



# Product Innovation of Group-Affiliated Companies: The Effects of Corporate Control and Intragroup Resource Sharing

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## Abstract

This study examined the effect of intragroup resource sharing on the relationship between corporate control and group-affiliated companies' product innovation in Taiwan. Results from a survey of 42 group-affiliated companies support a contingency approach to innovation. When strategic control is used by the parent company of a business group, high sharing of either intangible resource or executive resource may facilitate group-affiliated companies' product innovation. In contrast, when the parent company emphasizes financial control, high sharing of physical resource can enhance innovation. These findings suggest that executives should be cognizant of several contingencies that might guide their choice among various approaches to corporate control, as well as the effects these choices have on the innovation of their group members. The value of any approach to corporate control can be augmented or diminished by simultaneously managing the resource sharing.

*Keywords:* Corporate control; Product innovation; Resource sharing

## 1. Introduction

When a firm chooses to diversify its operations beyond a single industry and to operate businesses in several industries, it pursues a strategy to diversify at the corporate level. In Taiwan, many diversified firms develop from single firms into business groups. A business group is defined as a gathering of formally independent firms under the single common administrative and financial control of one family (Chang and Hong, 2003). Business groups are not unique to Taiwan. They are a prevalent form of diversified corporation in many emerging economies (Granovetter, 1994). This phenomenon is a response to market imperfections and argued that the business group is an organizational structure for appropriating quasi rents, which accrue from access to scarce and imperfectly marketed inputs such as capital and information. Evidence suggests that business groups offer efficient forms of governance in some circumstances, showing that firms affiliated with groups tended to exhibit higher profitability than independent firms in the same countries (Khanna and Palepu, 1998).

The pursuit of competitive advantage against competitors has become one of the tenets of the contemporary strategic management theories (Teece, Pisano and Shuen, 1997). Innovation is frequently cited as a base for such an advantage (Tidd, Bessant and Pavitt, 1997; Wang, 2005).

The characteristics which affect the performance in innovation of firms are therefore an important area of investigation (Foss and Harmsen, 1996). These characteristics are related to the resources of the firms (Christensen, 1996). Such resources include capabilities, organizational processes, firm attributes, information, and knowledge (Barney, 1991). They can be characterized as ranging from physical (highly specific) to financial (general). Corporate control is used in diversification for managing firms emphasize resource sharing (Liao, 2005a, 2006b). Thus, as the characteristics of each resource type vary, it is necessary to examine the effect of resource sharing on the relationship between corporate control and group-affiliated companies' innovation.

The aim of this paper is to investigate the effects of the types of the corporate control and the various types of resources sharing (and their interactions) on the innovation of the group members within the business group. As such, this research contributes to knowledge about the effects of corporate control on group-affiliated companies' innovation, and importantly, illuminates how resources sharing moderate the relationship between corporate control and group-affiliated companies' innovation.

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## 2. Literature Review and Hypotheses

### 2.1 Innovation

Product innovations refer to the introduction of new products or services to meet an external market or user need. The other competing dimension is process innovations which refer to the introduction into the organization's production process or service operations of new elements that are used to produce a product or render a service (Ettlie and Reza, 1992). Due to the nature of being less observable and more difficult to implement, firms usually adopt more product innovations than process innovations (Bisbe and Otley, 2004; Koberg, Uhlenbruck and Sarason, 1996; Tsai and Liao, 2002). This paper chose to study product innovation because it is critical to an organization's evolution and long term success (Bisbe and Otley, 2004; Capon, Farley, Lehmann and Hulbert, 1992; Liao, 2006a).

### 2.2 Corporate Control

Strategic and financial controls are the two major types of internal controls used to support implementation of strategies in larger firms (Hitt, Ireland, and Hoskisson, 2001). Financial controls entail objective criteria such as return on investment (ROI) that corporate-level managers use to evaluate the returns being earned by individual business units and managers responsible for their performance. Strategic controls entail the use of long-term and strategically relevant criteria by corporate-level managers to evaluate the performance of division managers and their units.

