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# The Interactive Effects of Corporate Control Strategy and Resource Sharing on Subsidiaries' Human Resource Management Control Systems - A Study of Conglomerates in Taiwan

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**ABSTRACT**

A human resource management control system has great effect on firm performance, the use of HRM control system will be contingent on the interaction of corporate control strategy and resource sharing. Empirical results from 79 firms reveal that a subsidiary characterized by high sharing of physical, intangible, or executive resources accompanied with high imposition of strategic control might lean toward behavior control and input control. A subsidiary characterized by high physical resource sharing accompanied with high imposition of financial control might deter the use of behavior, output, and input control. Output control is emphasized when imposition of strategic control is high with high sharing of physical or executive resources, or imposition of financial control is high with low financial resource sharing.

Keywords: corporate control strategy, human resource management control system, resource sharing

# I. 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 business units into conglomerates that require corporate-level executives to craft a multibusiness strategy. Nonetheless, top-level managers within diversified firms have to face a greater challenge-how do they manage to sustain competitive advantage of all business units. Unfortunately, this aspect has not yet been thoroughly explored.

Human resource is an important resource for a firm's success. Human resource management (HRM) is one of the principal mechanisms by which managers integrate the actions of individuals to keep them conformant with the

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interests of the firm (Goold and Quinn, 1990). Thus, effective management of human capital may be the ultimate determinant of organizational performance and survival. A HRM control system has great effect on firm performance; its mismanagement can lead to confusion and inefficiency. Therefore, managers should be aware of what HRM control systems are suitable for their firms. For a subsidiary of a diversified firm, it has to interact with other members within the group. The HRM control systems are affected by external factors inevitably. Apparently, the factors will interest managers of subsidiaries.

Determining how best to implement a strategy requires an analysis of what controls are needed to achieve the desired results (Rowe, Mason, Dickel, Mann and Mockler, 1994). To date, the focus of implementing a diversification strategy is still on the corporate control strategy (macro) imposed upon divisional units. However, these corporate control strategies also influence control systems (Simons, 1995) within divisions (micro). Wherein, HRM control systems used within divisions rely deeply on corporate control strategy (Rowe and Wright, 1997). Unfortunately, the effects of diversification and corporate control strategy on HRM control systems have not yet been thoroughly explored.

A competitive advantage can be created through the unique bundle of several resources (McGrath, MacMillan and Venkataraman, 1995). The more related a diversified firm is, the more a firm is dependent on the resource sharing to create value from economies of scope (Hitt, Ireland and Hoskisson, 1997). 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). Thus, as the characteristics of each resource type vary, it is necessary to examine the effect of each resource sharing on the implementation of diversification, especially the level of business unit.

Focused on the diversified firms in Taiwan, this study attempted to investigate what HRM control systems are used with a subsidiary under the interaction of corporate control strategy imposed by parent company and sharing of different resource types.

# II. LITERATURE REVIEW AND HYPOTHESES

## 1. Resource

A firm's resources encompass all input factors—both tangible and intangible, human and nonhuman - that are owned or controlled by the firm and that enter into the production of goods and services to satisfy human wants (Amit and Schoemaker, 1993). Barney (1991) classified firm resources into physical capital resources, human capital resources, and organizational capital resources. Hofer and Schendel (1978) suggested that a firm's resource profile includes the following: financial, physical, managerial, human, organizational, and technological 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. Lai (2000) classified 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, intangible resource, executive resource, and financial resource.

# 2. Diversification

## 2.1 Diversification and Resource Types

Diversification refers to the entry of a firm or business unit into new lines of activity, either by processes of internal business development or acquisition, that entail changes in its administrative structures, systems, and other management processes (Ramanujam and Varadarajan, 1989). Most firms implement a diversification strategy to enhance the strategic competitiveness of the entire company (Hiit, Ireland, and Hoskisson, 1997).

A firm must posses the resources required to make diversification economically feasible. Resources vary in their utility for value creation (Hiit, Ireland, and Hoskisson, 1997). If a resource can be used to produce only one product, it is not suitable for diversification. However, most resources can be used for more than one end-product. If a firm owns resources that are fairly end-product-specific (inflexible), then such a firm would be constrained to diversify in a relatively related fashion; whereas if a firm possesses resources that are flexible, it would have the option of implementing either more or less related diversification.

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).

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 form 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 (Hill and Hoskisson, 1987).

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 little sharing of tangible or intangible resources; no value is created.

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; Ramanujam and Varadarajan, 1989), 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 competitive synergies between two or more unrelated businesses (Dundas and Richardson, 1982; Jones and Hill, 1988). 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; Hill and Hoskisson, 1987). The realization of either of these synergy types has been shown to lead to increases in financial performance (Chatterjee, 1986; Singh and Montgomery, 1987).

## 2.2 Diversification and Resource Sharing

Resource sharing can be viewed as a special form of governance structure within multidivisional firms (Gupta and Govindarajan, 1986). The desirability of such a structure depends on the magnitude of the associated transaction costs (Williamson, 1975, 1985). Govindarajan and Fisher (1990) defined level of resource sharing as the extent to which a focal strategic business unit (SBU) shares functional activities like marketing, manufacturing, and R&D with other SBUs within a firm. Strong theoretical arguments exist for expecting that the utility of resource sharing among SBUs will depend on the strategic contexts of both corporations and their SBUs. Pitts (1977) argued that internal diversifiers opt for

high synergy; in contrast, acquisitive diversifiers opt for low synergy. Vancil (1980) argued that, for each of the four functions examined (R&D, manufacturing, distribution, and selling), the incidence of resource sharing is greater within related diversified firms than within unrelated diversified firms. Apparently, resource sharing is positively associated with related diversification.

