the cost of integrating across diverse capabilities may outweigh transaction costs, and firms will then determine what is to be done inside the group, and what is to be outsourced.

However, the cases revealed that the amount of tacit knowledge that is required

depends on the work that is involved. Less tacit knowledge may be required in a standardized and modularized production setting, though a certain amount of tacit knowledge is required to combine vast numbers of highly specialized tasks, whilst a greater level of tacit knowledge may be required for the craftsmanship like *suriawase* style production that many Japanese manufacturers are renowned for.

So although there may be variance amongst industries, from the case studies at least, it appears that tacit and explicit knowledge are shared through working together regardless of whether the party concerned is a subsidiary or an external partner such as a *keiretsu* supplier. As a manager from Hitachi describes, "Knowledge is vital. All designs and materials that are used in manufacturing have to be approved in advance. No company can show up suddenly and become our supplier. It has to meet our required qualifications first." So although knowledge draws the firm boundary as theory suggests, the "firm" here is not necessarily a corporate group, but a business group in a wider sense which includes relational business partners.

One implication that can be derived from this idea of knowledge as boundary is that investments made in building and sharing knowledge with subsidiaries as well as external partners and suppliers, could raise switching costs and create a locked-in situation where production efficiency and performances could in due course turn out to be sub-optimal, especially when there are other production technologies outside the group that are working

towards establishing different industry standards. In other words a corporate group could become organizationally too rigid as a result of lock-in.

(d) Strategic Necessity for Having Subsidiaries

Contingency theory posits that there is no best way to organize a corporation, and that the optimal course of action is contingent upon the company's internal and external environment. In other words structure follows strategy, which is tailored and adjusted in response to the environment the company faces. The case studies highlighted several distinct reasons, which I describe as strategic necessities, for having subsidiaries.

(a) Vertical integration when production inputs that cannot be procured from the market.

A company may need certain inputs for production, but because of reasons such as small batch size, the company may not be able to find a supplier to supply it with the required inputs. Such was the case in the early years of Hitachi, when the company was still relatively small, and it was not always easy to have suppliers sell them small batches of production inputs and materials. Hitachi therefore had to produce those inputs internally. Many of those manufacturing units subsequently grew and become Hitachi's subsidiaries. Integrating vertically was more a matter of necessity than of choice when producing internally was the only means to stably secure the firm's required production inputs.

(b) Use subsidiaries to meet legal requirements

Subsidiaries may be established to meet legal requirements or to allow business

operations in different countries. In the case of Nihon Yusen, which has hundreds of foreign subsidiaries established as special purpose companies in order to register liner vessels under different nationalities, the subsidiaries were created so that Nihon Yusen could execute its strategy for its liner business.

(c) Use subsidiaries to shape or alter the competitive environment

Subsidiaries may also be used, as commented by Hitachi's manager, as an entrenchment strategy to create competitive advantage by, for example, monopolizing production capabilities and resources of important production inputs or products.

(d) Use subsidiaries to develop identified business opportunities.

Subsidiaries are often established as new ventures to capture and develop new business opportunities that have been identified. Hitachi describes their situation as follows.

> "It is hard to generalize all situations, but typically it would result from an identification of opportunities, competencies and synergies. For example, we might want to establish a subsidiary that manufactures semi-conductors in a rural district. Land and labour are relatively cheap. The region also has many skilled talents that we can hire, but capital and production knowledge are required. Capital can be raised at lower costs through Hitachi, and production know-how can be transferred from Hitachi to the new subsidiary."

A specific region or country may provide new entrant firms certain advantages, such as the ease of recruiting skilled employees and of utilizing established R&D functions. These advantages offer firms the incentives to establish subsidiaries in the region. The use of subsidiaries in developing new ventures may be effective in containing risks should the

venture fail, or as K. Ito (1996) describes, in producing offspring that would improve the chance of the company's continual survival.

(e) Respond to host country demands.

Although there has to be some underlying business prospects, the strategic necessity of forming subsidiaries may also arise from local demands of the host country in which the company operates its business. A general manager of Panasonic describes the situation as follows.

> "Initially we manufactured products in Japan and had our overseas marketing and sales subsidiary launch the products in that region. But later we were faced with pressures from the host country where we were asked to build factories. Manufacturing subsidiaries were subsequently established and their numbers increased. In some cases, because manufacturing assembly alone does not transfer knowledge and technology, we were further asked to develop R&D capabilities in the host country. The extent to which we establish subsidiaries often depends on business conditions and requirements."

(f) Tailor offering to meet customer demand

Even in the event when a corporation can procure all of its production inputs from the market instead of producing them in-house by a subsidiary, it may still choose to own the production function so that it could understand customer needs better and be able to tailor offerings that would be more relevant to its customers. Such was the case with Nihon Yusen, which uses external forwarders extensively for their container liner business, but yet maintains its own logistics subsidiaries so that it could meet customers' needs by

tailoring logistics offerings.

There are other strategic necessities in addition to those mentioned above. Appendix-2 gives a summary of 126 news releases concerning reasons for establishing subsidiaries. The information was collected by using the keyword “subsidiary” in Google alert over the period from 1st January to 31st December 2012. Most of the articles in the data set mention the identification of growing markets and business opportunities, the development of businesses or capabilities, and the function the established subsidiary will perform. Of strategic necessity, the articles mention the use subsidiaries,

(g) As a means to enter or expand penetration into markets that have growth potential.

(h) To gain access or have ownership over scarce resources, such as natural gas mining rights.

(i) To develop synergies or acquire competencies.

If a business group, in identifying new growth opportunities and markets, expands it boundary and create subsidiaries to capture those growth prospects, and if, once established, there exist parent–subsidiary lock-ins, then the management of subsidiaries, including the ex-poste evaluation or re-evaluation of their performance and roles, should be treated as an integral part of a business group’s strategy execution. How and how well do companies manage their subsidiaries? The following section attempts to offer answers to this question.

Given the economic rationale and the many reasons that firms have for using subsidiaries, why is this mode of governance distinctly Japanese? K. Ito (1996) gave two

reasons in his comparison between Japan and the US. Firstly, the cost of managing subsidiaries is higher in the US where contracting cost is high, while such cost is lower in Japan. Secondly, while giving more autonomy may induce shirking in the US, there is less such worry in Japan because of a social network that limits and punishes opportunism.

In addition to the above two reasons, I add a third reason, and that is the community firm aspect of Japanese corporations. Many senior management positions of subsidiary companies are entrusted to staffs that are seconded or transferred from the parent company. There is in this practice an element of providing senior positions to capable staffs when such positions are limited in the parent company; and in doing so maintain a motivated workforce as well as train future leaders by providing them an opportunity to experience senior roles in subsidiaries. There is also a paternal element of ensuring that the subsidiary will have capable human resource capable to both manage the subsidiary's business and to align incentives with that of the parent company. Whether this is good HR strategy is arguable, but the point here is that many Japanese firms see it as effective,

For example, a research by Miyamoto (2006) showed that the percentage of firms using secondments has increased, and in year 2000, 97.8% of companies that have over 5,000 employees use secondments. Miyamoto's case study on a corporate group in the manufacturing sector, in which the parent company and its 52 out of 106 domestic subsidiaries were studied, showed that secondment had a positive relation with an increase in

labour productivity and profitability. These benefits were brought about by the production knowledge and skills that were transferred from the parent company to the subsidiary through secondments. The mutual benefits that can be gained make this form of governance viable and widely adopted.

6.4 How do Corporate Groups Manage their Subsidiaries?

In chapter 5, we discussed issues concerning the management of subsidiaries, such as the delegation of decision rights and trade-offs between costs and benefits of decentralization. We also looked at hybrid coordination in companies where skilled workers adjust management's instructions using local information. We also discussed dual pressures and conflict between parent and subsidiary and how some level of self-enforcing governance can be achieved through repeated interactions. In this section, we will look deeper into understanding how and how well corporate groups manage their subsidiaries by drawing from findings obtained from the case studies, and compare them to major academic theories.

6.4.1 Vertical and Horizontal Coordination Systems

I begin by describing the coordination systems that are found in the case study companies and see how they function in planning, in strategy execution, and in maintaining the group's overall optimality.

Coordination Systems within Large Corporate Groups

I chose to describe Owan and Kato's theory on vertical and horizontal coordination system in chapter 5, because it highlights very adequately the importance of and the difficult with executing strategy whilst making at the same time necessary adjustments based on local information, in order to make better and prompter decisions that are responsive to changes in business environments. This is especially relevant in large corporate groups that have numerous layers of business divisions and subsidiaries.

I begin by giving a brief description as to how the case study corporations organize the management of their numerous subsidiaries. Although there are differences in details amongst the five corporate groups, what they have in common is a multiple control and coordination system that enables the parent company to coordinate vertically as well as horizontally with its subsidiaries. The multiple systems are as follows.

(a) Counterpart Head-Office Department

Each subsidiary has one or several counterpart departments in the parent company. This may be a department within an in-house company (Hitachi and Panasonic), a business division, or a department that works alongside the subsidiary, depending on the nature and role of the subsidiary. The parent department coordinates with its subsidiaries to communicate strategic goals, to discuss operational issues and to monitor activities.

(b) Group Management Department

One or multiple group management departments oversee and support subsidiaries horizontally across the business group. Their roles range from monitoring performance to providing management and compliance rules and guidelines.

(c) Functional Meetings

Functional meetings for head of, for example, accounting, general affairs, HR, R&D would gather to discuss issues, exchange ideas, and share information. It also gives the parent head-office the opportunity to disseminate information to all subsidiaries concerned. There are also performance report meetings to monitor performance gaps and to discuss ways to dress them.

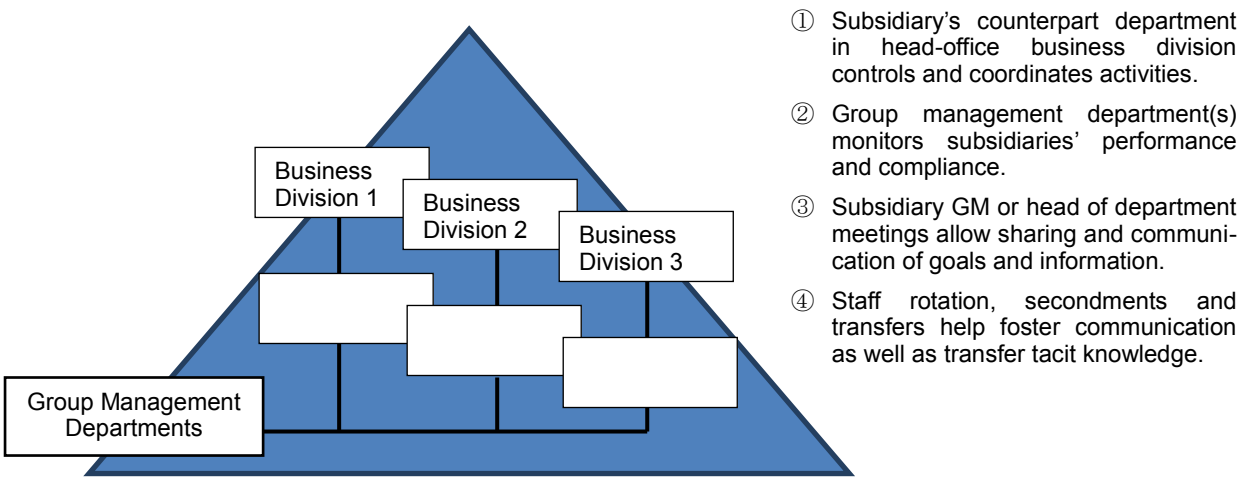
(d) Personnel Rotation, Secondments and Transfers

It is not rare that the senior management positions in the subsidiaries are partly filled by personnel seconded or transferred from the parent company. Although there is an element of absorbing excessively labour from the parent company, such secondment and transfer enable not only control and influence by the parent company, but also a means through which pressures from both the parent and the subsidiary can be mediated. This is because the seconded or transferred person understands both the strategic direction of the head-office as well as the local information that is not visible to the head-office, and is thus capable of acting as a mediator. There are also personnel rotations across divisions

and subsidiaries that allow managers to acquire knowledge concerning how other related functions work, and to create networks that facilitate cross-function efforts such as coordination amongst production, product design and sales.

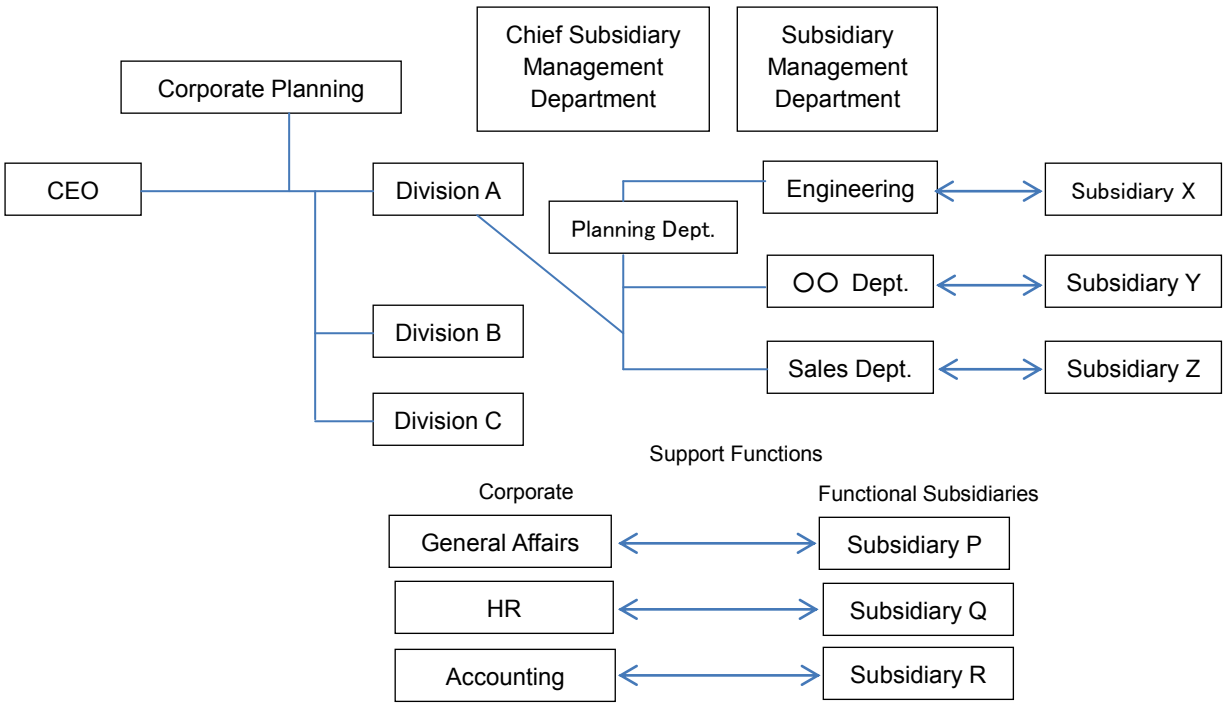
Figure 15 below depicts the typical vertical and horizontal coordination system found in many Japanese corporate groups, including the case study groups.

Figure 15. Organizational Control and Coordination Systems of a Corporate Group



To illustrate how the coordination systems described above works, I will use one of the case study corporate groups as an example. Figure 16 below shows how the MHI Group organizes the control and coordination of its subsidiaries.

Figure 16. Control and Coordination of Subsidiaries at MHI



Within Business Division A is a manufacturing subsidiary X that builds ships. There are multiple managing departments that together coordinate activities performed by Subsidiary X. While it is the Engineering Department that oversees Subsidiary X's daily operation, it is the subsidiary's management department aided by the Planning Department that oversees its business performance, while the head of business Division A is responsible for the overall business performance of the entire division. The department that acts as Subsidiary X's management department depends on the role of the subsidiary. The Corporate Planning Department makes sure that the organizational design is optimal and that that the departments and subsidiaries function as intended. In addition to the above, there are also corporate support departments such as HR, Accounting, and General Affairs that provide the division with specialized functions.

Similarly, Hitachi, Panasonic, Nihon Yusen and Japan Airlines too have head-office departments that monitor and coordinate activities of their subsidiaries. For each subsidiary, there is usually a counterpart department within the head office that is responsible for this role. This counterpart or managing department performs part of what Owan and Kato (2008) describe as hybrid coordination because it aggregates local information of the subsidiaries that it oversees, and coordinates activities to ensure that they are aligned with vertical controls and strategy execution.

In addition to the subsidiary counterpart or managing department of the business division, there are also head-office departments that exert governance across business divisions and their subsidiaries. In Nihon Yusen for example, the Group Management Committee decides on the basic management policies and compliance rules that are to be applied across all subsidiaries.