Evidence shows that corporate control used by diversified firms may influence their divisions. For example, Hoskisson and Hitt, (1994) described the difference between strategic and financial control used by diversified firms. They noted that unrelated firms using financial control are generally characterized by a focus on short-term efficiency and risk avoidance, and the evaluation of divisional managers by short-term financial criteria at the corporate level. Divisions within the firm exhibit decreased spending on R&D, market research, employee training, and capital investment. In contrast, related firms using strategic control are characterized by the evaluation of subjective appraisal of the quality of the process leading to financial outcomes. In addition, divisions within a related firm exhibit a long-term perspective and greater spending on R&D, market research, capital investment, and employee development and training. Liao (2006b) found that subsidiaries' human resource management practices in a conglomerate should take corporate control into consideration to better performance. The interactive use of management control systems contributes to fostering successful product innovation. Bisbe and Otley (2004) argued innovation is moderated by the style of management control systems.

### 2.3 Resource Sharing

Strategic management researchers have suggested that firm-specific resources play the key role in influencing superior financial performance decades ago (e.g., Penrose, 1959; Wernerfelt, 1984). This focus ignores the actual organization of diversified corporations. These firms are not monolithic entities that agglomerate resources at the corporate level. Instead, they consist of several strategic business units that possess their own resources and competencies. A diversified corporation creates synergies by sharing these resources among business units (Chang and Hong, 2003, Liao, 2005a). The resource-based theory has emphasized the role of resource as the ultimate source of competitive advantage. Research grounded in resource-based theory has emphasized how the corporate level adds value through resource sharing and skill transfer. For example, Kim and Hoskisson (1996) found that business groups engender various benefits from interfirm cooperation, such as access to complementary resources, market access to distribution outlets, economies of scale and scope, and shared costs and risks. Chang and Hong (2003) argued that group-affiliated firms benefit from group membership through sharing intangible and financial resources with other member firms.

Barney (1991) classified firm resources into physical capital resources, human capital resources, and organizational capital resources. Chatterjee and Wernerfelt (1991) classified firm resources into physical resources, intangible assets, and financial resources. Markides and Williamson (1994) focused on the strategic assets and suggested that these types of assets may be divided into customer, channel, input, process, and market-knowledge assets

Some researchers classify resources into assets and capabilities. Wu (2000) suggested that firm resources include tangible and intangible assets, personal, and organizational capabilities. Modifying from Hall's (1992) classification, Lai (2000) identified resources into physical assets, financial assets, "doing" capabilities, and "having" capabilities. Doing capabilities involve professional staff, designing capabilities, marketing capabilities, knowledge of market and product, and innovative capabilities. Having capabilities include patent and intellectual property, trademark, contract, client database, strategic alliance system, distribution networks and supplier relationship.

This study adopted Lai's (2000) classification, since it has included previous researchers' work. To better understand the meaning of resource types, this study renamed "having" capability as intangible resource and "doing" capability as executive resource, since as already noted, "having" capabilities include various intangible resources and "doing" capabilities reflect the resources for a firm to execute its competitive strategy. Therefore, in this study, resource types were classified into physical resource, in-

tangible resource, executive resource, and financial resource.

Physical resources usually include the plant and equipment necessary to produce a product. Such assets are less flexible, and any excess capacity of these resources often can be used only for very closely related products. Prior research indicates that physical resource is associated with related diversification (Chatterjee and Wernerfelt, 1991; Lai, 2000; Mahoney and Pandian, 1992; Montgomery and Hairharan, 1991; Qian, 1997). However, some suggest the opposite result (Lin, 1995). Such resources, when combined with the physical assets of a related business, can lead to strategic and cooperative synergies (Chatterjee and Wernerfelt, 1991; Hill, Hitt, and Hoskisson, 1992). The following hypothesis will therefore be tested:

H1: Sharing level of intragroup physical resource moderates the relationship between corporate control and innovation of a group-affiliated firm.

As for the other tangible resources, they may create resource interrelationships in production, marketing, procurement, and technology, defined earlier as executive resource associated with related diversification (Lai, 2000). Benefit arises from inputs that are shared or utilized jointly by related activities, or by engaging in common advertising where products have some compatibility, or sharing marketing and technological information for mutual gain. The following hypothesis will therefore be tested

H2: Sharing level of intragroup executive resource moderates the relationship between corporate control and innovation of a group-affiliated firm.