However, the scale advantages of resource sharing do not come cost-free (Gupta and Govindarajan, 1986; Porter, 1985). The major cost of a high level of resource sharing includes the cost of coordinating the SBU groups that share a resource and the cost of reduced flexibility at the individual SBU level. On the benefit side, Porter (1985) and Gupta and Govindarajan (1986) argue that high resource sharing may yield a synergistic cost advantage, providing a shared resource at a lower cost that it would have with each SBU producing or acquiring it separately. Such synergy is similar to an economy of scale. Focusing on the relationships between controls and resource sharing, 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. In addition, in terms of corporate venture management, Thornhill and Amit (2001) found that access to the parent's resources and capabilities is essential if a venture is to demonstrate competitive advantage.

Apparently, not only the type of resource, but also the level of resource sharing is related to firm's diversification type and corporate control strategy.

## 3. Corporate Control Strategy

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, 1997). Properly designed organizational controls provide clear insights to employees regarding behaviors that enhance the firm's competitiveness and overall performance (Farkas and Wetlaufer, 1996). Effective implementing of diversification strategies results when firms appropriately use both types of controls.

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. Thus, top managers establish financial targets for each business and measure the business-level managers' performance against those targets. 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. Strategic controls used in more limited diversification for managing firms emphasize resource sharing, cooperating, and working closely (Gupta, 1987; Hoskisson and Hitt, 1988).

If diversification has implications for macro-level controls, then it may also have implications for the types of micro-level controls utilized within divisions. Rowe and Wright (1997) proposed that diversification is related to a relative emphasis on fit or flexibility. Unrelated firms use financial control to produce an emphasis on fit among divisional; in contrast, related firms use strategic control to produce an emphasis on flexibility. Furthermore, Rowe and Wright (1997) proposed that an emphasis on fit produces an emphasis on output control in divisional HRM practices; on the other hand, an emphasis on flexibility within a division leads to the utilization of behavior, output, and input control.

Rowe and Wright's (1997) study indicated the relationship between corporate control strategy and human resource management control system. Meanwhile, the literature discussed in the prior section implies that the type and sharing level of resource may work as a facilitator for the relationship. Further discussion are shown as follow.

# 4. Human Resource Management

According to the work of Snell (1992) and Snell and Youndt (1995), this study focuses exclusively on bureaucratic mechanisms that restrict the attention to formal human resource management practices such as staffing, training, performance appraisal, and rewards. These HRM practices can be combined into three types of control systems: behavior, output, and input control.

## 4.1 Behavior Control

According to Snell and Youndt (1995:713), behavior control means that "responsibilities are standardized and imposed top-down with an overriding concern for procedures and methods. Employees are accountable for their actions, regardless of results. Appraisals are based on supervisor observation of behavior. Feedback is used as a remedial tool." Behavior control remains effective as long as the task environment stays stable and predictable over time. Research has shown that use of this approach relates positively to the completeness of information about cause-effect relations (Ouchi and Maguire, 1975; Snell, 1992).

An emphasis on fit when financial control is used by unrelated head office to monitor divisional performance; behavior control is difficult across unrelated divisions due to the lack of knowledge of means-ends relationships (Snell, 1992). Meanwhile, behavior control requires that superiors have knowledge of cause and effect or means/ends relationships, this means that managerial development and worker training both have importance to behavior control. Under a short-term financial results orientation, Rowe and Wright (1997) argued that money for managerial development and worker training is cut quickly. Arthur (1994) found that a cost-leadership strategy (a strategy consistent with outcome control) are characterized by HR systems that consist of low investments in training, and outcome controls such as incentives tie to performance.

In contrast, an emphasis on flexibility when strategic control is used by related head office, divisional managers know more about their own businesses and can ensure high goal congruence. This allows them to be able to use behavior control (Eisenhardt, 1985; Jaeger and Baliga, 1985; Snell, 1992). In addition, behavior control is recommended when there is high knowledge of cause/effect relations (Eisenhardt, 1985; Snell, 1992) as there is in related firms.

As already noted, physical, intangible, and executive resources are associated with related diversification. Strategic control is used in related diversification for managing firms emphasize resource sharing. Meanwhile, an emphasis on flexibility when strategic control is used by related firms makes subsidiaries' managers be able to use behavior control. The following hypotheses will therefore be tested:

**H1a: Behavior control is used within a subsidiary when strategic control is imposed and sharing of physical resource is high.**

**H1b: Behavior control is used within a subsidiary when strategic control is imposed and sharing of intangible resource is high.**

**H1c: Behavior control is used within a subsidiary when strategic control is imposed and sharing of executive resource is high.**

## 4.2 Output Control

According to Snell and Youndt (1995:713), output control refers to "mutually set performance targets. Subordinate performance appraisals are based on the results they achieve, and monetary rewards are closely linked to performance outcomes". Firms tend to use output control more when standards of desirability are crystallized (Hofstede, 1978; Ouchi, 1977). As long as the firm has very clear, crystallized objectives, then an output orientation to HRM may elicit acceptable performance. In this instance, goals of the organization can be specified via the control system.

An emphasis on fit when financial control is used by unrelated head office to monitor divisional performance, divisional managers generally use outcome control. Ouchi and Maguire (1975) found that managers, who receive much output control from their superiors, use much output control in supervising their subordinates. In addition, emphasizing fit in HR practices leads to an overemphasis on current plans rather than concerning with strategic adaptation. This causes inflexibility and ossification (Jaeger and Baliga, 1985). When this happens, managers in divisions tend to rely more on output controls. In contrast to an emphasis on fit, an emphasis on flexibility makes divisional managers know more about their own businesses and can ensure high goal congruence. This allows them the ability to use output control (Eisenhardt, 1985; Jaeger and Baliga, 1985; Snell, 1992).