The corporate group's mid-term and annual targets, strategic goals and company policies are often conveyed to subsidiaries through joint conferences. In Panasonic, where each business unit has its own head of HR, head of accounting and head of planning, there are head of accounting meetings, head of planning meetings and so forth, where all the head of department from the head-office and wholly owned subsidiaries gather together to share information and discuss policies. For example, there are around 50 to 60 head of accounting in Panasonic, and they often rotate amongst accounting departments such that the head of

accounting in company A becomes head of accounting in subsidiary B, head of accounting in subsidiary B moves to the role of head of accounting in subsidiary C, and so forth. In Japan Airlines too, all the head of general affairs departments are summoned to attend meetings where information concerning policies and governance are shared and discussed.

As I have described in the previous section, secondments and transfers of managers from the parent company to the subsidiary, as well as secondments of staffs from the subsidiary to the parent company are not rare. Cross-secondments help foster communication, transfer knowledge, and allow the parent company to exert influence where necessary over the subsidiary's actions. Secondments also provide opportunities for the parent company to train its managers, and have them exposed to top management roles in subsidiaries before they assume senior positions in the head office.

One may wonder whether such coordination systems slow down or speed up decision making. The answer to this question depends on the amount of coordination that is required, and that in turn often depends on the type of subsidiary. Because subsidiaries are created to speed up decision making and save communication costs, as we have discussed earlier in this paper, autonomous business subsidiaries may require less coordination, or coordination may be restricted to areas that are related to the group synergy. On the other hand, for subsidiaries that are integrated into the parent company's production value chain, routine will often involve coordination between parent and subsidiary. Although coordination requires

time and effort, it aligns expectations such that work can be carried out smoothly with little corrections.

Having discussed the main coordination systems, I turn my attention now to discuss three main areas where the systems are used by corporate groups to coordinate activities.

Three Areas of Coordination: Planning, Execution and Adjustment, Optimization

Given that most corporate groups have some form of system in place for controlling and coordinating activities vertically and horizontally, the question remains as to how effective these systems are. Is local information concerning customer trends and competitive environment promptly collected and analysed? Are activities across the organization adjusted quickly and coherently to capture business chance or mitigate risks? In large corporate groups, deciding everything centrally is inefficient and cost-wise impermissible. So despite some degrees of control losses, there needs to be a certain appropriate level of delegation complemented with monitoring that could effectively minimize control losses. As one senior officer describes, “There is such a long chain of delegation in the company that I sometimes worry whether certain important information escapes reaching me promptly.”

Although many activities in large corporate groups are highly decentralization, the cases show that companies also have in place parent-subsidiary coordination systems that are used alongside decentralization. I found from the cases that there are three distinct areas in which firm uses their coordination systems, and they can be interpreted as roles of the

corporate head-office. The three areas of coordination are (a) planning, (b) strategy execution and adjustments, and (c) optimization of activities within the corporate group.

(a) Coordination in Planning

Firstly, regarding planning, the coordination system observed in the case study entails aggregating local information in a bottom-up manner, after which cost and output decisions will flow down the organizational hierarchy. This resembles the technology posited by Mookherjee for using decentralization to obtain the same expected outcomes as an optimal centralised setting (as described in section 5.1). A manager at MHI describes their coordination as follows:

> "It is both top-down as well as bottom-up. The corporate head-office drafts the strategic big picture concerning how they want the corporation to move forward. Each business division, together with their subsidiaries, then work out how the strategic goals related to its division could be achieved by drafting business plans. The plans are then aggregated by the head-office, and if the planned forecasts do not meet the strategic goals including SVA (EVA) targets, the business divisions will be asked to work out again ways to fill the gap."

Likewise, this combination of top-down and bottom-up approach is also used in Hitachi's planning process. A manager at Hitachi describes their coordination as follows:

> "In our budgeting process, the top sets out the vision and strategic direction, and the budgeting of, for example, sales plan and costs are all worked out bottom-up. The important coordination here is to have the bottom agree on the budget before the figures are aggregated bottom-up. The resulting budget is therefore not a target but a promise. And because it is a promise, everyone expects it to be kept. In other words, the corporate strategy is based on sound bottom commitment. The

strength of this bottom-up culture is evident in the post 3.11 earthquake, when it contributed greatly to prompt and coordinated actions."

This process of aggregating information to form a strategic plan is an important coordination activity because it allows the organization to make more informed decisions based on realistic plans, even though plans are based on assumptions that may change as the business environment changes. But because the plans are at least checked in terms of feasibility, they highlight gaps where the proposed plans fail to meet the corporate strategic goals, and thereby allow the organization to made adjustments or build new competencies in order to fill the gaps are identified. It also allows the organization to check if the plans are strategically consistent with other plans and goals that make up the corporate strategy, or whether there are duplicated activities that could be combined and thereby increase efficiency or save costs.

However, if done poorly, this coordination process could lead to serious problems. For example, if submitted plans are strict commitments, a subsidiary may either push itself too hard in supplying cheaply to the parent company and ends up suffering losses, or it may plan and submit easily attainable targets to avoid noticeable failure. The quality of the plan therefore depends on the subsidiary's attitude towards its commitment, and also the coordinator's ability in each aggregation stage to judge whether the reported bottom-up plan is indeed appropriate and acceptable. This will not be easy if the coordinator lacks knowledge about the subsidiary, and therefore cannot judge accurately whether the reported plan is over

or under stretched.

Ineffective coordination could also lead to what I would describe as “prayer plans” and “stapled plans”. Prayer plans are plans that no one knows but yet everyone assumes to be realistic and therefore prays earnestly that events will somehow unfold as planned. Because of dysfunctional coordination, such an organization will have difficulty identifying the root of its problems when events begin to do diverge from its plans, and as a result, corrective actions will also be slow or ineffective. Stapled plans, on the other hand, are bottom-up plans of “what each department says they want to do” stapled together. Such a master plan often lacks consistency and has conflicting goals. For example, the product development department may define the core product as premium, while the manufacturing department may produce them as non-frill to save costs, and the sales department may reduce price to reach its sales volume quota, such that the front-line staffs will be left confused as to what the company’s strategy actually is.

It is therefore important to have effective coordination systems such as cross-functional coordinators who understand decision trade-offs, and who is capable of ensuring that the strategic plan is coordinated in such a way that it can be effectively executed across the organization. It may however be hard for large corporations to have sufficient staffs trained as effective coordinators. Although I cannot disclose the name of the survey, I recently had access to results of a corporate survey conducted last year on 500 head-office managers. They

revealed that one of the required skills managers felt they lack most is coordination skill, and in particular, the prior knowledge - of other department's work and how they relate to create value - which is needed in order to coordinate activities.

It is also important to assign an appropriate department as the subsidiary's head-office counter-part. In one of the case study companies, a certain head-office department was assigned because the subsidiary was initially a part of that department's value chain. But years later, even after the subsidiary's role has shifted such that a different department would have been more suitable as the counter-part, the assignment has not been revised. As a result, control and coordination became ceremonial rather than effective as originally intended.

(b) Execution and Adjustment

The second area concerns coordination in execution and corrective adjustments as part of the PDCA (Plan-Do-Check-Action) process. As mentioned above, all the companies in the case study have a relatively high degree of decentralization, which is complemented with PDCA systems that monitor the effectiveness of activities within the corporate group. Because of consolidated financial reporting and quarterly disclosure of financial results, companies check performance progress against profit forecasts announced for the fiscal year. Performance control is a crucial activity essential for identifying lagging areas and for taking corrective measures promptly. As a head-office manager in one of the case study companies describes, "Problems will reveal themselves in the financial results and they will be

questioned. They will also be rectified subsequently through the business division's PDCA cycle."

In the case of Hitachi, although an individual business subsidiary is responsible for its own business plans, if the performance deviates from what was planned, resulting in excessive production and left over inventory that would affect consolidated performance, the corporate department will interfere and exert control. The corporate department would inquire the causes of discrepancy, and question the premises under which the subsidiary initially made its investment and production decisions, as well as premises under which the corrective measures are said to work. As a manager in Hitachi describes,

> "There are two levels of governance, one at the subsidiary level, and one at the group corporate head-office. It is fine if the investment generates profits, but does it really? … is the kind of question we ask. We also check the premise and evidence that justifies the investment decision. In our monthly monitoring, we question things such as: Why has inventory level risen? Why has asset utilization dropped? Such that gaps are identified and usually rectified within two to three months. Serious problems however are escalated and discussed at a higher level. Each level is responsible to its shareholder, the subsidiary to its parent, the parent to its in-house company, and Hitachi to its shareholders. This governance system works in this way throughout all layers within the organization. "

This system of monthly or quarterly monitoring of performance gaps, and of identifying causes and rectifying discrepancies, appears to be a very widely adopted practice in many companies. Unfortunately, I was not able to extract much information from the case study companies regarding performance outcome, and for the information I have succeeded in

obtaining, I am not allowed to disclose them. However, there are other companies that I have talked to apart from the case study companies, who admitted to having problems evaluating their subsidiaries. For example, one corporate head-office manager said to me,

> "One difficulty is managing performance based on the mission of the subsidiary that is being evaluated. Very often the mission is not the same as when the subsidiary was initially established. It is also not realistic to apply the same financial KPIs such as ROA across all subsidiaries when they are essentially very different in the functions they perform. Another difficulty comes with deciding under what circumstances and to what extend should the corporate head-office step in and interfere, and when not to."

A problem I noticed in the case studies is that although companies have some form of classification, there does not appear to be much difference in ways subsidiaries are controlled and managed despite their varying characteristics. I propose that subsidiaries may and should be categorised differently according to their roles and relationship with their parent company. Subsidiary type should therefore be considered when deciding which performance measure to use. If it is a business subsidiary that is expected to contribute to consolidated earnings, then it may be appropriate to set KPIs based on for example the number of new clients or profit per customer segment. If however, it is a purely functional subsidiary that works more as a cost centre, then things like operation costs saved, productivity, and service quality level may be more appropriate as performance measures.

(c) Overall Optimization

The third area of coordination concerns overall optimization to ensure that partial

optimization within each division or business units sums up to be optimal as a whole. Many literatures, such as Fujii and Matsuzaki's book "Management and Learning in Japanese Corporations (2004)", mention the issues of conglomerate discount and fallacy of composition. There have also been empirical studies, such as NLI Research Institute's analysis (2003) of 9,159 company data, which show that performance turns negative when hiving-off of subsidiaries exceeds a certain threshold. So at some point, someone has to step back a little and look at the big picture to see if the present way is truly the right way of organizing activities and executing strategy.

This overall optimality is precisely one of the key stresses of Japan's famous Amoeba Management System, which was developed by the Japanese business guru Kazuo Inamori, and which was introduced to Japan Airlines as part of its restructure plan. Although activities are divided and delegated to the smallest possible units, with each unit being held responsible for its own profit and loss, the system also ensures that partial optimality is translated to overall optimality. In what is called a Micro-Macro Loop, all activities are clustered into loops so as to make explicitly clear as to which activity affects which, and how together they can produce intended and desired results.

As an outcome of coordination for overall optimization, business units and divisions may be re-grouped differently to enhance cross-divisional synergies, or the corporate pendulum may swing in preference towards a more centralised rather than decentralised decision

making structure.

It is not always easy to judge whether what is deemed optimal by the head-office management indeed leads to better results. There are sceptics who argue that fiddling with structure misses the point that the problem lies not in structure but in Japanese manufacturers' inability to come up with appealing and relevant products in a globalized market. Nonetheless, recent corporate restructurings in Japan tend to suggest that in the globalized, commoditized and modularized world of manufacturing at least, a "laissez-faire and let them flourish" approach to subsidiary management does not fit the current business environment, and that a more centralized approach is needed to redefine the corporate mission and re-group competencies to create focus and synergy.

For example, at MHI, businesses are grouped into four domains to enhance synergies amongst business units. A manager at MHI describes,

> "We produce automotive products such as turbo charge, engine bulb and car air-conditioning, and it makes sense to group all these activities together under the key-word automobile. In the past, a business division would go to a client not realising that another related business division from MHI has recently been there. Today, related activities are grouped in a way such that we can now propose and deliver packaged solutions to our clients."

Hitachi too has steered away from its past image of electronics and home appliance manufacturer, and has instead been focusing successfully on its social infrastructure businesses such as power plant and transport systems that links or integrates core

competencies and synergies of its business divisions and subsidiaries.

Panasonic too, facing commoditization and crumbling prices in its core business of digital home appliances, has decided to reinvent the company and shift away from manufacturing and selling products to becoming a solution provider, which would allow Panasonic to bring together and link the many products and services the group has to propose and deliver value added solutions.

Panasonic has recently announced to restructure itself. The company has decided to revive from April 1st 2013 its business division structure, which it abolished 12 years ago. The business division structure was introduced to Panasonic in 1933 by its founder Konosuke Matsushita. Each product was managed from product development to production and sales as a division, and these businesses divisions grew rapidly and successfully as they competed against themselves. But in just half a century, as more and more new products emerged, the number of business divisions grew to over a hundred, with different divisions marketing their own brands of essentially a same product. There were for example three divisions developing their own digital cameras, and it was apparent that such duplications are not efficient utilization of scare corporate resources. It was therefore deemed rational, for example, to combine the divisions of radio, stereo and tape recorder into one audio division. While for areas that require substantial investment in R&D such as video and semi-conductor, it was considered better for the corporate head-office to manage them as projects. In 2001, the then

CEO Kunio Nakamura abolished the business division structure, and restructured the organization according to its functions such as planning and development, manufacturing, marketing and sales. He also re-grouped the former divisions and subsidiaries into 14 business domains. The 14 domains were subsequently re-grouped into 9 domains.

But since then, times and circumstances have again changed. Prior to April 1st 2013, Panasonic had 88 Business Units responsible for planning and development, but most of them had separate manufacturing and sales departments, such that information from manufacturing and sales were not easily incorporated into product development processes. Under the leadership of the present CEO Kazuhiro Tsuga, the Business Units were reduced from 88 to 49 in April 2013, and they were renamed as Business Divisions and given the responsibility to centrally control all functions. The New Medium Term Business Plan, which was announced on 28th March 2013, defined the responsibility of global development, production and sales as follows: "Henceforth, the person who produces will need to think how to market, and to see through the sales of their products." In addition, each business division is also expected to be responsible for managing its own balance sheet, in other words for continuously increasing cash and profit. For large scale business development projects that require resources a business division alone cannot secure, the four in-house companies (Appliance, AVC Networks, Eco Solutions and Automotive and Industrial Systems) will support such business developments. Key words in the new plan include "Cross Value

Innovation", which emphasises the direction towards creating synergies by customizing Panasonic's core competencies to wherever possible in its business portfolio, and "Engineering a Better World for You" which aims to reinvent Panasonic's value proposition as an industrial partner and a provider of quality life. .

These examples show that optimizing activities can be a top management priority, and the head-office coordination in managing the changes and regrouping subsidiaries is a vital part of strategy execution.

6.4.2 Delegation of Decision Rights to Subsidiaries

Vertical and horizontal coordination systems discussed in the previous sub-section are closely related to how decision rights are delegated to business divisions and subsidiaries within a corporate group. Although large corporate groups with diverse businesses across multiple regions require some level of delegation to enable prompt decision making and smooth operation, it does not necessarily mean that once decision rights have been delegated, coordination is no longer required. On the contrary, as Miyajima and Aoki have argued, delegation should be complemented with sufficient monitoring so as to minimize agency problems and control loss. A functional subsidiary, for example may be delegated decision rights over certain daily operation, but may still coordinate actively with its counterpart head-office department to work out better ways of improving product quality or of giving

feedbacks concerning customer satisfaction. So although I have chosen to discuss coordination and delegation separately in different sub-sections for ease of illustration, I will in this sub-section describe how they are used together to manage subsidiaries.

All five groups in the case studies have corporate rules and guidelines that define the delegation of decision rights, such that it is relatively clear as to the extent a subsidiary can make its own decisions and when it requires approval from the corporate head-office. I will use one of the case study corporations as an example. In that company, the "Corporate Group Power Delegation Regulation" defines whose approval is required for what type of decisions. Some decisions require prior approval from the board of directors, some from the CEO, and some from the multiple managing directors depending on the issue. There are also investment rules that state the level of approval required for investments that exceed a certain amount.

Intervention without Damaging Incentives

Comparing theory to practice, two interesting observation can be made. Firstly, if, as posited by Ito et al. (1997), subsidiaries are used as a means to solve incentive problems because unlike internal business units, once management has delegated decision rights to its subsidiary, it cannot easily renege on its promise of not to interfere. But if the theory holds, why do we observe in the cases, many situations of head-office interfering with decisions made by the subsidiaries? Is the theoretical inhibiting assumption restricted? Does intervention not damage incentives? If incentive is the raison d'être for hiving off subsidiaries

and if intervention does indeed damage incentives, then why does a parent, which is well aware of this, intervene? Does intervention not defeat the initial purpose of establishing subsidiaries? So what is happening?