Intangible resources would be more flexible than actual tangible physical assets in facilitating diversification. Researchers argue that this type of resource is associated with related diversification (Mahoney and Pandian, 1992; Montgomery and Hairharan, 1991; Qian, 1997). When sharing of tangible or intangible resources is little; no value is created. The following hypothesis will therefore be tested:

H3: Sharing level of intragroup intangible resource moderates the relationship between corporate control and innovation of a group-affiliated firm.

Financial resources are more flexible and common; they are less likely to create value as compared to other types of resources. Some researchers argue that financial resource is associated with unrelated diversification (Lin, 1995; Mahoney and Pandian, 1992; Montgomery and Hairharan, 1991), but some suggest that internal financial resource is associated with unrelated diversification and external financial resource is associated with related diversification (Chatterjee and Wernerfelt, 1991; Lai, 2000). These resources, when used in a competitive internal resource allocation system, can lead to financial and com-

petitive synergies between two or more unrelated businesses. When financial resources are managed through an internal capital market system, synergy is created by the adoption of least-cost behavior, and capital funds are channeled to their highest valued uses (Hill, Hitt, and Hoskisson, 1992). The realization of either of these synergy types has been shown to lead to increases in financial performance. The following hypothesis will therefore be tested:

H4: Sharing level of intragroup financial resource moderates the relationship between corporate control and innovation of a group-affiliated firm.

### 3. Research Design

#### 3.1 Sample and Data Collection

The objective of this study was to examine the effects of resource sharing on the relationship between corporate control and a group-affiliated firm's innovation. Therefore, it was important to consider that the group-affiliated company's major decision-making within a business group is handled by the parent company. In order to ensure the group member is controlled by its parent company, only those whose majority of their equity belongs to a parent company were selected.

A sample of 152 group-affiliated companies collected in "Business Groups in Taiwan" published in 2002 by China Credit Information Service, LTD. were identified, each with firm age above one years, and each having at least 100 employees. These sampling criteria eliminated the possibility of including start-up firms that might be exposed to tremendous resource inflow from their parent company.

The presidents of each firm were contacted to ask for their participation in the study. In total, 45 of the 152 presidents returned questionnaires of which 42 (27.6 percent) were usable. The background information of surveyed companies is summarized in Table 1. A comparison of participating firms with nonparticipating ones showed no significant differences in size and age.

**Table 1.** Summary of Surveyed Companies (42)

Item	Range	Total	%
Size	100-200	17	40.5
	201-500	15	35.7
	501-1000	8	19.0
	Above 1000	2	4.8
Age	1-2 Year	14	33.3
	2-5 Year	18	42.9
	5-10 Year	7	16.7
	Above 10 Year	3	7.1

### 3.2 Measures

#### 3.2.1 Resource Sharing

The measures of resource sharing were based on work of Hitt, Ireland and Hoskisson (2001), Hall (1992) and Lai (2000). The respondents were asked to indicate the level that their firms share resources with other group-affiliated members from very low to very high on a seven-point Likert scale. These resources were classified into four types: physical, intangible, executive, and financial: (1) Physical resource was a 4-item scale assessed 4 types of physical resource including factory and building, production equipment, land, and raw material. (2) Intangible resource was a 7-item scale assessed 7 types of intangible resource including patent and intellectual property, trademark, contract, client database, strategic alliance system, distribution network, and supplier relationship. (3) Executive resource was a 5-item scale assessed 5 types of executive resource including professional staff, product designing capability, market development staff, knowledge of market and product, and innovative capability. (4) Financial resource was a 2-item scale assessed 2 types of financial resource including internal capital and external financial resource.

Since the scales used to assess resource sharing combined measures from a number of different studies, it was necessary to confirm their dimensionality empirically. This study conducted a principal components factor analysis with varimax rotation to assess convergence within and divergence between scales. This analysis produced three stable factors representing physical, intangible, executive, and financial resource, each having an eigenvalue above 1.0 and together accounting for 75 percent of variance in the data. Table 2 gives items and factor loadings. In the cases of physical, intangible, and executive resource, six items (i.e. one in physical resource, two in intangible resource, and three in executive resource) did not consistently discriminate between the three factors and were dropped from further analysis. The remaining items used for physical, intangible, and executive resource were three, three, and four, respectively.