As already noted, physical, intangible, and executive resources are associated with related diversification. Strategic control is used in related diversification for managing firms emphasize resource sharing. Meanwhile, an emphasis on flexibility when strategic control is used by related firms makes subsidiaries' managers be able to use output control. In contrast, financial resource is associated with unrelated diversification. An emphasis on fit when financial control is used by

unrelated firms makes subsidiaries' managers be able to use output control. The following hypotheses will therefore be tested:

**H2a: Output control is used within a subsidiary when strategic control is imposed and sharing of physical resource is high.**

**H2b: Output control is used within a subsidiary when strategic control is imposed and sharing of intangible resource is high.**

**H2c: Output control is used within a subsidiary when strategic control is imposed and sharing of executive resource is high.**

**H2d: Output control is used within a subsidiary when financial control is imposed and sharing of financial resource is high.**

## 4.3 Input Control

According to Snell and Youndt (1995:713), input control refers to "rigorous selection and training that help to socialize employees to ensure they have requisite abilities as well as understand and internalize the values and goals to the organization. In this way they are likely to act in the interest of the firm on their own." When the approach to HRM is based on input control, performance is higher when standards of desirability are ambiguous (Snell and Youndt, 1995). Snell (1992) argued one advantage of input control is that it helps prevent performance problems. Careful staffing and training practices can prevent deficiencies that might be impossible to remedy later. In contrast, the disadvantage is that it only manages potential, with no guarantee of what can actually be.

If an emphasis on fit when financial control is used by unrelated head office to monitor divisional performance, one of the consequences is short-term expectation of better financial results (Rowe and Wright, 1997). These expectations encourage division managers to cut spending on R&D, advertising, capital investment, and human resource management, all investments without a direct short-term impact on the bottom line. The cut in human resource management causes a decrease in spending on recruiting, selection, socialization, training, and development, and this produces a decrease in the emphasis on input control.

In contrast, an emphasis on flexibility when strategic control is used by related head office, managers in these firms have a long-term perspective and are

more open to taking risks with less concern for the bottom line. Consequently, they tend to invest more in selection, training, and developing new employees, herein, clan control (part of input control) is achieved through extensive investments in selection, training, and socialization of employees (Eisenhardt, 1985; Snell, 1992).

As already noted, physical, intangible, and executive resources are associated with related diversification. Strategic control is used in related diversification for managing firms emphasize resource sharing. Meanwhile, an emphasis on flexibility when strategic control is used by related firms makes subsidiaries' managers be able to use input control. The following hypotheses will therefore be tested:

**H3a: Input control is used within a subsidiary when strategic control is imposed and sharing of physical resource is high.**

**H3b: Input control is used within a subsidiary when strategic control is imposed and sharing of intangible resource is high.**

**H3c: Input control is used within a subsidiary when strategic control is imposed and sharing of executive resource is high.**

# III. RESEARCH DESIGN

## 1. Research Framework

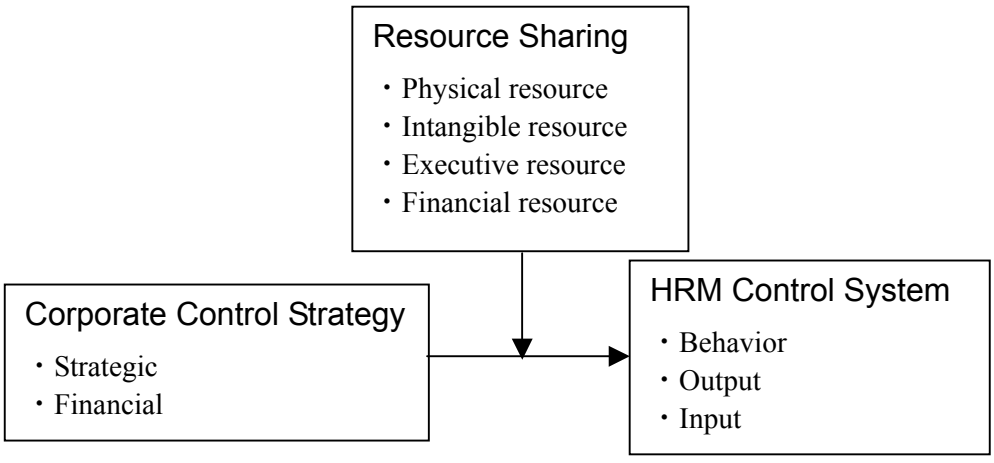


Figure 1. Research Framework

The research framework of this study is shown in Figure 1. As previously discussed, the relationship between corporate control strategy and human resource management control system should be moderated by resource sharing.

## 2. Sample and Data Collection

The objective of this study is to examine how corporate control strategy in a conglomerate affects the relationship between a subsidiary's human resource management control systems. Therefore, it is important to consider that the subsidiary's major decision-making within a conglomerate is handled by the parent company. In order to ensure the subsidiary is controlled by its parent company, only those whose majority of their equity belongs to a parent company are selected.

A sample of 297 subsidiaries from 77 conglomerates collected in "Business Groups in Taiwan" published in 2001 by China Credit Information Service, LTD. were identified, each with firm age above three years, and each having at least 50 employees. These sampling criteria eliminated the possibility of including start-up firms that might be exposed to tremendous resource inflow from their parent company, and very small firms that might not have formal HRM procedures.

The presidents of each firm were contacted to ask for their participation in the study. After two weeks, a prompting letter and a second questionnaire identical to the first were mailed to all those presidents who has not yet responded. In total, 85 of the 297 presidents returned questionnaires of which 79 (26 percent) were usable. These presidents represent firms in 39 different industries (4-digit SIC).

## 3. Measures

***Resource Sharing:*** This study employed the measure that was developed by Lai (2000) based on items used by Hitt, Ireland and Hoskisson (1997) and Hall (1992). It is a sixteen-item seven-point Likert scale to assess what existing resources a subsidiary can share with the parent company of the conglomerate. The study conducts a principal components factor analysis with varimax rotation to produce four stable factors that represent sharing of physical resource, intangible resource, executive, and financial resource. (1) Physical resource includes factory and building, land, and raw material. The alpha coefficient was 0.91. (2) Intangible

resource involves trademark, distribution network, and contract. This measure exhibited an alpha coefficient of 0.75. (3) Executive resource consists of product designing capability, market development staff, innovating capability and professional staff. The reliability coefficient was 0.88. (4) Financial resource includes internal capital and external financial resource. The alpha coefficient was 0.71.