We find a high degree of autonomy in some of the case study companies such as Hitachi and Panasonic, whose subsidiaries are often encouraged to be pioneers in their specialized fields whilst being responsible for their profits and losses. But at the same time, because the performance of subsidiaries can have a great impact on consolidated performance, in light of mandatory consolidated financial reporting after 2002 and greater emphasis on corporate governance, parent companies are increasingly required to govern their subsidiaries. There appears therefore to be dual pressures – to delegate and enhance incentives, but also to exercise control when necessary and appropriate governance.

From the case studies, it appears that parent companies will tend to exert more control over their subsidiaries under the following circumstances:

- When the subsidiary begins to show poor performance. In Hitachi, delegation of decision rights depends on the corporate ranking of the subsidiary. What Hitachi calls an FIV (Future Inspiration Value) is used to evaluate subsidiaries based on operating profit and cash flow. A manager at Hitachi describes the ranking of subsidiaries as follows.

  "It depends on performance. Generally speaking when things are fine we leave things to our subsidiaries and have them report to us where necessary

afterwards. But when performance is poor, delegated decision rights become smaller, and such subsidiaries will be asked to report their results monthly so that we can monitor more closely and frequently. Using the analogy of a medical check-up, the patient will be sent to an ICU if his condition is serious, or if it is less serious, he will be asked to come back once a week for follow-up checks. Depending on its performance, a subsidiary's ranking may change upon evaluation, and subsequently the decision rights that are delegated to it."

- When the parent company feels that the subsidiary is still not fully capable of handling important commercial or operational issues alone. This was the case with one company I talked to, who said they started to delegate decision rights to their subsidiary because they felt it now has sufficient experience and capability to handle its businesses alone.
- When the corporate head-office finds it necessary to cut across part or whole of the corporate group to achieve its strategic goals. Actions may be geared towards speeding up transformation or optimizing activities to facilitate and maximize synergies.

  For example, Hitachi's Smart Transformation Project aims to reduce costs across the group by 5%. Hitachi has also announced to merge two of its subsidiaries, Hitachi Metals and Hitachi Cable in July 1st 2013, as part of Hitachi's restructuring to enhance synergies in its high-functional material business segment.
- When the parent company is highly dependent on the subsidiary's role, such that daily operation entails frequent parent-subsidiary communication, coordination, and at times interference. For example, MHI has around 11 business subsidiaries, but hundreds of functional subsidiaries in its core business of heavy industry. As a head-office manager

describes, “Decision making tends to be relatively centralized.”

If there are circumstances under which parent companies exert control over their subsidiaries, then according to theory, will those actions not damage ex-ante incentives by the subsidiaries to invest in efforts? The cases show that this does not have to be the case.

Firstly, through effective coordination, the parent and subsidiary often agree on a set of actions or responsibilities and performance level that the parent is comfortable with and that the subsidiary can have discretion over. Subsidiaries usually consult their head-office counterpart when in doubt as to whether a new issue should to be handled alone or ought to be coordinated in advance. Delegation of decision rights is therefore often complemented with coordination. Secondly, a parent company can design ways to interfere only under circumstances that are deemed necessary, and in a way that is acceptable to the subsidiary. Hitachi’s flexible ranking system based on performance, as we saw earlier, is an example of such contingent control.

The appropriate balance between delegation and intervention has to be worked out by the parent and the subsidiary, and there is no one-size fits all solution. In one of the case study companies, where a head-office business division often needed previously to coordinate with its functional subsidiary, there is now a much greater emphasis now on independent-ness and entrepreneurialism so as to encourage pro-active efforts. From the case study, it can be said that “mutual consent” is a key factor that facilitates the coexistence of

delegation and interference without damaging incentives.

Incomplete Delegation Rules

The second observation from the case studies concerns the corporate rules that are used to define decision rights within the organization. One of the case study companies has around 300 decision types, with each type further sub-divided into multiple levels based on its importance. Each item is then mapped against the level in management that possesses the decision right. Several things can be said of such a delegation system.

Firstly, the rules need to be up to date in order to be useful, or else, even though managers may have a general idea as to who at which level should decide, the organization will not be able to identify with authenticity where the decision rights rest. The rules also need to be fairly exhaustive in order to cover all important decisions but not too rigid such that it would slow down decision making. Rules after rules may be added as new situations emerge, such that the long list of rules may contain contents that are no longer valid, whilst yet not cover all conceivable decisions, because like contracts, it is not possible to be complete. Even if there exist an up-to-date and complete list of all conceivable decisions, the rules also need to specify who at which level in the organization should decide. This may be tricky when the decision concerns not just one division but multiple related divisions. It follows then that the rules need to be based on the knowledge of how activities are related with each other within the organization, and whose prior approvals are required.

Furthermore, the quality of the decision will also depend on the information provided to the decider, and the way in which the rules are written may influence or distort the way an issue is framed and presented. For example, if the closest corresponding rule is written (and as a consequence the decision proposal is framed) in terms of investment approval, when the issue actually concerns not approval of investment amount, but trade-offs between investment and service quality, the decider may as a result fail to understand the issue correctly. Misunderstood information may also be caused by limitations in the size of information as pointed out by Mookherjee (2005). Important information may get omitted as many details are summarised and abridged to fit into a short executive summary.

Although delegation rules have their limitations, and problems may arise that affects decisions that are made, occurrence of such problems are often reduced because of parent-subsidiary coordination that often precedes authorization processes, and also because of informal rules and norms that help members of the organization interact smoothly.

6.4.3 Managing Parent and Subsidiary Relationship

In chapter 5, we looked at various aspects concerning parent-subsidiary relationships such as dual pressures that may not be compatible, and that arise, for example, from the need to differentiate in order to meet local market demands whilst also to integrate in order to reduce costs and attain economies of scale. We also looked at how perception gaps between the head-office and subsidiary concerning the subsidiary's role can generate conflict, though

conflict may also lead to innovation and change.

In the case studies, I was rather surprised that although there are many literatures that discuss dual pressures and conflict between parent and subsidiary, and thus one would expect to find many such issues in the real world, most of the companies that I have interviewed did not quite admit to having such conflict problems. This may be because Japanese culture encourages harmony, bottom-up coordination and mutual consent, and thus admitting to having parent-subsidiary conflicts bear a highly negative image, such that most firms are reluctant to openly admit that they have such problems. Furthermore, employees, especially in listed companies, are usually not allowed to disclose information concerning problems unless such disclosure is authorised. This is understandable, for nowadays even twittered rumours news may trigger concerns that could affect share prices.

So although ideally I should like to have solid case evidence to support my arguments, the general non-disclosibility of problematic issues renders it necessary for me to read between the lines and infer from them whether or not conflicts exist, and if so to what extent. From what I have observed, it appears the following three factors affect conflict between parent and subsidiary.

Factors that Affect Conflict

(a) Stage of Business Development

Although institutional distance might exist between the parent head-office and its

overseas subsidiary, conflict may not arise because both parties understand that major decisions has to be made at the home country head office or district headquarter, and the subsidiary plays only a minor complementary role in providing local information that cannot be observed by the parent. However, at a later stage of business development, when the subsidiary has more power to make decisions independently, conflict may arise between the subsidiary's pressures for localization, and the parent's pressure for overall optimization.

I should emphasise here that conflict is not necessarily undesirable. Conflict can highlight problems and decision trade-offs, and can offer opportunities for the company to make improvements. Seen in this light, very little conflict may be more worrisome if it implies weaknesses in identifying and voicing problems, or practices of supressing problems by power rather than resolving them through coordination.

(b) Subsidiary Type

The second factor that affects parent-subsidiary conflict concerns the type of subsidiary. In corporate groups that have many independent business subsidiaries such as Hitachi and Panasonic, there may be less conflict from dual pressures because subsidiaries have a high degree of autonomy and do not have to frequently consult or obtain approval from the corporate head-office. Performances are being monitored, and it is only when promises and budget plans are not fully kept that the head-office steps in to interfere. One manager described the situation as follows.

"There are dual pressures, but it is up to the subsidiary's top management to decide how and to what extent the balance should be. This is fine because the subsidiary ultimately has to be responsible to its shareholder for its performance."

On the other hand, in corporate groups where subsidiaries are mainly production units, and where the parent depends on the subsidiary for the function it performs in the production value chain, there may be a stronger centralized control that could create conflict, especially when there are perception gaps concerning the role and capability of the subsidiary. For example the parent may perceive and treat its subsidiary as a cost centre, while the subsidiary may persist on pursuing external businesses as a profit centre.

(c) Clarity and Consistency regarding the Subsidiary's Role

A lack of clarity and consistency regarding the subsidiary's role may also create conflict, as the parent and subsidiary may form different expectations regarding the subsidiary's role. In the case study, for example, MHI stresses the importance of communicating the group's strategy to its subsidiaries and having the subsidiaries understand their individual roles within the corporate group. A manager at MHI describes the situation as follows.

"There was, I think, a time in the past when we used to put pressure on our subsidiaries to purchase our products and to have them take on our redundant employees. Sometimes they were treated as merely one of many suppliers, and sometimes they were asked to be independent business entities, but suddenly when needed, they were asked to adhere to orders from the head-office or absorb effects of poor performances. The inconsistent and changing expectations bred frustration within subsidiaries and conflict with the parent company. But times have changed, and so has our policy towards our subsidiaries. Today, all our

subsidiaries have a clear mission and role identity within the corporate group as you can see in the MHI Group brochure. Our emphasis now is not so much on having our subsidiaries expand their businesses with external clients individually, but more on focusing internally on how we can enhance synergy in our core businesses by mobilizing our resources and capabilities."

Changes in Technology and Business Environment

In addition to the issue of conflict, the case study revealed one other aspect that affects parent-subsidiary relationship - that of changes in technology and business environment. For example, in the case of Nihon Yusen (NYK), changes in industry technology and the environment of its container liner business greatly affected transactions between NYK and its subsidiary. A manager at Nihon Yusen describes the situation as follows.

"In the past, our liner business division would fill their cargo space by selling to large corporate clients like Panasonic and Toyota. But as ocean liners get bigger with the improvement of technology such that we now own ships that carry over 10,000 TEUs, it becomes very hard for us, even with alliances, to fill the spaces solely by our own effort. This means risks are much higher, and we don't afford to carry cargo just one way and then carry back empty containers. Not only is the market commoditized, demand is also highly volatile, such that we need to hedge against low demand and low prices. We therefore sell part of our space at cheap rates to our logistics subsidiaries that operate NVOCC (Non Vessel Operator Cargo Carrier) business, and they in return guarantee filling those spaces. But this is no cosy parent-subsidiary arrangement. Yusen Logistics is not obliged to use NYK liners. In fact it purchases space based on the most favourable terms available in the market, so it may or may not be NYK."

In the above case, technology and business conditions demand that even with intra-group transactions, both the parent's liner business and the subsidiary's logistics

business have to be at least as competitive as the market. Under such conditions, there is no room for cosy mutual dependency, and the parent-subsidiary relationship moves towards a more market like type of relationship.

With a shrinking domestic market, many corporations are seeking growth opportunities abroad. A manager of a large corporate group said to me that as his company becomes more globalized, and as it expand businesses abroad and recruit talent from abroad to work in both its Japan head-office and its overseas subsidiaries, it is also devising new management systems to cope with the changing organization. Many implicit rules, norms and role expectations which were previously shared and understood by subsidiaries, have to be made explicit because employees now come from different cultural backgrounds.

Diffusion of Knowledge

In chapter 5, we looked at the issue of knowledge diffusion, and discussed how multiple community membership within a corporate group can bridge structural holes in social networks and help the brokering of collective knowledge. The coordination and control systems that the case study firms use serve as brokering functions that allow diffusion of knowledge between the parent and its subsidiaries. The stress on mutual acceptance allows both the parent and the subsidiary to make explicit issues that require coordination, and staffs who are seconded or transferred act as mediators that facilitate the flow of information and knowledge.

For example, in the case of Japan Airlines, in which the head-office counter-part department works closely with the company's IT subsidiary, mutual coordination creates value because the counter-part department has specialized knowledge about its business requirements whilst the IT subsidiary has specialized knowledge in IT, including knowhow that is accumulated through external transactions that can be leveraged by the corporate group to craft solutions. Coordination distributes cognition that helps the parent and the subsidiary to co-produce value.

Another issue that concerns parent-subsidiary relationship is that of self-enforcement. For example how can a parent company ensure that corporate policies and rules are not merely ceremonially adopted or corrupted in the subsidiary? The following sub-section discusses this issue.

6.4.4 Norms and Self-Enforcing Mechanisms

So far in this section, we have looked at formal coordination and delegation systems that corporate groups use to manage their subsidiaries. In this sub-section, I would like to discuss about informal rules and norms that companies use to facilitate interaction and coordination.

How do firms ensure that their many divisions and subsidiaries follow corporate policies and rules in practice? A corporate head-quarter may prescribe many rules and expect the intended receiver to follow them. But if the intended receiver does not realize that part of his

or her work entails compliance with the prescribed rules, or if shared meanings do not exist, or if the meanings are changed, confusion will exist about what actions are required. One firm I talked to said they have been taking extra efforts by structuring rules for easy reference, by listing up rules that are likely to be required for each division, and by holding conventions to brief subsidiaries of additions and changes to corporate rules and regulations. Systematic distribution of cognitions amongst members was also achieved through routines where head-office departments and subsidiaries coordinate and share knowledge.

In addition to formal rules, informal rules and norms also play an important part in facilitating shared general understanding that essentially makes business corporations self-governing. A manager at Panasonic described their norm as follows.

> "We at Panasonic place great emphasis on our management philosophy. The seven beliefs, established by our founder Konosuke Matsushita, are read aloud every day in morning assemblies, they are quoted and used frequently in meetings, and they are a subject at study meetings and seminars. As a result of this emphasis and routine usage, the Panasonic management philosophy is very much shared amongst employees within the group."

Using the case of Japan Airlines, I would like to give a more detailed example of self-enforcement. Japan Airlines (hereafter referred to as JAL) has what it calls the JAL Philosophy, which was instituted in January 2011 and is said to have played a vital role in the company's recovery. JAL places this Philosophy alongside its performance management systems as core components of their management. All employees are handed a little while

booklet of 125 pages, in which the 40 articles of JAL Philosophy are printed. It begins with the Formula for Success:

Result of Life and Work = Attitude × Effort × Ability

The formula stresses having a right attitude, because if it is negative, the outcomes will be negative even with the brightest talent. Plugging in a -100 or a +100 to the formula makes a great difference to the outcome.

Unlike a couple of overarching value proposals or identity statements used in some corporate philosophies to empower employees to make decisions without having to rely on rules and manuals that are in nature never complete, the 40 articles of JAL Philosophy prompt employees to evaluate an issue from multiple angles, by referring to the articles that are related to the issue at hand. In order to apply the Philosophy, it has to be studied so that all members of the group could share a common language, draw freely from the Philosophy, and agree on a just way of handling matters.

Prescribed norms and values change from merely beautifully crafted words to embedded norms and values only when they are used regularly. Through regular usage, they become part of the language and part of the way in which employees frame and view issues. Many companies that I have talked to, appear to share this view on frequent usage. Commitment by top management is another crucial factor that leads to successful adoption and hence frequent usage of prescribed norms. In Japan Airlines, philosophy study sessions start from

the very top, and moves down the hierarchy. One senior manager of another company said that all their executive officers quote words from the company philosophy in all their speeches, messages and documents that are directed to employees, so that frequent usage could prompt awareness.

In my case interview with JAL Infotec (hereafter referred to as Infotec), an IT subsidiary of JAL, I was struck first by the enthusiasm the manager displayed towards the JAL Philosophy, and then by the impact the Philosophy had on its parent-subsidiary relationship. Since its introduction, JAL has been organizing rounds of regular group-wide study sessions in various regions where staffs from head-office and subsidiaries gather to study, discuss and share views concerning the JAL Philosophy. In addition to these formal sessions, many staff initiated study groups have sprung up across the company in many areas, one of which is organised by staffs of Infotec.

The effects are quite astonishing. For example, although the roots might have existed earlier, the adoption of internal control systems in Infotec was far from ceremonial. The JAL Philosophy helped spread the awareness of internal control, and as a manager in Infotec describes, it is now very much a habit.

> "Take for example something as simple as locking your desk drawer after work. Our staffs would feel very uncomfortable if they think they might have forgotten to do so. He or she will have this insecure feeling that feels like driving a car without putting on a seatbelt or like riding a motorcycle without a helmet."