#### 3.2.2 Corporate Control

This study used Hitt, Hoskisson, Johnson, and Moesel's (1996) measure to assess corporate control that the parent company of a business group uses to control group-affiliated companies, including strategic and financial control. The respondents were asked to indicate the firm's current situation on a seven-point Likert scale. The strategic control variable assessed the emphasis on using strategy control in evaluating division managers' strategies and performance, composed of three survey items: (1) formal face-to-face meetings between parent company and subsidiary personnel, (2) informal face-to-face meetings between parent company and subsidiary personnel, and (3)

**Table 2.** Results of Factor Analysis of Measures of Resource

Factor Contents	Factor Loading			
	1	2	3	4
<b>Executive Resource Sharing</b>				
13.Product designing capability	<b>0.83</b>	0.15	0.17	0.18
14. Market development staff	<b>0.81</b>	0.18	0.25	0.22
16.Innovative capability	<b>0.77</b>	0.27	0.21	0.42
12.Professional staff	<b>0.77</b>	0.33	0.32	-0.12
<b>Intangible Resource Sharing</b>				
6.Trademark	0.09	<b>0.83</b>	-0.06	0.34
10.Distribution network	0.19	<b>0.71</b>	0.23	0.01
7.Contract	0.17	<b>0.62</b>	0.23	0.12
<b>Physical Resource Sharing</b>				
1.Factory and building	0.12	0.20	<b>0.87</b>	0.19
3.Land	0.31	0.08	<b>0.86</b>	0.21
4.Raw materials	0.23	0.08	<b>0.64</b>	0.32
<b>Financial Resource Sharing</b>				
18.External financial resource	0.10	0.02	0.12	<b>0.87</b>
17.Internal capital	0.14	0.10	0.30	<b>0.75</b>
Eigenvalue	2.80	1.88	2.36	1.90
Cumulative percentage of variance	0.23	0.39	0.59	0.75
Coefficient alpha	0.95	0.91	0.89	0.83

subjective strategic criteria, such as attributes of marketing strategy internal to a firm.

The coefficient alpha for this scale was 0.92. The financial control variable assessed the importance of financial control measures and procedures in evaluating subsidiary's managers' performance composed of four items: (1) return criteria such as return on assets, return on invested capital, and so forth, (2) cash flows, (3) objective strategic criteria such as return on investment, and (4) formal reports from management information systems received by parent company. The coefficient alpha for this scale was 0.86.

#### 3.2.3 Innovation

Following Koberg, Uhlenbruck and Sarason (1996), innovation in product lines, services, and programs was measured through paired statements (e.g., "More than half of our new lines of products/services or programs were introduced in the past three years" and "No new lines of products/services or programs were introduced in the past three years"). The three-item composite measure, anchored on a seven-point scale, had an alpha coefficient of 0.87.

## 4. Results

Table 3 shows the means, standard deviations, and correlation matrix for all variables.

**Table 3.** Means, Standard Deviations and Correlations<sup>a</sup>

Variables	Means(SD)	1	2	3	4	5	6	7
1.Innovation	5.34(0.67)							
2.Strategic Control	5.49(0.72)	0.45						
3.Financial Control	5.16(0.81)	-0.24	0.15					
4.Physical Resource	5.47(0.74)	0.17	-0.19	0.07				
5.Financial Resource	5.56(0.65)	0.29	-0.32	0.39	0.38			
6.Executive Resource	5.63(0.64)	-0.28	-0.11	0.03	0.12	0.17		
7.Intangible Resource	5.43(0.83)	0.35	0.21	0.08	-0.11	0.04	-0.18	

<sup>a</sup>Correlations greater than 0.22 are significant at  $p < 0.05$

**Table 4.** Hierarchical Regression of Resource Sharing and Innovation (N=42)

Dependent Variable	Product Innovation		
	Model 1	Model 2	Model 3
Intercept	5.51***	5.85***	5.53***
Strategic Control (SC)	0.68**	0.78**	1.40*
Financial Control (FC)	-0.29+	-0.67***	-0.47*
Physical Resource (P)	-0.19	-0.99*	-0.70+
Intangible Resource (I)	0.67*	1.47***	1.32**
Executive Resource (E)	0.76***	1.17***	1.79**
Financial Resource (F)	0.26+	0.75***	0.99*
SC × P		0.76	
SC × I		0.64*	
SC × E		0.60+	
SC × F		0.20	
FC × P			0.54+
FC × I			-1.00
FC × E			0.29
FC × F			1.56
R <sup>2</sup>	0.38	0.75	0.76
F	3.57**	9.41***	9.79***
ΔR <sup>2</sup>		0.37	0.38 <sup>a</sup>
F change		10.96**	12.67** <sup>a</sup>

<sup>a</sup>Statistics refer to the comparison of model 3 and 1.