***Corporate Control Strategy.*** This study used Hitt, Hoskisson, Johnson, and Moesel's (1996) and Tsai, Chang, Yung and Liao's (2001) the measure what developed in modified form to assess corporate control strategy, the strategy that the parent company of a conglomerate uses to control subsidiaries, 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 is composed of three survey items: (1) formal face-to-face meetings, (2) managers often communicate with parent company, and (3) strategies are consistent with conglomerates'. The coefficient alpha for this scale was 0.83. The financial control variable is composed of three items: (1) establish financial target, (2) emphasize achievement of major financial criteria, and (3) formal reports from management information systems received by parent company. The coefficient alpha for this scale was 0.95.

***HRM Control System.*** This study modified Chang's (1996) eleven-item scale into ten-item, seven-point Likert scale. This variable assesses what human resource management subsidiaries use to regulate performance, involving three types of control systems: behavior, output, and input control. The behavior control variable is composed of three items: (1) report activities plan, (2) set specific performance targets, and (3) weight in evaluations place on behavior. The coefficient alpha for this scale was 0.82. The output control variable is composed of four items: (1) series of evaluations before hiring, (2) performance evaluated by results, (3) rewards linked to performance, (4) promotion linked to performance. The coefficient alpha for this scale was 0.73. The input control variable is composed of three items: (1) substantial training before responsibility, (2) commitment to training and development, and (3) establish best staffing procedures. The coefficient alpha for this scale was 0.86.

# IV. RESULTS

The characteristics of the 79 firms are reported in Table 1. Data are averaged to simplify reporting. Means and standard deviations of the variables are consistent with those in other studies using the same variables (Snell and Youndt, 1995; Tsai, Chang, Yung and Liao, 2001).

Table 1. Means, Standard Deviations and Correlations[a]

| Variables | Means(SD) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 1.Physical Resource | 3.23(1.99) | | | | | | | | |
| 2.Intangible Resource | 4.31(1.29) | 0.39 | | | | | | | |
| 3.Executive Resource | 3.78(1.53) | 0.53 | 0.56 | | | | | | |
| 4.Financial Resource | 4.62(1.59) | 0.45 | 0.23 | 0.38 | | | | | |
| 5.Strategic Control | 5.47(1.20) | 0.51 | 0.36 | 0.40 | 0.16 | | | | |
| 6.Financial Resource | 5.23(1.48) | 0.19 | 0.03 | -0.04 | -0.01 | 0.37 | | | |
| 7.Input Control | 5.59(0.88) | 0.05 | 0.16 | 0.28 | -0.06 | 0.04 | -0.04 | | |
| 8.Behavior Control | 5.47(0.83) | 0.02 | 0.03 | -0.11 | -0.09 | 0.12 | 0.14 | 0.63 | |
| 9.Output Control | 5.60(1.01) | -0.09 | 0.15 | -0.04 | -0.04 | -0.03 | 0.03 | 0.67 | 0.77 |

[a]Correlations greater that 0.22 are significant at $p<0.05$

## 1. Resource Sharing, Corporate Control Strategy, and Behavior Control

Table 2 shows the results of hierarchical regression analysis for the effect of resource sharing and corporate control strategy on behavior control. Model 1 examines the direct effects of corporate control strategy on the dependent variable. This model shows $R^2$=0.03 (F=0.68, p=ns). In model 2, the interaction between strategic control and financial control is added. The effect of the interaction accounts for a statistically significant increase in financial control ($\Delta R^2$ =0.05, F change=4.08, $p<0.05$). The interaction of strategic control and financial control is negative for behavior control (*b*=-0.10, t=-2.07, $p<0.05$).

In model 3, physical resource sharing is added. This resource had no direct effect on behavior control. Model 4 examines the effect of interaction between physical resource sharing and corporate control strategy. The set of two-way interactions is significant for behavior control ($\Delta R^2$ =0.18, F change=8.76, $p<0.01$).

The interaction of strategic control and physical resource sharing is positive for behavior control (*b*=0.20, t=3.42, p<0.01), but the interaction of financial control and physical resource sharing is negative for behavior control (*b*=-0.19, t=-3.30, p<0.01).

Model 5 examines the direct effects of intangible resource sharing on the dependent variable. This resource has no direct effect on behavior control. In model 6, the two-way interactions between corporate control strategy and intangible resource sharing are added. The set of two-way interactions accounts for a statistically significant increase in financial control ($\Delta R^2$ =0.09, F change=3.90, p<0.05).The interaction of strategic control and intangible resource sharing is positive for behavior control (*b*=-0.13, t=2.54, p<0.05).

Table 2. Results of Hierarchical Regression Analysis for Behavior Control

| | Model 1 | Model 2 | R=Physical | | R=Intangible | | R=Executive | | R=Financial | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 | Model 9 | Model 10 |
| Intercept | 5.23*** | 5.34*** | 5.35*** | 5.22*** | 5.35*** | 5.37*** | 5.24*** | 4.42*** | 2.52+ | 1.75 |
| Strategic Control (S) | 0.05 | 0.08 | 0.08 | 0.35** | 0.08 | 0.19+ | 0.14 | 0.49*** | 0.59* | 0.44 |
| Financial Control (F) | 0.06 | -0.04 | -0.04 | -0.10 | -0.04 | -0.08 | -0.06 | -0.21** | 0.49* | 0.67* |
| S × F | | -0.10* | -0.10* | 0.02 | -0.10 | -0.09 | -0.09+ | -0.06 | -0.10* | -0.08 |
| Resource (R) | | | -0.03 | -0.07 | 0.01 | 0.02 | -0.09 | -0.17** | -0.04 | 0.19 |
| S × R | | | | 0.20** | | 0.13* | | 0.28*** | | 0.01 |
| F × R | | | | -0.19** | | -0.01 | | -0.03 | | -0.05 |
| $R^2$ | 0.03 | 0.08 | 0.08 | 0.26 | 0.08 | 0.17 | 0.11 | 0.40 | 0.09 | 0.10 |
| F | 0.68 | 1.60 | 1.26 | 3.37** | 1.27 | 1.90+ | 1.62 | 6.39*** | 1.38 | 1.11 |
| $\Delta R^2$ | | 0.05 | 0.00 | 0.18 | 0.00 | 0.09 | 0.03 | 0.22 | 0.01 | 0.01 |
| F change | | 4.08* | 0.00 | 8.76** | 0.00 | 3.9* | 2.49 | 13.2** | 0.81 | 0.40 |