Infotec has developed its own internal control systems and study program, which proved

to be so well worked out that in just one year, over a hundred JAL head-office personnel, from senior directors to managers, have attended Infotec's study programme. This is a good example of knowledge and best practices flowing from the subsidiary to the parent company.

Regarding internal control in Infotec, rules are not seen merely as a long list of things that need to be observed, but as a reason for doing things the way it they are intended to be done. They are not seen as wearisome extra work, but as an understood way of mitigating risks that protects the company and thus its employees.

In addition to facilitating the adoption of rules, best practices and knowledge between parent and subsidiary, the JAL Philosophy also changed the relationship between JAL and Infotec. In one of their business negotiation processes, JAL did not exert control power over Infotec although it might have been able to do so. Rather the process was based on what is deemed proper in terms of the JAL Philosophy. In demanding flexibility, JAL could have wanted Infotec to perform a system fix by just placing an order over the phone or by email, whilst leaving the contract terms and red tape to be sorted out later. However, such a practice would go against Infotec's internal control rules that require performing tasks only after having received a valid order contract. When JAL's procurement department and Infotec discussed over this issue, both parties agreed on what is just and proper based on their shared understanding derived from the JAL Philosophy.

As the above example shows, although rules and norms may be seen as constraining,

they are also enabling because rules can aid individual's knowledge of how others are likely to play, thus helping them play effectively. Rules become self-enforcing when employees do not have the incentive to play otherwise. They also help facilitate diffusion of knowledge and best practices both from parent to subsidiary, as well as from subsidiary to parent.

Another example can be seen in what I have described earlier about Hitachi's delegation of decision rights to its subsidiaries that is contingent upon each subsidiary's performance. Here too, repeated interaction makes the system self-enforcing as each subsidiary acquires a cognitive frame as to how to play – Perform well and more autonomy will be granted, perform poorly and autonomy will be reduced. This kind of shared understanding is important because it facilitates mutual consent, which forms the basis of the system of balancing control and delegation that many Japanese companies use.

6.5 A Summary of Academic and Practitioner's Knowledge

Table 15 below summarizes the main academic knowledge and practitioner's knowledge discussed in this chapter. Although the practitioner's knowledge are based mainly on the case study of five large corporate groups, they are contents-wise not highly firm specific, and are therefore to a large extent generalizable to all large Japanese corporate groups.

Table 15. Combining Academic Knowledge with Practitioner's Knowledge

Activity	Academic Knowledge	Practitioner's Knowledge
Creation of Subsidiaries. Drawing boundaries of a corporate group.	Transaction Cost Theory Choose to use subsidiaries when transaction costs of using the market are high. Choose to use the market when transaction costs are low. Use of subsidiaries balances high internal transaction costs that arise from excessive control that reduces productivity, and high external transaction costs that arise from using the market.	Ex-post Lock-in of Group Boundary After a subsidiary has been established, other make or buy criteria such as utilization exist. High switching costs and biases that justify using subsidiary over market may also prolong lock-in. Lock-in also depends on the type of subsidiary and its relationship with the parent company. Lock-in implies the possibility of internal transaction costs outweighing external transaction costs.
	Incentive Theory Use subsidiaries as commitment by parent not to interfere ex-post such that the subsidiaries and their business divisions will have the incentive to invest in firm specific efforts. This is related to the internal transaction costs of intervention that reduces productivity. .	Balancing Centripetal and Centrifugal Forces Although incentive issues are considered, corporate groups also aim to maintain a balance between their centrifugal and centripetal forces. This is evident is the multiple coordination systems that are typically used in large corporate groups. Emphasis is placed on mutual agreement between parent and subsidiary so as not to damage incentives. Control and coordination does not necessarily entail trade-offs in productivity. Thus the economic rational is not just to balance transaction costs but to enable a wider range of strategic options amongst in-house, subsidiary, and market.
	Property Rights Approach Important to own subsidiary and have control over residual rights when there is uncertainty, when investments bring residual returns, especially when owning	Important to have full ownership when the parent company needs more direct control over the subsidiary to create synergies or to restructure the corporate group.

	complementary assets create value. Use of subsidiaries balance control when there are high costs to allocating control rights exclusively to one party.	
	Resourced Based View Tacit knowledge makes trading of capabilities difficult, and this may determine the group boundary because cognitive constraints may increase cost of integrating across diverse external capabilities.	Knowledge Defines the Group Boundary Explicit and tacit knowledge defines boundary of group in a wider sense of relational transaction partners having the required production knowledge. Investments in knowledge and high switching costs however imply the possibility of lock-in even when performances are sub-optimal.
	Contingency Theory There is no best way to organize a corporation, and that the optimal course of action is contingent upon the company's internal and external environment. Empirical studies show for example that diversification drives companies to delegate decision rights to subsidiaries.	Strategic Necessity for Having Subsidiaries. The cases identify the following six strategic necessities. (a)Integrate vertically when production inputs cannot be procured from the market. (b)Use subsidiaries to meet legal requirements. (c)Use subsidiaries to shape or alter competitive environment. (d)Use subsidiaries to develop identified business opportunities. (e)Respond to host country demands (f)Tailor offering to better meet customer demand. Other strategic necessities: (g)Enter or expand penetration into markets that have growth potential. (h)To access or have ownership over scare resources. (i) Develop synergies, acquire competencies.

Management of subsidiaries	Vertical and Horizontal Coordination: Managers and workers who have proper understanding of central management instructions, adjust those instructions using the local information that they perfectly observe. Benefits of coordination have to outweigh communication costs. Decentralization and Delegation of Decision Rights: Possibility of designing a decentralized hierarchy that could achieve optimal centralized outcomes. Select appropriate level of decentralization based on the costs and benefits of delegation. Costs: Incentive cost, control loss and power abuse. Benefits: Access to local information, better and quicker decision-making.	Coordination Systems: Corporate groups have multiple coordination systems that are used alongside decentralization and delegation systems. They resemble what Owan and Kato's describe as hybrid coordination. (a) Counterpart head-office department (b) Group management department (c) Functional meetings (d) Personnel rotations, secondments and transfers Areas of coordination: (a) Planning (b) Execution and adjustment (c) Optimization Effectiveness of coordination systems is monitored through performance checks.
	Incentive Theory: Use subsidiaries as commitment by parent not to interfere ex-post such that the subsidiaries and their business divisions will have the incentive to invest in firm specific efforts	Delegation Systems: Delegation but also intervention. Intervention is contingent upon performance or is mutually acceptable, such that subsidiary incentives are not damaged. Delegation rules are incomplete as not all decisions are known ex-ante. The way in which rules are created, and in which proposals are framed and communicated based on the rules may affect the quality of decisions. Coordination systems, informal rules and norms can reduce occurrence of such delegation problems.
	Parent – Subsidiary Relationship: Dual pressures that could lead to conflict. Normative integration	Parent–Subsidiary Relationship: Three factors that affect parent – subsidiary conflict:

	through socialization could reduce conflict. Agency problems may arise such that subsidiaries may pursue interests that diverge from the corporate group's goals. This can be reduced by monitoring and by designing incentive compatible contracts. Subsidiaries may play mixed motive games that pursue local interests while share interest in the corporate group's prosperity. Evolutionary games allow players to learn and change strategy over time. Perception gaps concerning the subsidiary's role may generate different expectations and thus conflict.	(a) Stage of business development Conflict is less at early phase of business when the parent makes all major decisions, while the subsidiary plays only a minor complementary role. But conflict increases later when the subsidiary has the power to press for interests that differ from that of the parent. (b) Type of Subsidiary Conflict may arise when the parent and subsidiary have different interests, and when there are perception gaps regarding the subsidiary's role. (c) Clarity and Consistency Regarding the Subsidiary's Role Changes in industry technology and business environment also changes or creates new parent - subsidiary relationships Coordination systems facilitate the diffusion of knowledge between parent and subsidiary.
	Self-Enforcing Mechanisms, Evolutionary Games: Rules are norms may be seen as constraining, but they are also enabling because rules can aid individual's knowledge of how other are likely to play, and thus help them play effectively.	Rules and Norms: Frequent usage and commitment by top management are crucial in embedding norms. Norms facilitate dissemination of knowledge and best practices between parent and subsidiary, and facilitate coordinated action.

7. Classification of Different Types of Subsidiaries

There is one important aspect that has yet to be addressed. In the process of mapping academic theories and literatures against practices that are observed in the cases, I became acutely aware of the fact that the degree to which theories explain practice varies depending on the type of subsidiary and the corresponding parent-subsidiary relationship.

For example, a parent-subsidiary lock-in would be less an issue if the subsidiary is an independent business, in which case the parent may choose to divest that business. Panasonic's decision in 2012 to retreat from the European smartphone market shortly after its re-entry sent worries concerning future growth drivers, but it also received praises for its prudent and swift top management decision. Lock-in would however be more an issue if it concerns increasing utilization rate of a subsidiary which operates as a production factory, and where tacit knowledge in production incurs high switching costs.

Or for example, in terms of delegation and coordination, the level of control would often depend on the type of subsidiary. An individual business operating subsidiary would have more autonomy than a manufacturing subsidiary that has to constantly refer to decisions made by it counter- part head-office department. Performance of a profit centre subsidiary would be evaluated for its revenue and profits, whilst a cost centre subsidiary for its cost reduction and its quality of outputs. In the case of MHI, we saw that control tends to be more centralized because most of its subsidiaries are part of MHI's production function.

The substantial differences that exist necessitate a classification of subsidiaries in order

to have a better understanding of the issues that we have discussed regarding why are subsidiaries formed and how subsidiaries are managed. In this chapter, I will briefly review the major literatures on subsidiary typology, and propose a classification, which I will use as a basis for discussing the research questions of this paper.

7.1 Types of Subsidiaries

I begin by briefly going through some of the major literatures on the classification of subsidiaries. Enright and Subramanian (2012) offered an activity-based typology approach, in which they posited that not only is the presence or absence of a particular activity comparatively easier to measure, an activity perspective provides also a more reliable way to study subsidiary roles. Results of their empirical study of 1,100 U.S., European and Japanese firms support a four-part typology of subsidiary roles: management and development, full functional subsidiaries, production bases, sales and service subsidiaries. This typology helps us to identify, for example, that a significant number of subsidiaries are production bases, whilst a relatively low number of subsidiaries are given the role of management and development.

While this classification is helpful in understanding how size and nationality of parent company exhibit different behaviour in the distribution of activities to subsidiaries, it tells very little about how parent and subsidiaries interact. Birkinshaw (1995 and 2005), on the other hand, described the subsidiary roles as 'Specialized Contributor' and 'World Mandate'.

The former type performs a limited number of functions in the value chain and requires a high degree of control by the parent for integration and coordination purposes. The latter type holds regional or world-wide responsibility for the whole of the product and performs most of the activities in the value chain. Birkinshaw's classification of subsidiaries is based on the relative strength of the subsidiary's internal competitive arena within the MNC and external competitive arena. His work hypothesised and found support that the more focused the subsidiary is on its external competitive arena, the greater its degree of entrepreneurship. He argued that the more internally focused the subsidiary is, the more strategic decision making are taken out of the subsidiary's hands and held at a corporate level. In dual-focused environments, it depends whether the internal or external pressures dominate.

Combining Birkinshaw's classification with that of Enright and Subramanian would allow a classification that takes into account both the activities of subsidiaries, as well as the perspective of control which is dependent on the role of the subsidiary and the parent's perception of the subsidiary's capabilities.

As a side note, I might as well mention that amongst practitioners in Japan, it appears from the case studies and well as from many business literatures that the categorization that is most commonly used is a general distinction between what is often referred to as a functional subsidiary (*kinou kogaisha*) and a business subsidiary (*jigyou kogaisha*). However, there does not appear to be any formal definition regarding the two types of subsidiaries, and

meanings can vary. In some companies, a functional subsidiary means a subsidiary that specializes in corporate functions such as accounting and IT, while in other companies the definition incudes hived-off manufacturing bases. In some companies “business” means profit centres and “functional” means cost centres, while in some companies “functional” can be both profit and cost centres at the same time.

The magazine Business Research (2011.3-4) published a report based on information of 122 functional subsidiaries of 11 corporate groups. The report described the characteristics of functional subsidiaries as follows.

- 89 functions were identified and categorized, including management and maintenance of real estate and facilities, sales, HR (salary, welfare and training), information systems, R&D, support functions, production and logistics.
- In most cases, functional subsidiaries were established a result of hived off functions that were previously performed by the parent company. The main reasons for establishing such subsidiaries were to reduce costs (81% of the 89 functions) and to improve efficiency and effectiveness on areas that require specialised skills (62%). Cost reduction was achieved through lowering wages (60%), consolidating common functions (46%), and down-sizing headquarter (43%).
- Most of the functional subsidiaries are 100% owned by the parent company.
- Although size and revenue of the subsidiaries vary, over 60% of the functional subsidiaries transact mainly with firms within their own corporate group. (Over 80% of trading partners are internal). These subsidiaries depend very much on their parent for sales revenue.

Based on what I have described earlier about Birkinshaw's control perspective and Enright and Subramanian's activity based classification, as well as taking into account Japanese practitioner's view, I propose to classify subsidiaries as follows.

An Activity-Based Definition of Subsidiaries:

- A ***functional subsidiary*** is one that performs specific functions within the value chain of core businesses within the corporate group. Such a subsidiary is therefore expected to provide the core businesses with quality and cost for specified goods and services.
- A ***business subsidiary***, on the other hand, is one that contributes to the group consolidated revenue through its own business activities.

Unlike many "either…or" definitions, the terms "functional" and "business" are merely characteristics of activities that a subsidiary perform, and hence they do not need to be mutually exclusive. A subsidiary company can therefore be both a functional subsidiary as well as a business subsidiary if it is involved in both activities.

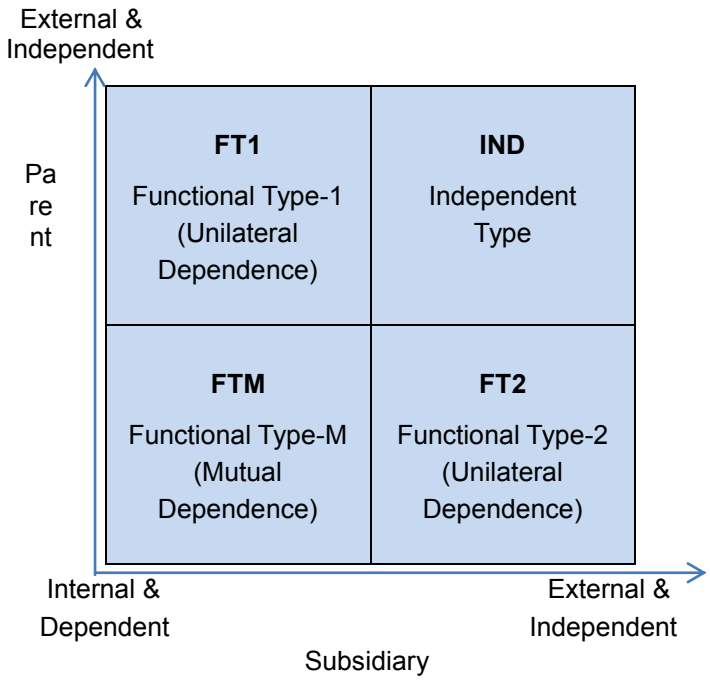
A Four Part Classification of Subsidiaries based on Dependency Relationship

In the case studies, I observed firstly that there is a dependency relationship between the parent and its subsidiary which may be mutual or unilateral. Unilateral in that a parent may depend on the subsidiary's output, or vice versa, and mutually dependant when both the parent and the subsidiary depend on each other. I also observed that both the parent and

subsidiary may each trade either internally within the group, externally with outside clients, or both internally and externally.

Based on these observations, I constructed a four part classification as shown in figure 17 below, using the parent's dependence on external and internal transaction as my vertical axis, and the subsidiary's dependence on external and internal transaction as my horizontal axis. This four part matrix represents four different types of interaction and relationship between the parent and subsidiary, and is useful because, unlike previous classifications which look only at the subsidiary, this representation depicts the activities of both the parent and the subsidiary. This matrix can be used by both the parent and subsidiary to identify where their current relationship stands, where perception gaps exist, and which direction the parent and subsidiary wish to advance.

Figure 17. Four types of subsidiaries.



FT1: The subsidiary depends on the parent as its main trading counter-part and source of revenue.
The parent however sees the subsidiary as one may many trading partners in the market.

FTM: The subsidiary depends on the parent as its main trading counter-part and source of revenue.
The parent too depends mainly on the subsidiary for its production inputs or its specialized function.