+ $p < 0.10$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

#### 4.1 Hypotheses Testing

Table 4 shows the results of hierarchical regression analysis for the effect of corporate control and resource sharing on innovation. Model 1 examined the direct effect of corporate control and resource sharing on the dependent variable. This analysis showed  $R^2 = 0.38$  ( $F = 3.57$ ,  $p < 0.01$ ) for product innovation. Strategic control had a direct positive.

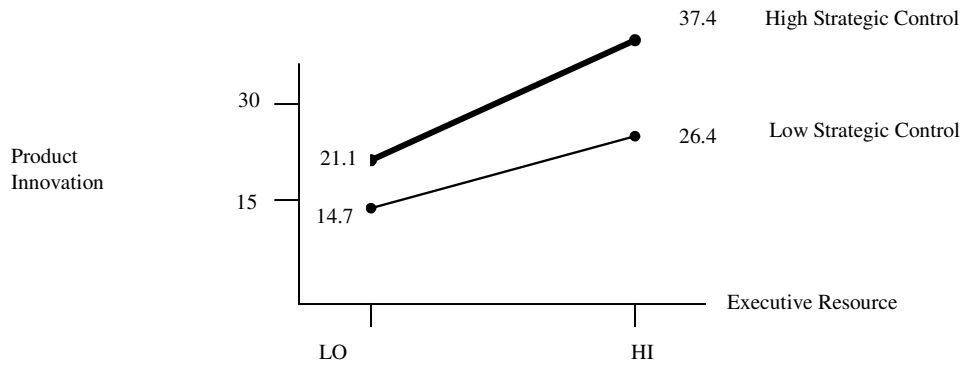
In model 2, interactions between strategic control and four types of resource sharing were added. This step had an incremental effect on product innovation ( $\Delta R^2 = 0.37$ ,  $F$  change = 10.96,  $p < 0.01$ ). The two-way interaction between strategic control and intangible resource was positive for product innovation ( $b = 0.64$ ,  $p < 0.05$ ); that between strategic control and executive resource was also a significant predictor of product innovation ( $b = 0.60$ ,  $p < 0.1$ ).

In model 3, compared to model 1, interactions between financial control and resource sharing were added. Only the interaction between financial control and physical resource was significant for product innovation ( $b = 0.54$ ,  $p < 0.1$ ), and the change in the multiple square

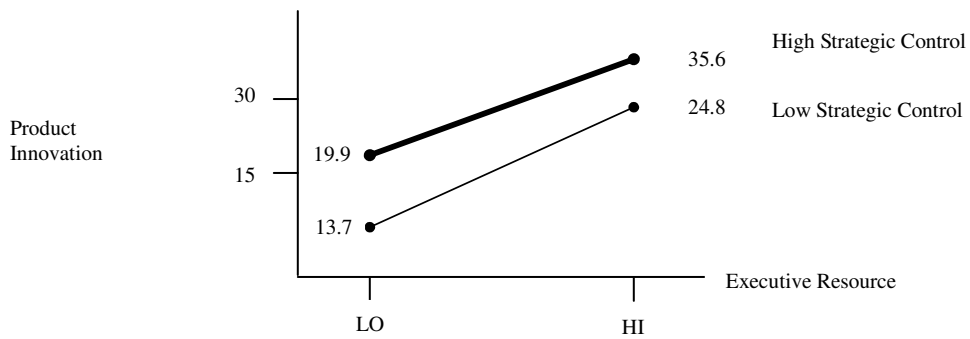
correlation coefficient for the model was statistically significant for product innovation ( $\Delta R^2 = 0.38$ ,  $F$  change = 12.67,  $p < 0.01$ ).

A typical process for interpreting such effects was used following Liao (2005b, 2006b) and Hayton (2003). Figure 1 shows the interaction between strategic control and intangible resource plotted for product innovation. Figure 2 shows the interaction between strategic control and executive resource plotted for product innovation. Figure 3 shows the interaction between financial control and physical resource plotted for product innovation.