Note: +p<0.1 *p<0.05 **p<0.01 ***p<0.001

In model 7, executive resource sharing is not significant, either. Model 8 examines the effect of interaction between executive resource sharing and corporate control strategy. The set of two-way interactions is significant for behavior control ($\Delta R^2$ =0.22, F change=13.20, p<0.01). The interaction of executive resource and strategy control is a predictor for behavior control (*b*=0.28, t=5.69, p<0.001). In model 9, financial resource sharing is not significant for

behavior control. In model 10, the interaction of financial resource sharing and corporate control strategy is not significant for behavior control.

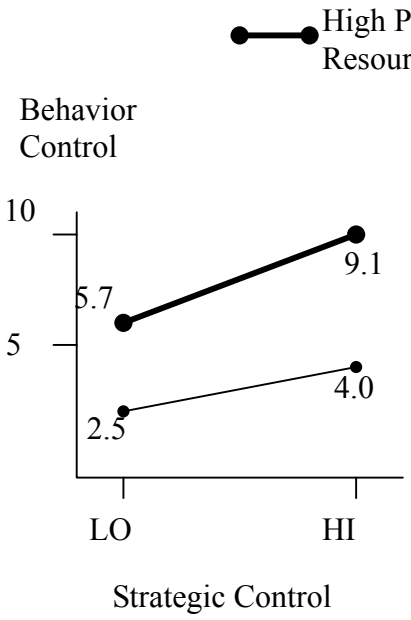


Figure 2. The Interaction of Physical Resource Sharing and Strategic Control for Behavior Control

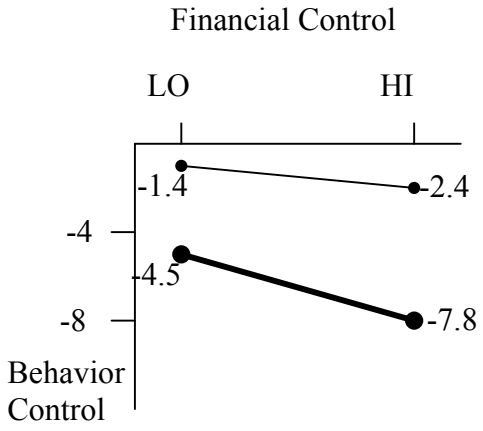


Figure 3. The Interaction of Physical Resource Sharing and Financial Control for Behavior Control

A typical process for interpreting such effects is used following Hitt, Bierman, Shimizu, and Kochhar (2001), Snell and Youndt (1995), and Stewart and Barrick (2000). This study graphically shows the result of interaction in Figure 2 by using data from the regression equation of model 4 to plot four different prediction coordinates (Stone and Hollenbeck, 1984; 1989). When a combination of high physical resource sharing (operationalized as one standard deviation above the mean for that variable) and high strategic control (operationalized as one standard deviation above the mean for that variable) are entered into the prediction equation, the predicted value for behavior control is highest (9.1). In contrast, when the combination of low physical resource sharing (operationalized as one standard deviation below the mean) and low strategic control (operationalized as one

standard deviation below the mean) are entered into the prediction equation, the predicted value is lowest (2.5).

Figure 3 shows the interaction between financial control and physical resource sharing plotted for behavior control, with the highest predicted value for low financial control and low physical resource sharing (-1.4). The lowest predicted value is for high financial control and high physical resource sharing (-7.8).

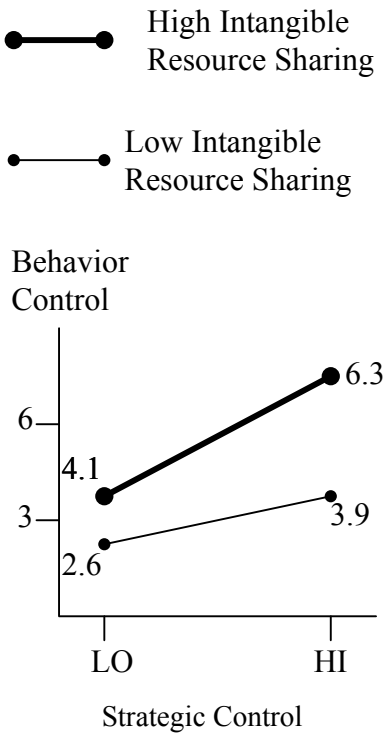


Figure 4. The Interaction of Intangible Resource Sharing and Strategic Control for Behavior Contı

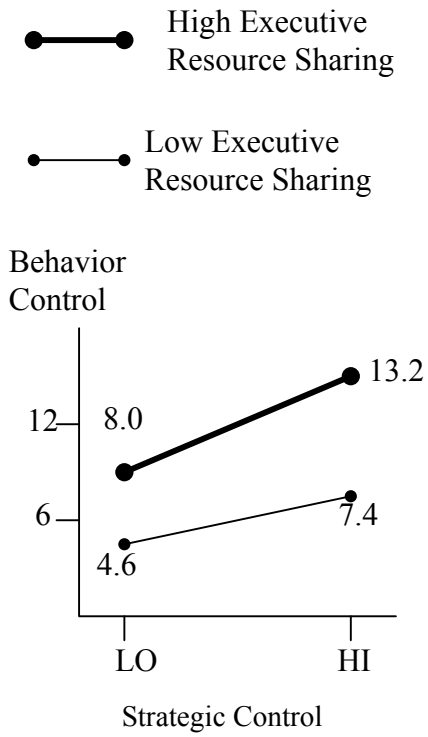


Figure 5. The Interaction of Executive Resource Sharing and Strategic Control for Behavior Control

Figure 4 shows the interaction between strategic control and intangible resource sharing plotted for behavior control, with the highest predicted value for high strategic control and high intangible resource sharing (6.3). The lowest predicted value is for low strategic control and low intangible resource sharing (2.6).