FT2 The subsidiary has external trading clients in addition to the parent.
The parent however depends mainly on the subsidiary for its production inputs or its specialized functions.

IND: Both the subsidiary and the parent regard each other as one of many trading partners in the market.

From this four part classification, one can generalize the following four types of subsidiaries.

- **Functional Type 1: Unilateral Dependence (FT1):**

  A subsidiary belonging to this type sells its goods and services chiefly to its parent company. The subsidiary usually has expertise in one area that contributes to a larger product or service value chain. The parent company however regards the subsidiary as merely one of many suppliers in the market, and chooses to buy from this subsidiary only when conditions are favourable. In some cases, the parent will use its strong bargaining power to demand better quality, lower prices and greater production flexibility. The subsidiary which has weak bargaining power when negotiating with its parent, and is susceptible to losses should its parent decide not to procure from it, strives to be as competitive as the market in order to win orders.

- **Functional Type M: Mutual Dependence (FTM)**

  A subsidiary belonging to this type sells its goods and services chiefly to its parent company. The parent too is highly dependent on the subsidiary for its goods and services, and may exert control over decision making even in matters concerning day to day operation. This may be the case for example when there is no other supplier in the market that can substitute functions performed by the subsidiary. The parent may also exert control because it owns and provides resources such as production equipment

upon which the subsidiary uses. The parent, in order to fulfil its commitment for life-time employment, may also depend on the subsidiary to hire its surplus labour. Mutual dependence may however lead to inefficiencies. The subsidiary, having no other source of revenue, and seeing that the parent has no other alternative, may seek to milk profits from the parent company. The parent, having little choice and no market price to make cost comparisons, may over pay the subsidiary for prolonged periods. The parent, under the premise that there is no cash outflow from the corporate group for internal transactions, may not have the incentive to check and revise its trading terms with the subsidiary. On the other hand, the parent company may transfer capabilities to the subsidiary, and the resulting increase in productivity may benefit both the parent company as well as the subsidiary company.

- **Functional Type 2: Unilateral Dependence (FT2)**

A subsidiary belonging to this type sells its goods and services mainly to its external clients in addition to its parent company. It is therefore dual focused. The parent company however, is highly dependent on the subsidiary for its output, and may exert control over the subsidiary. Tension will arise when there is a conflict of interest. For example, the subsidiary may wish to mobilize its resources to expand sales outside the group, but the parent company may want the subsidiary to reduce its external sales and focus its resources on the internal supply chain. On the other hand, both the parent and

the subsidiary could benefit from economies of scale when the subsidiary reduces its marginal cost of production by producing more as a result of having many external clients. Participation in the market will also force the subsidiary to be more competitive in quality and price, and the parent company may benefit from such external governance and from leveraging capabilities of the subsidiary.

- **Independent Type (IND) :**

  A subsidiary belonging to this type sells its goods and services mainly to its external clients. This may be because the subsidiary's business is in itself one of the core businesses of the corporate group rather than a supplier within the production value chain. The subsidiary sees its parent company as just one of many clients in the market. The parent, on the other, is not dependent on the subsidiary's function. It rather sees the subsidiary as an individual revenue generating business within the corporate group's portfolio. This type of subsidiary, according to the definition I have given earlier, is more a business subsidiary than a functional subsidiary.

This four part categorization provides a framework for identifying and recognizing different roles and relationships that could exist between a subsidiary and its parent company. The relationship does not have to be static either. A subsidiary may for example evolve over time from FT1 to FT2 and further on to IND. Once the subsidiary type is identified, it would then be easier to analyse relevant management within that parent-subsidiary relationship.

7.2 Management Problems Related to Different Types of Subsidiaries

The main reason as to why I am focusing on functional subsidiaries is because, despite its importance as an integral part of a corporate group that is responsible for getting things done within a corporation, there appears to be only limited research on how these subsidiaries are managed. There are many literatures on the portfolio management of corporate groups, on deciding business subsidiaries to maintain and subsidiaries to divest. But on the management side of the roles that functional subsidiaries play, there appears be very little focus. Yasuda (2003), for example, applies a ROIC Tree Analysis to identify structural weaknesses and problematic businesses within a corporation. He discusses how business portfolio should be evaluated by identifying core, future core, risk-take, opportunistic and non-core businesses, and by performing corporate value analysis on current and future economic value. Investment should be focused on value creating core businesses, whilst businesses that destroy value should be divested, and non-core value creating businesses should be spun out so as to free the subsidiary from the parent company's control.

Although managing what businesses to be in is a crucial strategic issue, equally important is the issue of making sure that the businesses that make up the portfolio are being effectively managed so that they can generate the desired results. And if important activities and competencies are carried out and owned by functional subsidiaries, then the success or failure of strategy execution would depend greatly on how well these functional subsidiaries are being managed and coordinated.

Using the typology I have described in the previous section, I will highlight some of the main issues concerning functional subsidiaries, with references to the case studies.

7.2.1. Functional Type M (FTM)

Let us firstly consider the Functional Type M. Many such subsidiaries are created with the purpose of specializing in a particular activity that is part of the company's production value chain. One of the chief reasons for doing so, according to Ito (2004), is to reduce labour cost and thereby production cost in order to be cost competitive. However it should be noted that although a company could take advantage of cheap labour costs provided by its first, second and subsequent tiers of subsidiaries, these benefits could be depleted if the parent-subsidiary production setting breeds inefficiencies that are often left unnoticed and unchecked.

In a series of articles in the *Nikkan Kogyo* Newspaper written by Kuritani et al. of the consulting firm AT Kearney (2010), the authors warned of the following problems that are said to be often found in mutually dependent parent-subsidiary settings.

- Weak governance and incapability to detect high costs and inefficiencies in subsidiaries.
- Abuse of power by the parent company to force its subsidiary to accept surplus labour by means of secondments and transfers, and throat-cutting cost budget.
- High procurement cost on production inputs (assets and services) that the subsidiary is responsible for. Unless the parent company specifies changes, the subsidiary often

continues to purchase under previous contract terms despite above market prices and excessive quality that is no longer required.

- Lack of capability and incentive to pursue external sales. External sales, when pursued, often end in losses due to a lack of competence, and they are often left unchecked by the parent company.
- Over dependence on the parent company. With the parent being the sole client and stable source of revenue, the subsidiary, as long as it can milk profit from its parent, does not have to worry about losing clients or finding new clients, which entails harsh external market competition and high risks.

It is interesting to note here that because of mutual dependency, interests of the parent and subsidiary may appear to be aligned centripetally. But contrary to the popular view that alignment is good and conflict is damaging, mutual dependency and cosy parent-subsidiary relationships, which the Japanese term "*nareai*" denotes, could breed inefficiencies and create taken for granted black boxes, such that high costs are left unquestioned because they are seen as necessary production costs by the subsidiary. A manager of a subsidiary company once said to me, "Our former parent essentially paid whatever price we charged them because there was this convenient logic that with intra-group transactions, cash merely flows within the group and is fine because there is no real cash outflow. Trading terms however became suddenly severe after our company was taken over in an M&A and ceased to be that firm's

subsidiary." A manager of another subsidiary said, "Because there is no market price for the firm-specific goods and services that we supply to our parent company, the revenue we receive is whatever our cost of production is plus a certain profit mark-up." Another often mentioned justification for high costs is that the subsidiary performs highly firm-specific functions, the quality and flexibility of which is sufficient to demand a premium price.

This is not to say that all FTMs are problematic. But if there is a tendency of locking into routines, the possibility of inefficiency suggests that the parent company should have KPIs to measure and control costs, as well as incentives schemes that would encourage subsidiaries to invest in continuous quality improvement and cost reduction. The subsidiary should also define how it can contribute to the corporate group and design appropriate goals and incentives.

In the case studies, consistent with Birkinshaw's finding that functional subsidiaries ("specialized contributor") requires a high degree of control by the parent for integration and coordination purposes, and with Ito's finding that subsidiaries who trade mainly with its parent has weak bargaining power and is subject to more monitoring, all the case companies use multiple parent-subsidiary coordination systems to control and coordinate activities with their functional subsidiaries. Whether control and coordination is effective would depend on whether they produce positive conflict and hence improvement rather than routinized relationship that creates inertia.

7.2.2 Functional Type 1 (FT1)

A parent company may choose to terminate its comfortable and cosy relationship with its subsidiary, and switch to other suppliers available in the market if it sees its subsidiary as being uncompetitive. The subsidiary, having no other clients to rely on for revenue, will struggle to meet whatever demands the parent company makes. The parent company may abuse its power to demand flexibility and low costs such that all profits are absorbed and taken away by the parent. As a result, the subsidiary may lose incentive to be entrepreneurial.

A fundamental question here is "Should a purely (in a sense that there is no external client) functional subsidiary earn profits from its parent company?" There appears to be various mixed views concerning what a pure functional subsidiary ought to be in the first place. One may argue that the purpose of a functional subsidiary, being part of the production value chain, is primarily to supply specified goods or services at the lowest possible cost. Profiting from the parent company is therefore undesirable and should be checked. Or one may argue on the other hand that profit is a necessary incentive that allows the subsidiary to be entrepreneurial, such that it will seek to make continuous improvements that benefit both the subsidiary and the parent company, and to actively seek and propose solutions based on information that cannot be observed by the parent. In other words a win-win approach rather than an exploitative approach to managing functional subsidiaries is deemed appropriate.

Sonoda (2004) argued that functional subsidiaries have in them embedded mechanisms that inhibit growth. The more a subsidiary reduces its costs, the lesser will be the price it charges its parent, and hence the lesser its revenue will become. Remuneration-linked reward raises labour cost and is therefore hard to implement because lowering labour cost is often the prime purpose of having the functional subsidiary in the first place. Cost reduction often entails quality trade-offs, such that with the emphasis placed on cost, the subsidiary may withhold quality improvements despite having the capability to do so. Sonoda therefore proposed the use of non-financial appraisal systems such as the balanced score card as a means to manage both cost and quality, as well as to allow the subsidiary communicate the non-financial benefits it delivers to the corporate group.

The management decision is not one of deciding between exploitation and entrepreneurialism, but one of striking a good balance that will neither curb incentives of the subsidiary nor allow production cost and quality go unchecked.

Another point worth mentioning is that an FT2 may be constrained from becoming an FT1 due to lock-in. Once a functional subsidiary has been established after careful make-buy evaluation performed ex-ante, including transaction cost considerations, it would not be logical, at least initially, to favour using external suppliers over using the subsidiary established for that very purpose. Once established, one would expect that the subsidiary will be fully utilised. However, after a period of time, when the issue of make-buy is re-evaluated,

and it was found that it is now much more efficient to procure from the market, what can the corporate headquarter do? Should it switch to using the market and let the subsidiary go bankrupt, which is often unthinkable under the Japanese community firm system, or should it sell that subsidiary, which again may be hard if that function is highly firm-specific and has little market value outside the parent-subsidiary setting? Or should the parent merge that subsidiary's resources with that of another functional subsidiary, and assign to it a new role? The point here is that once established, commitment towards the subsidiary is locked-into the corporate group such that restructuring is not always easily achieved.

One possible solution would be to exit from the FT1 type and move towards the IND type. But this is possible only if the subsidiary has the capability to compete externally. If it does not possess such capabilities, seeking external opportunities will increase the risk incurring losses to the corporate group as a whole.

7.2.3 Independent Type (IND)

A subsidiary may be established as a purely functional one, performing specific functions within the production value chain of the core business, such as manufacturing a certain component that is subsequently assembled into a final product. Or a subsidiary may perform logistic functions that support the corporate group's supply chain. As the subsidiary gains experience and expertise in servicing its parent company, it gradually develops competencies that could be applied to other production settings with external clients. By

participating in the market and being exposed to harsh competition, the subsidiary may further grow and excel in what it does, such that it becomes increasingly an attractive supplier to both its parent company as well as other external clients. The subsidiary and consequently the parent may benefit from economies of scale as the larger production output reduces cost per unit. The subsidiary may eventually become a core business segment within the corporate group, making substantial contributions to the group's consolidate revenue.

In the case study, many of Hitachi's subsidiaries have followed this trajectory and have become independent listed companies. Although Hitachi still maintains ownership in excess of 50% in most cases, these subsidiaries are granted more decision rights than pure functional subsidiaries.

7.2.4 Functional Type 2 (FT2)

A subsidiary in this category is often faced with dual pressures. It has to meet not only demands from its parent company but also business requirements of its external clients. For example, a subsidiary may be expected by its parent to provide expert knowledge on existing older technologies, but it also needs to upgrade its knowledge base that is often developed and acquired externally, without which the subsidiary would risk having a limited life span.

For the purpose of illustration, let us for now consider two different functional type 2 subsidiaries outside the case study; an IT functional subsidiary and a logistics functional subsidiary. I will use information of consulting firms that have worked with many FT2 type

subsidiaries.

Many corporations in Japan established IT functional subsidiaries in the 1980s, and many such subsidiaries have subsequently expanded into providing services to external clients in addition to its functional role within the corporate group. In the post-bubble period of the 1990s, many IT subsidiaries, despite being recognized as strategically important, were pressed by their parent companies to cut costs.

Kagotani (2007) of NTT Data Institute of Management Consulting described the transformation of IT from being merely a tool for enhancing efficiency to becoming a strategic tool. IT has become increasingly widely recognised as an important core competence and very much a part of the firm's business strategy. The question of who should perform IT functions has therefore become also a major IT governance issue. The benefit of keeping IT functions in-house (either by having an IT department or a 100% owned IT subsidiary), especially in the case where IT constitutes an important part of the firm's core competencies, is the relative ease of control over proprietary technology and of maintaining inimitability. However, an in-house approach entails dedicating IT resources to the systems concerned over a period of time, during which the lock-in makes it hard for the firm to adapt and respond quickly to changes in IT requirements. In-house IT also requires development and retention of necessary IT skills. Outsourcing, on the other hand, could offer more flexibility in procuring required resources and solutions. However there are trade-offs in terms of control loss and

limitations in firm-specific requirements. For example, the benefits of using a packaged software have to be balanced with considerations regarding the desired level of internal control as well as trade-offs between customization cost and the forfeiting of firm-specific requirements that are not supported by the software.

An FT2 subsidiary is both a cost centre and a profit centre. It is expected to reduce costs so as to contribute to the parent company's profitability, but it also strives as an independent business to generate revenue through external sales. Because the conflicting goals are often incompatible, and the subsidiary may find it hard to establish its long term goals and motivate its employees. The parent company may find the IT subsidiary's external profit seeking activities undesirable, as attention would be diverted from cost reduction, and proprietary technology of the firm may be shared with rival firms. According to Kagotani (2007), many Japanese IT subsidiaries in the 1980s were profit centres that sought revenue through external sales. However, only a small number of subsidiaries succeeded in becoming profitable. From the late 1990s onwards, many IT subsidiaries had to withdraw from external sales and refocus on being cost centres. This is the case with one of the case study companies too, whose IT subsidiary has over a thousand clients, but yet the parent has decided that the subsidiary should focus its resources more on internal projects.

More recently, with greater emphasis on governance and IT dependent corporate strategies, many corporations appear to have moved back to using in-house IT, and as a result,

IND and FT2 type subsidiaries too are required to become FTM to reduce IT costs and to work towards materialising the parent company's IT strategy.

The above example illustrates the fact that a subsidiary type is not static but dynamic. A parent company may change its attitude towards its IT subsidiary, and shift from FT1 to FTM for reasons such as a failure of previous outsourcing in attaining a desired level of cost and quality, conflicting interest with the IT service provider which hinders the execution of IT strategy, and a redefined role of IT as the corporation's core competence. Or a parent company may have its IT subsidiary shift from FT2 to FTM for reasons such as a failure to generate profits and to be recognized by the parent company, and pressure from the parent company to focus on in-house responsibilities.

Survey results by Yano Research Institute (2007 and 2009) however tell a slightly different story. Their findings concur with Kagotani's results in that firms are placing more emphasis on IT as a major core competence, but instead of moving in-house, Yano's survey results show that firms actively use IT outsourcing as a means to strengthen their core competencies. Some IT subsidiaries are even owned by SI vendors. Both surveys however point to the fact that IT functional subsidiaries are expected to be more than just cost centres, but providers of a range of activities, from systems planning and development to systems support and maintenance, that are necessary to sustain the corporation's core competencies.