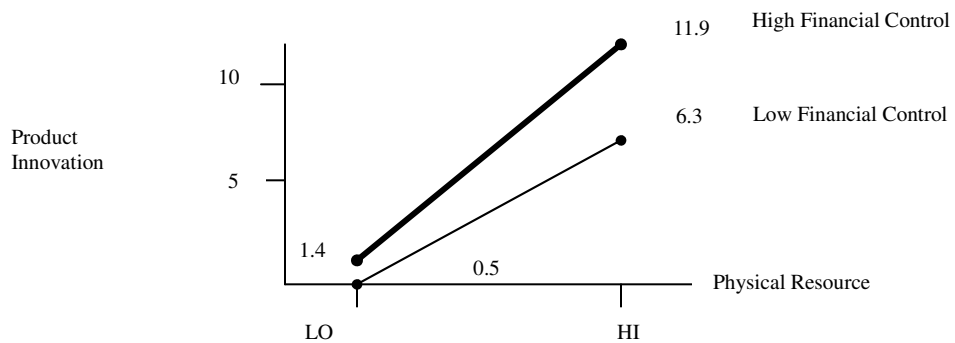
Overall, these findings indicate several things: first, for the direct effect, strategic control, sharing of intangible, executive and financial resources will enhance group-affiliated companies' product innovation, in contrast, financial control will deter product innovation. Second, firms may be well advised to emphasize corporate control under the condition of specific type of resource sharing. When strategic control is used by the parent company of a business group, high sharing of either intangible resource or executive resource may facilitate group-affiliated com-



**Figure 1.** The Interaction of Strategic Control and Intangible Resource for Product Innovation



**Figure 2.** The Interaction of Strategic Control and Executive Resource for Product Innovation



**Figure 3.** The Interaction of Financial Control and Physical Resource for Product Innovation

panies' product innovation. In contrast, when parent company emphasizes financial control, high sharing of physical resource can enhance product innovation. These findings support H2, H3, and H4.

#### 4.2 Additional Analysis

In addition to the above hypothesis testing procedure, an additional analysis was conducted to supplement the research findings. Recognizing that corporate controls are used in combination rather than in isolation, this study performed cluster analysis on the two corporate controls. This analysis yielded three clusters that were labeled as (1) The utilization of strategic control and financial control with strategic control emphasized, (2) The utilization of strategic control and financial control with financial control emphasized, and (3) The utilization of strategic control and financial control without specific emphasis. The regression analyses procedures were repeated once more, this time substituting these corporate control clusters for the individual corporate control variables. These regressions provided no evidence that the corporate control clusters directly impacted innovation or interacted with resource sharing to predict innovation.

### 5. Discussion

#### 5.1 Interpretation of Research Findings

The primary purpose of this study was to examine the moderating effects of intragroup resource sharing on the relationship between corporate control and group-affiliated companies' innovation. For the direct effect of resource sharing, executive, intangible or financial resource had a positive effect on product innovation. These findings indicate that the more resources such as innovative capabilities, intellectual property, and financial support a group-affiliated firm acquires from its group members, the more innovation it really gains. This finding is consistent with prior research. For example, Montgomery and Hariharan (1991) found that firms tend to diversify into industries that have R&D intensity similar to those of the firms' existing businesses, since the R&D activity creates transferable resources that provide competitive advantage. Chang and Hong (2003) argued that group-affiliated firms benefit from group membership through sharing intangible and financial resources with other member firms. In addition, the direct effect of corporate controls on innovation is supported by the argument of Hoskisson and Hitt (1994). As already noted, Strategic controls make group-affiliated companies exhibit a long-term and greater spending on R&D so as to enhance their product innovation. In contrast, financial controls will lead to the opposite.

It is not surprising to find that if the business group emphasizes the strategic control on its group-affiliated companies with higher sharing of executive or intangible resource, the innovation will be facilitated. The results

show that a firm's innovation benefits from higher level sharing of executive and intangible with the use of strategic control. This finding is consistent with what research would predict. For example, Gupta and Govindarajan (1986) noted that reliance on subjective approaches to bonus determination is likely to be more beneficial for SBUs with a high level of resource sharing, since the sharing implies that the decisions and actions of other managers in an SBU cluster can affect the performance of the focal SBU. Liao (2005a) found that group-affiliated firms benefit from use of strategic control when resource sharing is high.