Figure 5 shows the interaction between strategic control and executive resource sharing plotted for behavior control, with the highest predicted value for high strategic control and high executive sharing (13.2). The lowest predicted value is for low strategic control and low executive sharing (4.6).

Overall, these findings indicate that when sharing of any type of resources (physical, intangible, executive) is high when the use of strategic control by the parent company will facilitate the emphasis on behavior control within a subsidiary. In contrast, when a subsidiary shares physical resource mainly with financial control imposed by the parent company, it does not focus on behavior control as HRM practices. These findings support H1a, H1b, and H1c.

## 2. Resource Sharing, Corporate Control Strategy, and Output Control

The statistical analysis is repeated once more, this time using output control as the focal dependent variable (results are shown in Table 3). Model 1 and model 2 examine the direct and interaction effect of strategic and financial control. The interaction has a marginal negative effect on output control ($b$=-0.10, t=-1.79, p<0.1). This result is similar with behavior control.

In model 3 and model 4, the direct effect of physical resource sharing is not significant. However, the set of two-way interaction is significant for output control ($\Delta R^2$ =0.15, F change=7.30, p<0.01). The interaction of strategic control and physical resource sharing is positive for output control ($b$=0.17, t=2.37, p<0.001), while the interaction of financial control and physical resource sharing is negative ($b$=-0.25, t=-3.57, p<0.001).

In model 5 and model 6, intangible resource sharing has no direct effect or significant incremental effect on output control ($\Delta R^2$ =0.01, F change=0.42, p=ns). Model 7 and model 8 examine the effect of executive resource sharing. The interaction of executive resource sharing and strategic control is positive for output control ($b$=0.15, t=2.20, p<0.05).

In model 9, financial resource sharing has no direct effect. In model 10, the interaction with financial control is significantly negative for output control ($b$=-0.17, t=-2.77, p<0.01).

Figure 6 shows the interaction between strategic control and physical resource sharing plotted for output control, with the highest predicted value for high strategic control and high physical resource sharing (7.4). The lowest predicted value is for low strategic control and low physical resource sharing (2.0).

Figure 7 shows the interaction between financial control and physical resource sharing plotted for behavior control, with the highest predicted value for low financial control and low physical resource sharing (-1.7). The lowest predicted value is for high financial control and high physical resource sharing (-10.1).

Table 3. Results of Hierarchical Regression Analysis for Output Control

| | Model 1 | Model 2 | R=Physical | | R=Intangible | | R=Executive | | R=Financial | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 | Model 9 | Model 10 |
| Intercept | 4.44*** | 4.49*** | 4.52*** | 4.50*** | 4.62*** | 4.61*** | 4.42*** | 4.02* | 1.96 | -1.23 |
| Strategic Control (S) | -0.02 | 0.01 | 0.04 | 0.26+ | -0.06 | 0.01+ | 0.05 | 0.23 | 0.54 | 0.16 |
| Financial Control (F) | 0.01 | -0.09 | -0.08- | -0.12 | -0.08 | -0.10 | -0.10 | -0.23* | 0.47+ | 0.96** |
| S × F | | -0.10+ | 0.10+ | 0.07 | -0.11+ | -0.09 | -0.10+ | -0.13+ | -0.10 | -0.02 |
| Resource (R) | | | -0.04 | -0.07 | 0.15 | 0.15 | -0.06 | -0.12* | 0.01 | 1.02* |
| S × R | | | | 0.17* | | 0.07* | | 0.15* | | -0.02 |
| F × R | | | | -0.25*** | | -0.03 | | -0.07 | | -0.17** |
| $R^2$ | 0.07 | 0.11 | 0.11 | 0.26 | 0.14 | 0.15 | 0.11 | 0.20 | 0.11 | 0.20 |
| F | 1.68 | 2.10+ | 1.75 | 3.42** | 2.23+ | 1.74 | 1.78 | 2.44* | 1.67 | 2.43 |
| $\Delta R^2$ | | 0.04 | 0.00 | 0.15 | 0.03 | 0.01 | 0.00 | 0.09 | 0.00 | 0.09 |
| F change | | 3.37+ | 0.00 | 7.3** | 2.58 | 0.42 | 0.00 | 4.05* | 0.00 | 4.05* |

Note: +p<0.1 *p<0.05 **p<0.01 ***p<0.001

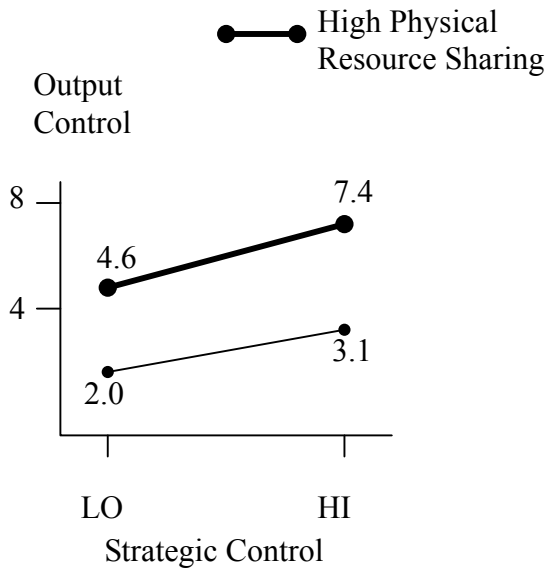


Figure 6. The Interaction of Physical Resource Sharing and Strategic Control for Output Control