Given the above high expectations, to what extent are parent companies satisfied with

the roles performed by their IT functional subsidiaries? Yano's 2009 survey on 66 IT subsidiary companies and 20 parent companies revealed that although 42.4% of the subsidiaries participate in the systems development process, very few subsidiaries participate in the initial planning process. Regarding the parent companies' evaluation of their IT subsidiaries, 50% responded that they are satisfied with their subsidiaries' ability to propose solutions. But they are dissatisfied or very dissatisfied with their subsidiaries' technical capability (75%), systems support (85%), cost (60%), and speed (75%). Yano suggested that improvements could be made by having the IT subsidiaries participate from the systems planning process, and thus allowing the subsidiaries to have a better understanding of the business and IT functional requirements. Hosokawa of JUAS (Japan Users Association of Information Systems) pointed out that the strength of IT subsidiaries lie in their knowledge of the parent company's business, whilst their main weaknesses lie in their lack of proactivity and inability to plan and propose solutions. Regarding the dissatisfaction, it is worth nothing however that some IT departments acknowledged that it is their responsibility to use IT to transform business, and that it is wrong place such high expectations on IT subsidiaries.

My second illustrative example looks at logistics functional subsidiaries. Watanabe (2012) of Funai Soken, a logistics consulting firm, posited that successful logistics subsidiaries are able to leverage the skills and expertise acquired through transactions with the parent company, and apply them to businesses with external clients. Because many firms have their

own subsidiary company that specializes in highly firm-specific logistics activities, only a small number of functional subsidiaries that have managed to deliver value beyond what their client's in-house logistics subsidiaries are capable of providing can succeed in becoming an FT2 or IND type subsidiary. This is no easy matter, and very often this barrier defines the boundary of a logistics subsidiary.

Many logistics subsidiaries fail as cost centres, and as a result, not only do they fail in finding external clients, even their own business with their parent company may end up being snatched away by other more cost competitive logistics providers. A lack of know-how in logistics of other industries as well as in sales also makes it difficult for subsidiaries to win external clients. As low cost operation matters greatly, a logistics subsidiary could lose its raison d'être as a cost centre if it fails to aggregate enough volume through external sales to attain economies of scale.

7.3 Linking Theory and Practice to Types of Subsidiaries

Having described the four part classification of subsidiaries which I have proposed in the previous sections, and which was derived from observations in the case studies, I can now tie the theory and practice that have been discussed to the different types of subsidiaries. This I hope will give a more complete picture about the management of subsidiaries in corporate groups. I have earlier posited that the use of subsidiaries is not just to balance internal and external transaction costs, but also to allow the parent company a wider range of options

(namely in-house, subsidiary, or market) to choose from, And within the option of subsidiary, there are further more sub-options depending on the type of subsidiary. Table 11 below shows how academic and practitioner's knowledge are mapped against the different types of subsidiaries.

Table 11. Linking Academic and Practitioner's Knowledge to Types of Subsidiaries

Academic and Practitioner's Knowledge	Types of Subsidiary
Transaction Cost Theory and Property Rights Approach Use subsidiaries to balance (1) high internal transaction costs that arise from excessive control that reduces productivity, and high external transaction costs that arise from using the market, and (2) control when there are high costs to allocating control rights exclusively to one party.	The control and coordination systems that the case study companies use do not necessarily entail trade-offs in productivity. Instead different types of subsidiaries entail different balance issues. 【FT1 Subsidiary】 Balance between favourable price and quality from either the subsidiary or market and utilization rate of the subsidiary. 【FTM Subsidiary】 Balance between firm specific production knowledge and the acquisition of knowledge and new technology which may not be accessible inside the corporate group. 【FT2 Subsidiary】 Balance internal pressure to invest in firm specific assets and external pressures to meet customer needs. A good balance may allow the parent company to leverage skills that the subsidiary has accumulated, as well as to benefit from economies of scale because of the subsidiary's expanded transaction volume. 【IND Type Subsidiary】 Balance between centrifugal and centripetal forces may be sought when the IND subsidiary is seen a crucial element in rebuilding the group's synergy[4].

[4] Such was the case with Panasonic's subsidiary Panasonic Electric Works, which was hived off from Matsushita (former name of Panasonic) in 1935. The company had great autonomy as an IND related company until it became Panasonic's subsidiary in 2004, when Panasonic increased ownership to 51%. Later in 2011, as part of Panasonic's restructuring, Panasonic Electric Works became Panasonic's wholly owned subsidiary. The company's strength in electric works was regarded by Panasonic as a crucial competence in its solutions business,

Ex-post Lock-in of Group Boundary After a subsidiary has been established, other make or buy criteria such as utilization exist. High switching costs and biases that justify using subsidiary over market may also prolong lock-in. Lock-in also implies the possibility of internal transaction costs outweighing external transaction costs. Investments in knowledge and high switching costs however imply the possibility of lock-in even when performances are sub-optimal.	The degree of lock-in may depend on the type of subsidiary. 【FT1 Subsidiary】 The parent could choose to use the market, but needs to consider utilization rate and profitability of the subsidiary. 【FTM Subsidiary】 Because of mutual dependence, lock-in will occur when there are high switching costs. This becomes problematic when locked-in routines are inefficient. 【FT2 Subsidiary】 The parent's dependence on the subsidiary forms a kind of lock-in, and this becomes problematic when there exits conflicting interests between the parent and the subsidiary, such as when the subsidiary, in focusing on external businesses, fails to invest in firm-specific skills.
Vertical and Horizontal Coordination: Managers and workers who have proper understanding of central management instructions, adjust those instructions using the local information that they perfectly observe. Benefits of coordination have to outweigh communication costs. Decentralization and Delegation of Decision Rights: Select appropriate level of decentralization based on the costs and benefits of delegation. Costs: Incentive cost, control loss and power abuse. Benefits: Access to local information, better and quicker decision-making. Coordination Systems: Corporate groups have multiple coordination systems that are used alongside decentralization and delegation systems.	The benefits of investing in the coordination and transfer of knowledge and information have to outweigh the costs of doing so. Very often, this depends on the type of subsidiary. 【FT1 Subsidiary】 Little coordination is needed because the parent is not dependent on the subsidiary's output. 【FTM Subsidiary】 Because of mutual dependence, and especially when the subsidiary is integrated into the parent's production value chain, coordination systems will be used more widely to align incentives and knowledge. 【FT2 Subsidiary】 Because of dual pressures internally and externally, conflict may require more careful coordination. Managers who are seconded or transferred from the parent company may act at effective mediators. 【IND Type Subsidiary】 IND subsidiaries may have more autonomy because there is little dependency relationship. However delegation may be

and in January 2012, it was dissolved and absorbed by Panasonic, thus ending the company's 76 years history.

	contingent upon performance of the subsidiary, which the parent company monitors.
Parent – Subsidiary Relationship: Dual pressures that could lead to conflict. Normative integration through socialization could reduce conflict. Agency problems may arise such that subsidiaries may pursue interests that diverge from the corporate group's goals. This can be reduced by monitoring and by designing incentive compatible contracts. Coordination systems facilitate the diffusion of knowledge between parent and subsidiary.	Indeed one chief purpose of classifying subsidiaries is to differentiate the different relationships that exist between the parent and its subsidiaries. 【FT1 Subsidiary】 The FT1's weak bargaining power deems it necessary for it to give in to demands made by the parent company. The subsidiary can however try to increase its bargaining power by shifting from FT1 to FT2 or IND. 【FTM Subsidiary】 Mutual dependence deems it necessary for the parent and subsidiary to coordinate regularly, and decision making may be more centralized. 【FT2 Subsidiary】 Agency problems may arise when external pressures are in conflict with internal pressures. 【IND Type Subsidiary】 IND subsidiaries may have more autonomy because there is little dependency relationship, but it is nonetheless monitored for its contribution to consolidated earnings of the corporate group.

The implication of these differences in subsidiary types is that control and coordination need to take into consideration these differences in order to be effective. From the case studies however, it appears that corporations are not always conscious of these differences, and hence mutually agreed outcomes of their coordination processes may not be as optimal as they could otherwise be.

For example, although in one case company, the counter-part head-office department

uses financial data to monitor its subsidiaries' performances regularly, total cost fluctuations alone tell very little about the productivity of its functional subsidiary unless there are management accounting data that show cost per activity, and performance measurements that show quality.

For functional subsidiaries, control and coordination needs to focus more on how the KPIs that are used in the planning, execution and adjustment coordination processes relate to the value the functional subsidiary contributes to the group. When decisions entail trade-offs between for example cost and quality, the head-office counter-part can coordinate with the marketing department to decide which less relevant features to forfeit in exchange for lower production costs, whilst the functional subsidiary can propose ways to reconfigure production processes that will lower overall production costs.

In the next chapter, I will apply the combined academic and practitioner's knowledge, and together with the described typology, I will propose a roadmap to creating a successful functional subsidiary.

8. Roadmap to Creating a Successful Functional Subsidiary

Having reviewed the major literatures and case study materials in the previous chapters, I devote this chapter, based on what I have learnt and problems that I have observed, to discussing how a corporate group can create a successful functional subsidiary through the following 5 steps.

Step-1. Consider Ex-Post Scenarios and Monitor them

Much academic knowledge has focused on the *make or buy* decision making based on the transaction cost theory. For example, when there is uncertainty and when it is hard to observe external suppliers such that harmful ex-post opportunistic behaviour needs to be avoided, then having the function in-house may be a better option especially when, according to property rights theory, there are high complementarities between assets and capabilities that favours ownership.

The case studies however show that considerations need also to be given to ex-post lock-in, for once established, a subsidiary has to be utilised efficiently. However what appears to be a highly firm-specific product that justifies in-house production by a subsidiary, may in just a few years' time turn out to be so modularized that it would become cheaper and more efficient to procure the product from the market. Firms that are aware of this have divested or restructured their subsidiaries, but some firms appear to be not fully aware of the lock-in situation.

For example, one of the case study companies has an FTM type maintenance subsidiary which operates in a restricted area that serves as a high barrier to entry. But because such barrier serves little purpose as the subsidiary has no external clients, and because it is a cost centre, relocating the subsidiary to a cheaper district outside the restricted area would substantially reduce costs. Relocation would however change the role of the subsidiary, as the parent company would then have the incentive to choose to use other maintenance companies that are available in the market. In other words, the subsidiary would shift from an FTM to an FT1 type with very little prospects of winning business from the parent company. The parent on the other hand may decide to continue its trading with the subsidiary, or it may decide that the life-span of the subsidiary has come to an end.

So if there exists a certain life-span, such that a functional subsidiary is needed for a specific purpose over a period of time, after which the need may gradually cease to exist, then it implies that:

(a) Careful consideration is needed prior to establishing a subsidiary, especially on the anticipated life-span of the subsidiary. Comparisons with other strategic options should be made based on the assumed life-span.

(b) Effectiveness and role of the subsidiary needs to be periodically evaluated. Internal and external environment may change to affect the life-span of the subsidiary differently from what was initially planned.

(c) Life-span can be assigned to a subsidiary. Often referred to as a "Captive Unit", a functional subsidiary can be established with the purpose of serving a function over a period of time during which it is a source of required key competence, but also with the purpose of subsequent IPO and capital gain when it is no longer a source of competence to the corporation. Capital gain from the captive unit can then be used as a means to secure resource needed for investing in the next required competence.

Step-2. Identify Your Subsidiary Type

Many firms that I have talked to mentioned that they do not have a satisfactory way of classifying subsidiaries that could help term evaluate their subsidiaries' roles and performances. I propose that it is important to have a clear understanding first about the parent-subsidiary dependency relationship, before proceeding further to addressing management problems such as re-defining and re-engineering subsidiary competencies. This is because any important issue is likely to affect not just the parent company but also the subsidiary company.

The typology framework provided in chapter 7, allows both the parent and subsidiary to discuss issues from both of their perspectives. Table 12 below, gives an example of how the framework can be used to produce mutual agreed solution (MAS), which is an important characteristic of parent-subsidiary relationship in Japanese corporations, because it allows control and coordination to function alongside decentralization.

Table 12. Example of Problems and Solutions by Subsidiary Type

Subsidiary Type and Direction of Dependence	Subsidiary's Position	Parent's Position
FT1 Parent ← Subsidiary	The parent is the only client, such that when the parent cuts production or procurement from this subsidiary, the subsidiary loses its sole source of revenue. The subsidiary tries to find other external clients but has not been successful.	It is cheaper to procure from the market for the product has become much modularised and commoditised. But doing so will reduce operation rate of its subsidiary as well as incur losses, which the parent has to cover.
	MAS: Decided that the subsidiary is no longer a source of competence. Decided to close down subsidiary or change to use its resources for production in another business division.	
FT2 Parent → Subsidiary	Generating profits as a business subsidiary, but faces pressure from the parent to focus production resources on the parent's product as well as to cut down on investments that are deemed not firm specific to the parent.	Depends much on inputs from the subsidiary and hence exerts centripetal pressure. However the parent has also benefited much from economies of scale which its subsidiary has attained through business with external clients.
	MAS: Decided that the parent and subsidiary should discuss and decide on the role of the subsidiary. Finally decided that the subsidiary should give priority to the parent's product, which is a required competence in the corporate group's core growth driver business.	
FTM Parent ⇔ Subsidiary	Business with parent has become routine and there is little need to face fierce competition which external businesses would entail. Although there is no intentional milking of profit from the parent, there is however little incentive to innovate.	The subsidiary provides highly firm specific products that cannot be procured from the market. Hence it is not easy to determine transaction price for there is no market price to allow comparison. The business unit is profitable so there is little incentive to stretch its subsidiary's targets.
	MAS: Decided to use non-financial KPIs to monitor and stretch performance, and also to monitor subsidiary's procurement costs	
IND Parent (none) Subsidiary	Profitable business subsidiary with relative high degree of autonomy.	Noticed that multiple business subsidiaries are developing and producing similar products.
	MAS: Decided to combine multiple businesses and re-brand the corporate group as a fully integrated solutions provider.	

(Note: MAS denotes Mutually Agreed Solution between parent and subsidiary)

One important lesson that I have learnt here is that the role of a subsidiary as perceived by the parent company may not be a complete picture, and it is when we add the perspective of the subsidiary that the picture of the subsidiary's role as well as the parent and subsidiary relationship becomes more complete.

As we have discussed in the previous chapter, studying how theories and academic literatures work in the four different types of subsidiaries can enhance our understanding of group management. Identifying the subsidiary type is therefore a useful and important step towards understanding the role of the subsidiary as perceived by both the parent and the subsidiary. This understanding which is shared can then be applied to foster better coordination.

Step-3. Define the Role of your Subsidiary

Having identified the subsidiary type based on existing parent subsidiary relationship, an exercise that requires understanding their dependency relationship, the next step is to define the role of the subsidiary. A mutually agreed solution between the parent and the subsidiary may result in the role of the subsidiary remaining unchanged, or it may result in the subsidiary shifting from one subsidiary type to another.

We saw in the case of Hitachi that, subsidiaries are encouraged to be entrepreneurial and that the delegation of decision rights is contingent upon the subsidiary's performance, such that the subsidiary, in knowing that the better it performs, the more bargaining power

and discretion it will have in operating its businesses, will have the incentives to invest in further efforts. Clarity in role and responsibility disciplines the subsidiary to be independent value generators.

One important activity in this process of role definition lies in recognizing the capabilities of the subsidiary. As Birkinshaw (1995) has pointed out, parent companies are not always aware of their subsidiaries' capabilities, and a subsidiary's contributory role within the corporate group depends greatly on the parent and subsidiary relationship, the subsidiary's initiative and entrepreneurism, and the parent's recognition of the subsidiary's capabilities.

A subsidiary's role is not static and often changes along with the business environment and with expectations from the parent company. I will use the examples of Shiseido and Hitachi to illustrate how their subsidiary roles may change over time.

Example 1: Shiseido's shift from in-house logistics to outsourced logistics

The cosmetics company Shisedo had a 100% owned logistics functional subsidiary, which specialized in delivering millions of product items from factories to distribution centres, from distribution centres to its national network of product centres, and from thence to various types of retailers such as chain stores, convenience stores, drug stores, department stores, home centres, and retail agents. Due to various changes in business environment, Shiseido's market share plummeted, and costs kept on rising as customer

demand became more fragmented and complicated. Its logistics subsidiary found itself no longer capable of handling all of Shiseido's logistics requirements effectively.

In response to these and other pressing issues, Shiseido's headquarter decided to focus all its investments on its core businesses. The logistics subsidiary, which was regarded as a non-core business, was sold to a major 3PL company, Hitachi Transport Systems. In shifting from in-house logistics to outsourcing, Shiseido was able to be more responsive to logistics needs, to reduce logistics costs, to avoid investments in costly logistics facilities, and to turn logistics costs from fixed costs into variable costs.

In this example the mutually agreed solution was for the company to outsource its logistics rather than to invest in building competencies of its logistics subsidiary.