When sharing of physical resource is high with the emphasis of financial control, the innovation is improved. Hoskisson and Hitt (1994) argued that firms under financial control exhibit decreased spending on R&D, market research, employee training, and capital investment. From this viewpoint, financial control is supposed to have a negative effect on innovation. It is possible that due to the characteristics of physical resource, an output-oriented control may enhance innovation. Physical resource is less flexible, and any excess capacity of it often can be used only for very closely related products. It is possible that corporate managers know much about a very closely related group-affiliated companies, thus parent company can set a crystallized standards of desirability to facilitate innovation. The evidence is clear from previous research that output-oriented control strategy tends to be used more when standards of desirability are crystallized (Snell and Youndt, 1995).

#### 5.2 Limitations and Future Directions

As a guide to future empirical research, it is prudent to also examine some of the key limitations of this study. First, perhaps the most obvious limitation is that the one-time data resemble a snapshot. Although the theoretical discussion preceding the hypotheses implies a specific causality in each case, the cross-sectional nature of the data prevented any appropriate methodology for the examination of specific causal linkages. Gaining a clearer understanding of the relationships between corporate control, resource sharing and innovation will require longitudinal analysis. Future research might try to use the case study approach to extensively examine specific linkages.

Second, this study explored effect of resource sharing on group-affiliated companies' innovation based only on the resource-based theory. It is quite possible that the scale advantages of resource sharing do not come cost-free (Chang and Hong, 2003). At the level of clusters of group members, there are the costs of coordination; at the level of individual group-affiliated companies, there are the costs of reduced flexibility, because sharing resources reduces managers' independence with respect to allocation of those resources, and reduces their flexibility in responding to unanticipated competitive moves. Accordingly,

future research might strive to conduct more intensive examinations, taking into account internal transaction costs simultaneously.

Third, this study investigated only individual effect of either strategic or financial control on group-affiliated companies' innovation. It seems that the combination of corporate control used by business group is very complex (e.g., Liao, 2006b), results in this study indicated that corporate control clusters have no direct and interactive effects on group-affiliated companies' innovation, though. Future research could be conducted to explore the effects of various types of combination on innovation.

Fourth, this study only looked at the interaction of corporate control and resource sharing. It is quite possible that other organizational characteristics, such as business strategy and technology affect product innovation as well (e.g., Liao, 2005b, 2006c). Accordingly, future contingency studies using other organizational characteristics as moderators are needed in order to gain further insights into facilitators of product innovation.

Finally, this study is limited to examining product innovation. In addition, the literature on organizational innovation organizes innovation according to radicalness. Future research is suggested to investigate the moderating effects of a firm on process or radical along with incremental innovation.

## 6. Conclusions and Implications

Innovation is central in terms of the strategic management of organizations, and is of concern both from a practitioner point of view, as firms attempt to compete in an increasingly technologically competitive environment, and from a theoretical point of view, as scholars add to their understanding of the theory on innovation. The results of this study suggest that practitioners and scholars should both consider including the potentially important effects of intragroup resource sharing of a group-affiliated company for organizational innovation under the diversification context.

The results suggest that realizing synergistic benefits depends on how a parent company designs corporate control to manage linkages between group members effectively. To improve a group-affiliated company's innovation, parent company should emphasize strategic control when sharing level of executive and intangible resource is high, or emphasize financial control when physical resource sharing is high.

The findings of this study have both practical and theoretical relevance. The practical implication of this study lies in the guidance that business groups should not use a standard corporate control to manage all their group members. Corporate control is an important ingredient in implementing strategy and should be tailored to the situa-

tions of individual group-affiliated companies. Strategic control and financial control are not mutually exclusive. A diversified firm usually uses a combination of the both to achieve its goal, where the value of any approach to corporate control can be augmented or diminished by simultaneously managing the resource sharing.

The theoretical implication of this study lies in the extension of contingency perspectives from the level of entire business group to the level of group-affiliated companies. All prior studies on the subject of synergies among business units treated entire firms as units of observation and focused on such questions as how a related diversified firm might be managed differently from an unrelated diversified firm. In contrast, this study regarded individual group members as the units of observation. The results of this study suggest that the effective management of group members might be better supported empirically if developed primarily at the level of individual group-affiliated companies and only secondarily at the entire business group level.

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