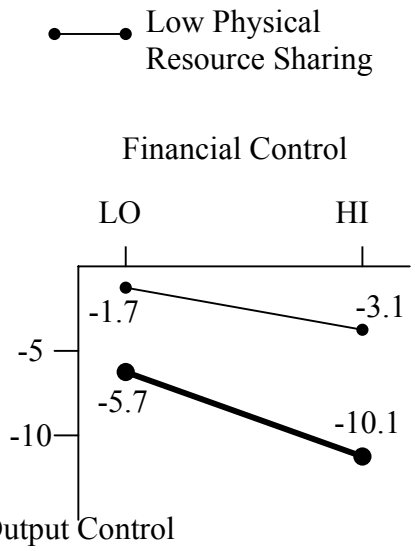


Figure 7. The Interaction of Physical Resource Sharing and Financial Control for Output Control

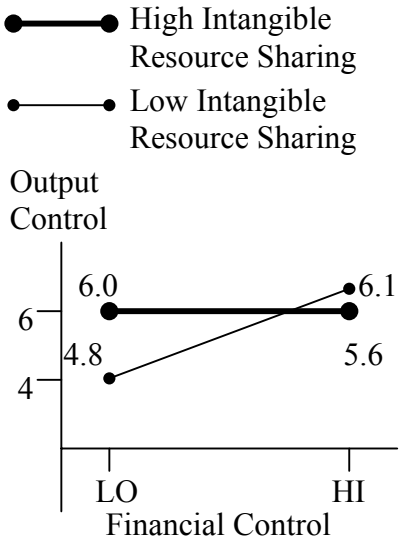


Figure 8. The Interaction of Intangible Resource Sharing and Strategic Control for Output Control

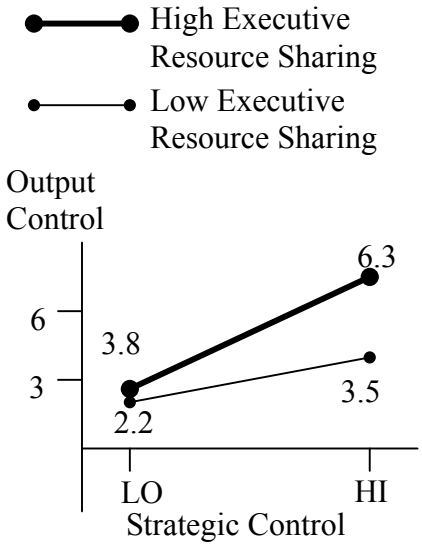


Figure 9. The Interaction of Executive Resource Sharing and Strategic Control for Output Control

Figure 8 shows the interaction between financial control and financial resource sharing plotted for output control, with the highest predicted value for high financial control and low financial resource sharing (6.1). The lowest

predicted value is for low financial control and low financial resource sharing (4.8).

Figure 9 shows the interaction between strategic control and executive resource sharing plotted for output control, with the highest predicted value for high strategic control and high executive resource sharing (6.3). The lowest predicted value is for low strategic control and low executive resource sharing (2.2).

Overall, these findings suggest that high sharing of physical resource or executive resource with strategic control imposed by the parent company leads to focus of output control within a subsidiary. However, under the circumstances of financial control imposed by the parent company, high sharing of physical resource or financial resource deters a subsidiary from emphasizing on output control. These findings support H2a and H2c. H2b and H2d are therefore not supported.

## 3. Resource Sharing, Corporate Control Strategy and Input Control

The statistical analysis is repeated once more, this time using input control as the focal dependent variable (results are shown in Table 4). Model 1 and model 2 examine the direct and interaction effect of strategic and financial control. The interaction has a negative effect on input control ($b$=-0.14, t=-2.81, p<0.01). This result is similar with the other two HRM controls.

In model 3 and model 4, the direct effect of physical resource sharing is not significant. However, the set of two-way interaction is significant for input control ($\Delta R^2$ =0.27, F change=16.76, p<0.01). The interaction of strategic control and physical resource sharing is positive for input control ($b$=0.19, t=3.32, p<0.01), and the interaction of financial control and physical resource sharing is negative ($b$=-0.29, t=-5.37, p<0.001).

Model 5 and model 6 examine intangible resource sharing. This resource has no direct effect on input control. The interaction with financial control is positive for input control (b=0.12, t=2.35, p<0.05). Executive resource sharing is examined in model 7 and model 8. Executive resource has a direct effect on input control ($b$=0.17, t=2.40, p<0.05). The interaction with strategic control is also positive for input control ($b$=0.17, t=3.15, p<0.01). Finally, in model 9 and model 10, financial resource sharing is examined. This resource has no direct or interaction effects

input control.

Table 4. Results of Hierarchical Regression Analysis for Input Control

| | Model 1 | Model 2 | R=Physical | | R=Intangible | | R=Executive | | R=Financial | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 | Model 9 | Model 10 |
| Intercept | 4.78*** | 4.83*** | 4.81*** | 4.82*** | 4.94*** | 5.07*** | 5.03*** | 4.56*** | 1.46 | 1.49 |
| Strategic Control (S) | 0.07 | 0.10 | 0.07 | 0.31** | 0.06 | 0.09+ | -0.01 | 0.21+ | 0.82** | 0.65+ |
| Financial Control (F) | -0.06 | -0.19* | -0.20* | -0.23** | -0.19* | -0.23** | -0.16+ | -0.29** | 0.55** | 0.68* |
| S × F | | -0.14** | -0.14** | 0.05 | -0.14** | -0.20*** | -0.14** | -0.16** | -0.14** | -0.13* |
| Resource (R) | | | -0.04 | 0.01 | 0.12 | 0.10 | 0.17* | -0.11 | -0.02 | -0.05 |
| S × R | | | | 0.19** | | 0.07 | | 0.17** | | 0.04 |
| F × R | | | | -0.29*** | | 0.12* | | -0.06 | | -0.03 |
| $R^2$ | 0.05 | 0.15 | 0.15 | 0.42 | 0.17 | 0.27 | 0.21 | 0.35 | 0.15 | 0.16 |
| F | 1.3 | 3.04* | 2.49* | 6.84*** | 2.88* | 3.54** | 3.75** | 5.06*** | 2.41* | 1.76 |
| $\Delta R^2$ | | 0.10 | 0.00 | 0.27 | 0.02 | 0.10 | 0.06 | 0.14 | 0.00 | 0.01 |
| F change | | 8.82** | 0.00 | 16.76** | 1.78 | 4.93** | 5.62* | 7.75** | 0.00 | 0.43 |