Example 2: From functional subsidiary into being a successful business subsidiary

Hitachi Transport Systems, which took over Shiseido's logistics subsidiary, began as a functional subsidiary that specializes in providing logistic services to Hitachi Group. It developed capabilities through its business within the Hitachi, leverage those capabilities, and expanded its business by providing logistics to other companies. Hitachi Transport Systems grew from a functional subsidiary to being a listed business subsidiary and a major logistics service provider in Japan, ranking top amongst 3PL companies by sales revenue.

Note that in the above Example 2, Hitachi Transport Systems has dual roles of being

both a profit centre as well as a cost centre. The strategy is not either a cost centre or a profit centre, but both cost and profit centres. And there are several good reasons to believe why this AND strategy works. A functional subsidiary has to be an excellent in-house service or product provider first before it could compete in the market against other competitors, and deliver offerings to other companies who may have their own specialized functional subsidiary. In fact the subsidiary has to be excellent to the point that even external clients would prefer using it to using their own specialized functional subsidiaries. In other words the subsidiary must have some proprietary advantage to compensate for the natural disadvantage of competing with established firms in a different industry. This is no easy hurdle to clear and the bar is indeed very high. But as the example of Hitachi shows, it is possible. By shifting from FTM to FT2, a functional subsidiary can increase knowledge of its business, and may also benefit from economies of scale that would enable it to succeed both as a cost centre and as a profit centre. However, moving from FTM to FT2 may create parent-subsidiary conflict when interests collide, which is why agreeing on the role and responsibility of the subsidiary is important.

Another hurdle is that the parent company many not be aware of the subsidiary's full potential, and without the parent company's consent or delegation of decision rights, the subsidiary would not be able invest in expanding its business from FTM to FT2. Coordination and control by the parent company can therefore either promote or inhibit the subsidiary's

contributor role. The important activity of this step therefore is to work out a mutually acceptable solution based on well informed knowledge concerning the subsidiary's capabilities and the corporate group's overall optimality.

Step-4. Tailor Control and Coordination Systems

After having identified the subsidiary type and having mutually agreed on the role and commitment of the subsidiary, the next step would be to tailor control and coordination systems that best fits the parent-subsidiary setting as shown in the table below.

Table 13. Example of different focus of control and coordination based on subsidiary type

	Coordination	Delegation	Relationship
FT1	Assist in improving efficiency of function for example by transferring knowledge from parent.	Foster independent-ness and entrepreneurship.	Consider and balance both procurement input cost from subsidiary, and utilization and revenue of subsidiary.
FTM	Work closely to share tacit knowledge and to leverage capabilities of subsidiaries.	Because of dependence, major decisions may be relatively centralised. However, from an incentive perspective, it is also necessary to foster empowerment.	Be cautious of routine transactions. Benchmark market prices, and where it is deemed necessary, revise trading terms.
FT2	Control subsidiary as both profit and cost centre. Decide whether scarce resources should be used to develop firm specific competencies for the company or for external clients.	Increase control when there appears to be conflicting interests that could negatively affect the overall optimality of the corporate group.	Conflict may arise because of dual pressures from internal and external businesses. Try to mutually agree on scenario that maximizes group performance.
IND	Coordination may be little due to inexistence of dependency. Coordination may be more focused on overall	Delegation contingent upon performance. Despite autonomy that is granted to the subsidiary,	Relationship may be closer if the IND is a core business of the group, and more distant if it is a non-core business.

	optimality and part of the IND's function may be severed from the subsidiary's control and incorporated instead into the group's growth driver division as we saw in Hitachi's case.	if it constitutes a major source of revenue to the group, then decision rights on major strategic issues may still rest on the parent company's top management.	Thus IND can be further sub-divided into IND with synergy (which may require some level of central coordination) and IND without synergy (which may be allowed more autonomy).

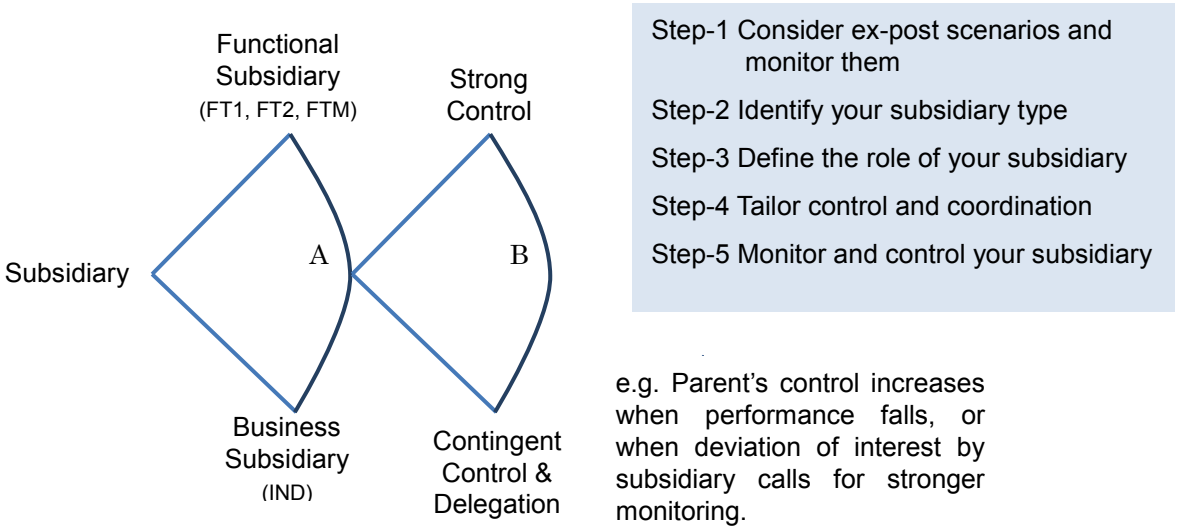
Step-5. Monitor and Control Your Subsidiary

The last step is to monitor and make sure that the control and coordination systems designed in the previous step are effective in producing the planned and desired outputs. In cases where control and coordination focuses mainly on the subsidiary's mission and performance target, care should be taken that the compliance side of governance should also be monitored, and that risks are sufficiently mitigated.

Figure 18 below depicts the roadmap which begins by monitoring ex-post scenarios and identifying the subsidiary type based on dependency relationships. The control and coordination systems that many corporate groups have in place can be used to identify where the subsidiary stands, and to evaluate whether a desired balance is maintained between for example internal and external pressures, or whether the subsidiary's role needs to be changed. After having evaluated the current state as it is, as well as the state the parent or subsidiary wish to be, the parent and subsidiary can then mutually agree on the contributing role of the subsidiary.

Arc A denotes the characteristic of subsidiaries in terms of functional (top), functional and business (middle) and business (bottom). The parent and subsidiary should mutually agree on the point along Arc A, on which the subsidiary should lie. However for each point along Arc A, another arc (Arc B) can be drawn to show the level of control and delegation. The point along Arc B depends on the subsidiary type as well as control contingencies such as performance based delegation of decision rights. One might expect for example that control is stronger on a functional subsidiary and weaker on a business subsidiary.

Figure 18. Management of Subsidiaries



There is no one size fits all best practice, and the important thing is to have continuous evaluation subsidiary of roles and mutual agreement between the parent and the subsidiary as to what works best for the corporate group as a whole. It is also important, as I have learnt from the cases, to realize that in the process of coordination, decisions often entail trade-offs. Table 14 below, illustrates some of the main trade-offs that may need to be considered in each step of the roadmap.

Table 14. Trade-offs that may need to be considered during coordination

	Examples of trade-offs that are commonly found	
Step-1: Consider ex-post scenarios and monitor them	Monitoring and evaluation may reveal the fact that it is better at times to procure from the market rather than from one's subsidiary when trading terms are more propitious.	If the subsidiary is dependent solely on its parent company, then using the market may cause the subsidiary to suffer losses. The parent may have to favour using the subsidiary, but this would then defeat the subsidiary's original purpose as a cost centre.
Step-2: Identify subsidiary type Step-3: Mutually agree and define the role of the subsidiary	May agree to have subsidiary focus on internal transaction with the parent. But the absence of market discipline may gradually lead to inefficiencies. Subsidiary may also forfeit the chance to upgrade competences or to benefit from economies of scale though business with external clients.	May agree to shift from FTM to FT2 or IND, but this would risk failure and suffer losses if the subsidiary does not have any proprietary advantage over established firms.
Step-4: Tailor control and coordination that fits the subsidiary type.	Delegation can speed up decision-making, and can allow the company to utilize local information that is not accessible by the parent. Rotations, secondments and transfers are effective in bridging cognitions between the parent and the subsidiary Coordination allows the parent to transfer specialized skills to the subsidiary.	In addition to control loss and high incentive costs that are needed to reduce agency problems, the cases show that delegation can lead to uncoordinated activities and wasteful duplication of efforts in for example sales and product development. Delegation and frontier spirit which have been the practice in Hitachi and Panasonic for a long time, are giving way to a more centralised control, which is needed to create synergies. Rotations may create high overhead costs. Secondments and transfers may hurt incentives of the subsidiary's employees when they occupy most of the senior positions and hinder advancement.

		Coordination by the head-office counter-part department may hinder the subsidiary's growth if the parent's generalist elite have little knowledge about the subsidiary's business.
Step-5: Appropriate level of monitoring and control over the subsidiary.	Monitoring reduces agency problems, and should be used to complement delegation of power to subsidiaries.	Excessive control and monitoring may hurt the subsidiary's incentives to invest in efforts.

9. Conclusion and Areas for Future Research

In this paper, I have examined the research questions concerning why corporations form groups and how corporations manage their vast number of subsidiaries. These questions are relevant and important because the number of Japanese firms using subsidiaries are increasing (as shown in Figure 3), and because subsidiaries essentially make up a substantial part of a corporate group's activities and competencies, The effectiveness of management systems that Japanese firms use in managing their subsidiaries can therefore have substantial impact on performance as well as the economy,

In Chapter 4, I looked at the main theories and academic literatures that address the question of why firms create subsidiaries and form groups. One economic rationale, from both a transaction cost perspective as well as a property rights perspective, is that subsidiaries are used as a means to balance high external transaction costs of using the market and high internal transaction costs that arise from control that reduces productivity. It also balances control when there are high costs to allocating ownership control rights exclusively to the parent. The rationale here is based on the premise that control may reduce productivity. This argument is consistent with incentive theories that posit that subsidiary is a means to solve incentive problems, where agents who foresee ex-ante that management will renege on its promise and intervene ex-post, will hold back incentives to invest in efforts. Commitment by using subsidiaries is therefore seen as an effective solution. This incentive rationale appears

to be supported by empirical research which showed that incentive is one of the main reasons for firms hiving-off subsidiaries (See section 4.4).

In the case studies however, I observed in many occasions that the delegation of decision rights to subsidiaries is used alongside control by the parent company. Such practice, according to incentive theory, appears to defeat the purpose of forming subsidiaries. Both academic literature and the case studies show that this does not have to be the case. Firstly, power delegation to subsidiaries may depend on the activity that is concerned. There may be more control over strategic issues that could affect the parent company, but less control and more delegation over operational issues (See section 5.1). Secondly, as I have learnt from the case studies, firms usually have control and coordination systems such as subsidiary counter-part head-office departments that coordinate activities with subsidiaries even though the subsidiaries are being delegated decision rights. Such control do not necessarily destroy incentives, on the contrary, they may enhance incentives as coordination eliminates uncertainties in human exchange, and instead of being restrictive, they enable subsidiaries to act freely as long as they do not violate agreements that have been made with the parent company (See section 5.6). The case studies also revealed an emphasis on mutual agreement in coordination processes between the parent and the subsidiary. Hitachi's case, in which subsidiaries commit to certain performance levels, and the parent company grants the subsidiaries autonomy contingent upon whether their promises and commitments have been

kept, is a good example that shows how mutually agreed rules help players play more effectively.

So if balancing internal and external transaction costs, based on the assumption that control reduces productivity, is not necessarily the only economic rationale, what other rationale could there be? I have posited in this paper another rationale, namely that using subsidiaries provide the firm with a wider range of options to choose from, and hence more flexibility to cope with contingencies. Because subsidiaries are essentially intermediate organizations, the parent company can choose to use hierarchical control or market like transaction towards its subsidiary, contingent upon the situation at hand. One important implication here is that such contingencies mean at the same time that the role of subsidiaries can vary and change, and the degree of ownership and control too can vary and change.

This notion of wider options and the various possible roles a subsidiary could play, is related to the second research question of how are subsidiaries managed? Although it was not so obvious when I first started this research, the more I talked to companies, the more I became acutely aware that there are many different types of subsidiaries in terms of the role they play. This important insight opens new avenues to the research on subsidiaries, because for each of the theories that I have discussed in this paper, such as the delegation of decision rights, control and coordination, parent and subsidiary relationship, dual pressures and

conflict, can be expanded to investigate the situation within each type of subsidiary (See Section 7.3).

For the purpose of arriving at a more in-depth analysis of subsidiaries, I have constructed a four part classification based on the dependency relationship between the parent and the subsidiary. There are several reasons for using dependency as a criterion. When I started conducting the case studies, I often found it confusing as to whether the role of the subsidiary that was described was the role as seen from the parent's perspective or from the subsidiary's perspective. For example, the parent may regard the subsidiary as one of many suppliers in the market, while the subsidiary may regard the parent as its sole client. Or the parent may depend on the subsidiary for inputs, while the subsidiary may depend not on the parent but on external clients as its major source of revenue. Seeing the role of a subsidiary from both the perspective of the parent and the subsidiary helps present a more complete picture of their relationship. This is useful, because different relationships produce different issues that require different ways of control and coordination.

Another reason for using dependency is because it illustrates very well the fact that subsidiaries are not necessarily either functional or business subsidiaries, but that they can be both functional and business subsidiaries at the same time. As the case of Hitachi Transport Systems show, a functional subsidiary can grow to become a successful business subsidiary that services both its parent company as well as its external clients (See Example

in Chapter 8).

Although I was also able to observe from the case studies that dependency is an important factor that affects parent-subsidiary relationship and ways in which control and coordination take place, many firm do not seem to be fully aware of this difference. The typology proposed and described in chapter 7 offers therefore a practical framework to practitioners for analysing parent and subsidiary relationships

The observations described in this study can be generalized to characterize large Japanese corporate groups, but because individual parent and subsidiary situations may vary substantially depending on the subsidiary type, further empirical research would be required to investigate how control and coordination work within each different type of subsidiaries, and examine whether the coordination systems that are employed are effective.

Another area where further investigation would be desirable is the question of whether the institutional changes that are described in Chapter 3 would in due course affect the way in which firms use subsidiaries. If mutual benefits cease to exist, if for example, there is no longer the need for a subsidiary to supply its parent with senior management positions that are limited in the parent company but are needed to fulfil community firm commitments; or if for example, the supposedly elite generalists of the parent do not have the appropriate skills to make coordination beneficial, how would these changes affect the parent and subsidiary form of governance? Further research into these areas would enhance our knowledge of

Japanese corporate groups. Despite its limitations, this paper has its contribution to the knowledge of group management. By conducting an in-depth analysis of five large Japanese corporate groups, and by answering the research questions, I have identified and expanded the economic rationale for using subsidiaries. I have also, upon observing from the cases that there are many different types of subsidiaries, constructed a typology that can be applied to expand existing theories on corporate group management.

Appendix 1 – Number of Subsidiaries Explained by Diversification

What drives firms to establish subsidiaries? The empirical evidence described in section 4.4, shows a relationship between diversification and the delegation of decision rights to business units and subsidiaries. One may expect that as diversification broadens, especially into unfamiliar businesses or markets, the company's management may find it increasingly hard to focus on all the diverse and complex issues, and to develop core competencies that fuel growth in those new businesses. Delegating decision rights to subsidiaries would therefore be a logical strategic choice. Or, one may expect that vertical integration would increase costs such that hiving off production functions into subsidiaries with lower cost structures would be a solution.

In order to find out whether group formation can be explained by diversification and vertical integration, I did a regression analysis using disclosed financial data of 28 manufacturing companies for fiscal year 2010. For the analysis, I used group formation, measured by the number of subsidiaries, as the dependent variable, and diversification (entropy index) and vertical integration (measured by the ratio of inventory over revenue) as independent variables. To control for firm size, I used revenue as a dummy variable.

Table 15. List of 28 large Japanese corporate groups

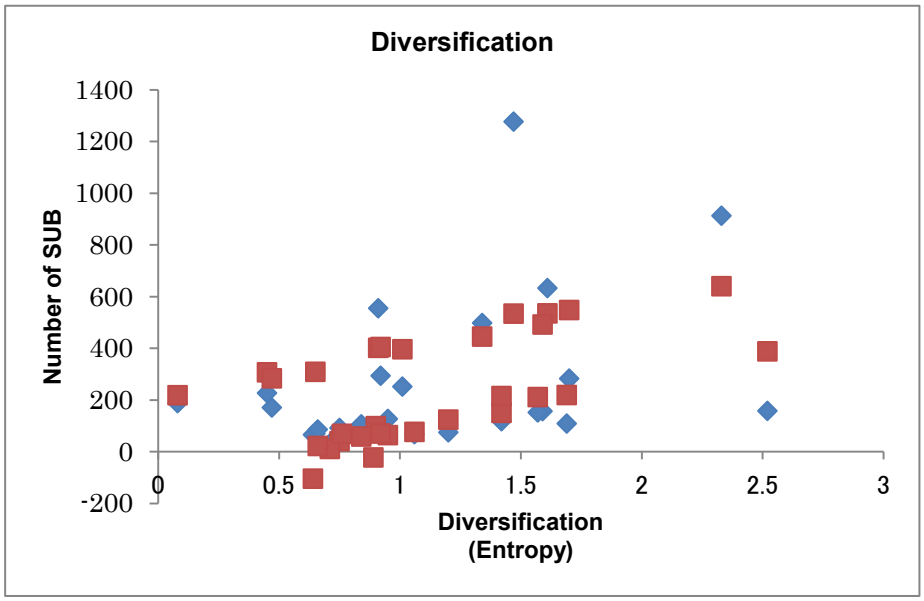
	Manufacturing Companies	Number of Subsidiaries	Diversification (Entropy)	Vertical Integration (Inventory/Revenue)	Revenue (FY10) (million)
1	Hitachi	913	2.33	8.7%	9,315,807
2	Panasonic	633	1.61	4.9%	8,692,672
1	Sony	1277	1.47	2.4%	7,181,273
2	Toshiba	498	1.34	8.2%	6,398,505
3	Fujitsu	555	0.91	4.2%	4,528,405
4	Canon	294	0.92	4.1%	3,706,901
5	Mitsubishi Electric	157	1.59	8.6%	3,645,331
6	Denso	188	0.08	5.7%	3,131,460
7	NEC	283	1.7	5.4%	3,115,424
8	Sharp	70	0.65	7.9%	3,021,973
9	Fuji Film HD	252	1.01	6.6%	2,217,084
10	Ricoh	227	0.45	4.4%	1,942,013
11	Daikin	171	0.47	6.9%	1,160,330
12	Seiko Epson	92	0.75	6.5%	937,663
13	Furukawa Electric	109	1.69	7.5%	925,754
14	Nikon	87	0.89	14.9%	887,512
15	TDK	127	0.95	8.1%	875,737
16	Olympus	188	1.42	8.9%	847,105
17	Konica Minolta	89	0.9	3.9%	777,953
18	Nihon Densan	158	2.52	7.4%	688,530
19	Tokyo Electron	32	0.71	8.5%	668,722
20	Nitoh Denko	106	0.84	6.5%	638,556
21	Murata	66	0.64	17.9%	617,954
22	Omron	152	1.57	6.0%	617,825
23	Pioneer	97	0.92	6.9%	457,545
24	OKI	68	1.06	9.0%	432,685
25	JVC Kenwood HD	118	1.42	2.8%	352,672
26	Casio	45	0.76	4.1%	341,678
27	Yokogawa Electric	86	0.66	6.5%	325,620
28	Yaskawa Electric	75	1.2	7.2%	296,847

Source: Disclosed Financial Statement for Fiscal Year 2010

The results, as shown in Table 16 below, confirms the relationship between diversification and the formation of corporate groups. However, no relationship is found between vertical integration and group formation.

Table 16. Number of subsidiaries regressed on diversification and vertical integration

Independent Variables	Coefficient Estimate	Std. Error	t-stat	P-value
Diversification	201.77	70.39	2.87**	0.008***
Vertical Integration	-1079.26	1258.36	-0.86	0.40
Firm size dummy	304.19	78.84	3.86	0.0007
Adjusted R^2 = 0.46				



Appendix 2 - Reasons for Establishing Subsidiaries

	Parent	Subsidiary	To Develop Business	To Strengthen Function or Capability
1	Avex Group Holdings	Avex Shanghai	Growing live entertainment market in China	
2	Azuma Shipping	Donghua Cargo Agency		Expand and improve logistics services
3	Onkyo	Joint venture subsidiary		Combine synergies of Onkyo's audio systems with Gibson's music instruments
4	CyberAgent	Sirok		Application development for smart phone
5	House Food	House Foods Vietnam	Overseas markets as drivers of growth	
6	Nidec	Nidec Management Shanghai		Strengthen financial management
7	Toray	Toray Carbon Fibers Europe	Global growth in demand for carbon material	Strengthen production vertical integration
8	Fujitsu	New subsidiary		Consolidate software development subsidiaries
9	Mitsubishi Gas Chemical	Manufacturing plant in Thiland		Mitigate supply chain risk in response to 3.11 earthquake
10	Proto	Car Credo	Growing demand for inspection certification of used cars	Integrate to include car inspection function
11	Mcea	Good-Timing	IT Ventures	
12	Furukawa Electric	Furukawa Automotive Systems Lima Philippines		Wire harness manufacturing and sales
13	Commerce21	100% subsidiary	Growth potential of e-commerce business in Singapore and S.E.Asia	
14	Klab	Klab International (Singapore)	Market expansion of social media via smart phone	Strengthen publishing management
15	Nissin Kogyo	Alcar Chemo Indonesia	Market potential in Asia for automotive products	Strengthen production capability
16	Tanaka Holdings	Subsidiary in Taiwan		Copper bonding wire manufacturing
17	DeNA	DeNA Studios Canada		Development of social games via smart phone
18	Macromill	Embrain	Global expansion to underdeveloped market in Korea and Asia	Combine synergies of Macromill's panel data with Embrain's marketing research
19	Kitagawa Iron Works	Kitagawa Mexico	Growing demand for automotive products	Manufacturing function near the market
20	Fan Communications	Ad Japon	Growing need for Japanese advertising agency abroad	Plan and provide multilingual services
21	Gree	Subsidiary in Osaka		Application software development
22	Ricoh	Ricoh Innovations Private Ltd	Expand business to market in Indian	
23	Globalknowledge	Globalknowledge Management Center	Growing demand for training global professionals	
24	News2u	100% subsidiary in the U.S.	Expand to become provider fo global social media	Marketing and sales of News2u's global services
25	Voyage Group	Socialand	To enter into business of marketing support for social media	
26	Nippon Konpo	Nippon Konpo Hochiminh	Expand logistic business to South Vietnam	
27	Adways	Adways Philippines	Large market demand in Asian countries for social media marketing tools	Develop and release marketing tools for corporate clients
28	DRB-Hicom	DRB-Hicom Leasing (Malaysia)	Expand auto lease business	
29	Mitsubishi Corporation	Subsidiary in Canada	Expand natural gas development business	Joint Venture to acquire drilling rights for natural gas
30	Chubu Electric Power	Chubu Energy Trading Singapore		Strengthen coal procurement function (Singapore being trading centre in Asia)
31	Ajinomoto	NRI System Techno		Merge existing IT subsidiary with NRI to acquire capabilities
32	Alsok	Alsok Malaysia	Respond to demands from Japanese firms in Malaysia for security services	
33	I-O Data	ITG Marketing		Handle import and sales of solid state drive products
34	Aiming	Aiming Korea	Expand online and mobile dame business to Korea	Market in Korea software application developed by Aiming
35	Hitachi	Hitachi Plant Qatar	Growing demand for infrastructure business	Joint venture for engineering, procurement, and construction

	Parent	Subsidiary	Business Development	Function / Capability
36	CDG	CDG Promotional Marketing (USA)	Leverage skills developed in Japan to expand marketing business overseas	
37	Transcosmos	Transcosmos China	Expand call centre business in China to capture increasing demand	
38	Asahi Kasei	Subsidiary in the U.S.	Acquire ZOLL Medical to enter growth market in emergency medical service	
39	Iwatani	Iwatani-SIG Industrial Gases		Joint venture in Singapore to supply liquid fuel and gases to local factories
40	NTT Docomo	Two new subsidiaries	Seek new revenue source by diversifying to new businesses through partnetships	Create synergies by joining complementary assets. (Logistics + Smart phone)
41	Laox	Subsidiary in China	Expand home appliance retail network in China	
42	King Jim	Subsidiary in Hong Kong	Foothold for expansion in the growing Asian market	
43	Hoya	Hoya Visual Company	Enhance presence in S.America and capture its large growing market	
44	Orion	Orion Machinery Asia	Dual purpuse of overseas manufacturing and overseas market expansion	Manufacture air dryer and vacuum pump products for Asian market
45	Denso	3D		To improve visual image display capability in automotive products
46	Teijin	R&D subsidiary	Pioneer CFRP market	Develop carbon fiber reinforced plastics material for automobile frame
47	Hitachi	Hitachi Air Conditioning Europe		Combine regional airconditioning sales function to manufacturing function
48	Sumitomo Corporation	Subsidiary in the U.S.		Joint development of wind farm
49	Showa	Showa Autoparts (Vietnam)	Expand production and sales to capture growing demand for motorcycle	Manufacture of automotive parts
50	Fujitsu	Fujitsu Mobile Communications		Acquire remaining shares from Toshiba to strengthen mobile phone business
51	Kyocera	Kyocera CTC (India)	Capture demand for industrial machinery equipment	Manufacture and sales of industrial machinery equipment
52	Japan Cablenet (JCN)	Acquired subsidiary	Acquisition of cable TV station as part of growth strategy	
53	Cybernet Systems	Subsidiary in Korea		Sales subsidiary to market its MapleSim products in Korea
54	Cybernet Systems	Noesis Solutions LLC (U.S.)		Sales subsidiary to market Noesis products in the U.S.
55	Toyobo	Toyobo Industrial Materials America	Capture demand for air-bag material	Sales subsidiary to strengthen air-bag business in the U.S.
56	Toyota	Subsidiary in China	Develop green environment business in China	Develop synergies with Suntory Midorie
57	Klab Global	Klab America		Market social media games in the U.S.
58	NTT Data	Subsidiary in Myanmar	Capture business growth potentials in Myanmar	
59	Panasonic	Panasonic Eco Solutions North America	Develop eco solution business in the U.S.	
60	Mitsui Corporation	Mitsui Global Investment India	Investment opportunities in India	Strengthen private equity function
61	Paperboy&co	Hived-off subsidiaries		Hived-off two business units to speed up decision making
62	Transcosmos	Transcosmos Analytics	Develop CRM research and consulting business	
63	Gree	Acquired subsidiary		Synergies by combining Gree platform with Funzio's high quality game
64	Nippon Konpo	Nippon Konpo Vietnam Real Estate		Leasing of logistic facilities
65	Dwango	Qteras		Strengthen service development of its consumer electronics division
66	Soft Bank Technology	Subsidiary in Korea	Expand EC-BPO business in Asia	
67	Soft Bank	Paypal Japan		Establish default standard of in-line payment via smart phone
68	Proto	Subsidiary in Singapore		Strengthen used car information business in Asia
69	Fast Retailing	Subsidiary in China		Speed up expansion of Uniqlo retail stores in China
70	GK Line	GK Communications	To capture market growth in the Philippines	

	Parent	Subsidiary	Business Development	Function / Capability
71	Showa Denko	Shanghai Showa Electronic Chemical Materials		Strengthen manufacturing and sales of high-purity gases handling equipment
72	JTB	JTB Research		Strengthen research and marketing of tourism
73	NTT Communications	NTT Com Marketing		Consolidate resources to strengthen sales and marketing
74	Ricoh	Rocoh Thermal Media Asia	Capture demand in emerging markets in the Asia Pacific region	Build customer-centric manufacturing and sales functions in India
75	Taisho Phamaceutical	Acquisition of Tokuhon		Strengthen line-up of over the counter medical products.
76	Noritake	100% ownership of KCM Corporation		Strengthen R&D capability, and develop fuel battery market.
77	Sansei Yusoki	Acquisition of Telmic		Strengthen synergies
78	Starzen	100% ownership of Lohmeyer		Strengthen and centralize strategic function, speed up decision making
79	NTT Data	NTT Data Financial Solutions		Acquire TGIFS's skills in financial market
80	Uemura	PT Uemura Indonesia		Strengthen technical support system to expand sales
81	Sonet Entertainment	Samepot Korea	Capture growth in on-line game industry	Strengthen game development capabilities.
82	Cygames	CyDesignation		Strengthen development of game application
83	Inui Steamship	Inui Shipping Singapore		Strengthen handy bulker business.
84	NEC	NEC Korea		Strengthen local capability to support solution provider business
85	Komehyo	Komehyo Auction		Plan, operate and manage auction of used items.
86	Sega	Sega Networks	Expand and maximize revenue from its network business	Globalize contents of its smart phone and tablet. Speed up decision making.
87	Fujikoshi	Nachi KG Technology India	Develop bearing business in India	Manufacture and sales of automobile bearings
88	D2C	Kakezan		Strengthen creative capabilities and solution business.
89	Gree	Gree Canada		Strengthen operation and development of social games
90	Classico	Subsidiary in U.S. and Taiwan		Strengthen product development based on local customer needs
91				
92	Toyota Enterprise	Toyota Enterprise India	Develop interior facility and service business in India	
93	Kyoshin	Kyoshin Language Academy	Expand Japanese language school business	
94	Tokai Rubber Industries	Tokai Rubber Chemical and Plastic Products		Production and sales of OA machine parts in Thiland
95	Sony	100% ownership of So-net	Acquire So-net's high potential investments	
96	Vector	Initial		To increase variety of services in response to customer needs.
97	Members	Engagement First	Capture corporate demand for engagement marketing	Strengthen consulting business in engagement marketing using social media
98	Rakuten	Rakuten Emobile		To provide high-speed LTE service and expand service network
99	Snowpeak	Snowpeak Well		To enhance CSR and contribute to community
100	Siam Cosmos Services	Cosmos Services	Capture growing business opportunities in Vietnam	Sell insurance services to consumers in Vietnam
101	Aeon	Aeon Bike	Expand lifecycle concept as part of restructuring of supermarket business	Hived-off from BU to specialize in bicycle retail business
102	Tokai Rubber Industries	Tokai Rubber Hose Viernam	Capture growing demand for motocycles	Manufacture rubber tires for motocycles
103	Klab Global	Klab China		Develop localized marketing and products for Japanese market. Reduce costs.
104	Mitsubishi Corporation	Joint venture subsidiary	Long-term contract to supply energy to Jordan.	Power plant as part of IPP (Independent Power Producer) project.
105	Avex Group Holdings	Uula		Distribute AV contents to smartphone users.

	Parent	Subsidiary	Business Development	Function / Capability
106	Hitachi Plant Technology	New joint venture subsidiary		Combine competencies to create synergy in infrastructure solution business
107	Gala	Gala Innovative		Development of social game
108	Socialwire	Cross Coop Philippines	Capture demand of Japanese firms setting up overseas operations	Office lease business targeted towards Japanese clients
109	Kimura Information Technology	KIT International	Respond to customer demand for broadcast from abroad	Broadcast medical news to Japan
110	Logitem	Subsidiary in Vietnam		Strengthen import/export and sales function
111	Kyocera Communications	Acquisition of MOTEX		Need competence in information security software
112	Freebit	Subsidiary in Hong Kong		Provide cloud service to clients in China
113	Hino Motors	Hino Motors Manufacturing Malaysia		Secure supply to meet growing demand from sales.
114	Yoshinoya Holdings	Joint venture subsidiary		Complementarity with partner's strong business network in China
115	Carview	Carview Kenya	Capture growing demand for imported used cars from Japan	
116	Irep	Subsidiary in Japan		Provide digital marketing services to medium-small size firms
117	Fujitsu	IT Management Partners		Combine outsourcing service centres to reduce cost
118	Hokto	Hokto Malaysia	Expand business in S.E.Asia	Growing and sales of mushrooms
119	Rakuten	Acquisition o Alpha Direct Service		Strengthen logistics function to support growing EC business
120	Adways	Adways Korea	Capture high growth in Korea of smartphone business	Provide advertisement services using smartphone
121	Koito	Subsidiary in Mexico	Capture growing automobile demand in Mexico	Maufacture automobile lightings
122	Sato Group	Sato Vietnam Solutions		Provide solutions using auto-recognition systems
123	CyberAgent	CyberSS	Capture growing demand in advertisements using smartphone	Provide tools for smartphone advertisements
124	HIS	Subsidiary in Thiland	Establish airline that specializes in charter flight	
125	Excite	Excite Media Services Philippines		Strengthen value offering and business capabilities
126	Topy Industries	Joint venture subsidiary in Indonesia		Manufacture wheels for bus and truck
127	SoftBank Technology	Subsidiary In Korea	Expand EC-BPO Services in S.E.Asia	

Source: News releases from January 2012 to December 2012.

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