Note: +p<0.1 *p<0.05 **p<0.01 ***p<0.001

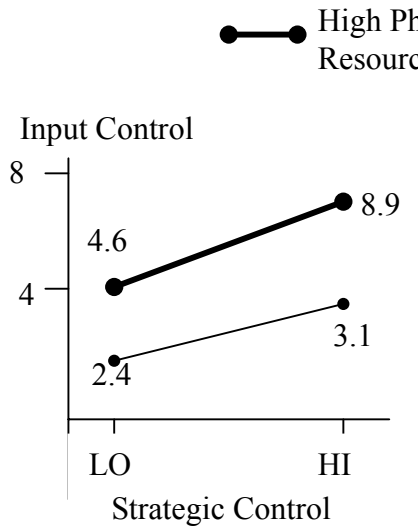


Figure 10. The Interaction of Physical Resource Sharing and Strategic Control for Input Control

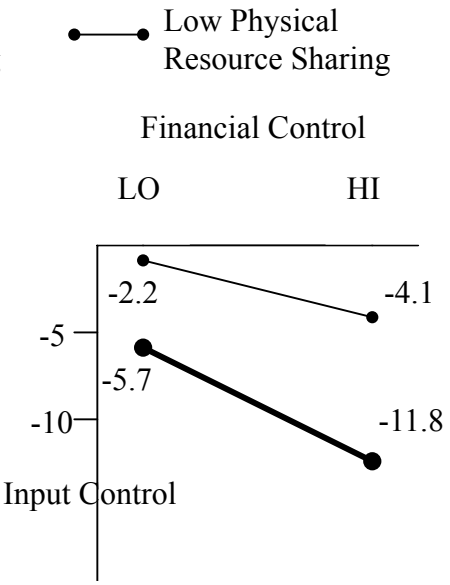


Figure 11. The Interaction of Physical Resource Sharing and Financial Control for Input Control

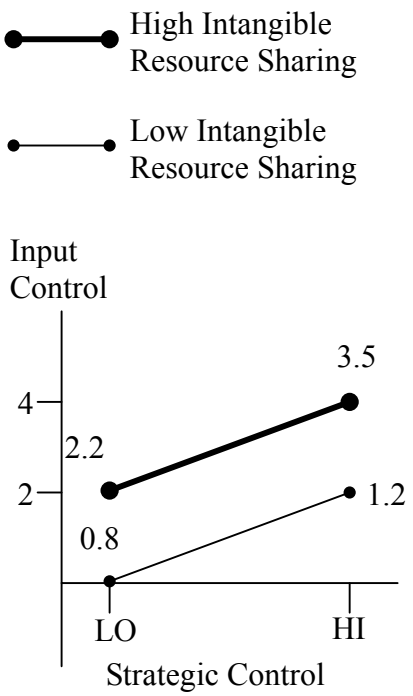


Figure 12. The Interaction of Intangible Resource Sharing and Strategic Control for Input Control

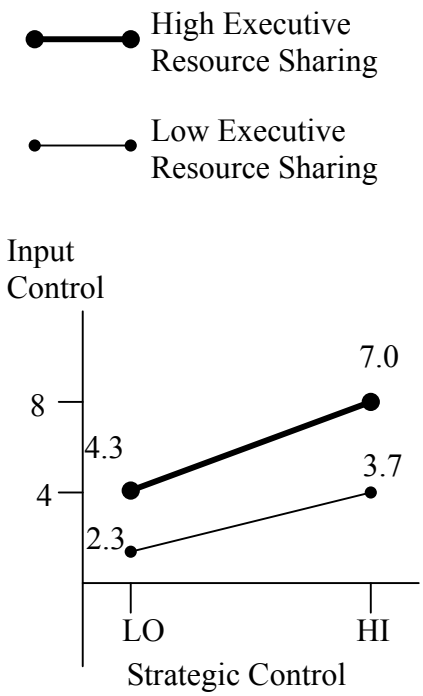


Figure 13. The Interaction of Executive Resource Sharing and Strategic Control for Input Control

Figure 10 shows the interaction between strategic control and physical resource sharing plotted for input control, with the highest predicted value for high strategic control and high physical resource sharing (8.9). The lowest predicted value is for low strategic control and low physical resource sharing (2.4).

Figure 11 shows the interaction between financial control and physical resource sharing plotted for input control, with the highest predicted value for low financial control and low physical resource sharing (-2.2). The lowest predicted value is for high financial control and high physical resource sharing (-11.8).

Figure 12 shows the interaction between financial control and intangible resource sharing plotted for input control, with the highest predicted value for high financial control and high intangible resource sharing (3.5). The lowest predicted value is for low financial control and low intangible resource sharing (0.8).

Figure 13 shows the interaction between strategic control and executive resource sharing plotted for input control, with the highest predicted value for high

strategic control and high executive resource sharing (7.0). The lowest predicted value is for low strategic control and low executive resource sharing (2.3).

Overall, these findings suggest that high executive resource sharing results in the direct emphasis of input control within a subsidiary. Under the circumstances of strategic control imposed by the parent company, high sharing of physical resource or intangible resource or executive resource will facilitate emphasis of input control within a subsidiary. In contrast, when financial control is imposed by the parent company, high physical resource sharing hinders the subsidiary from focusing on input control. These findings support H3a, H3b, and H3c.

# V. DISCUSSION

The findings suggest that the use of each type of human resource management control system depends on the interaction effect of resource sharing and corporate control strategy. The use of behavior control is dependent on high sharing of physical, intangible or executive resources with strategic control imposed upon them. These conditions parallel those Thompson (1967) describes as necessary for an "efficiency test" to control performance. The aim of high sharing of a resource is to implement synergy in order to improve a firm's competitive advantage. The imposition of strategic control leads to the flexibility of a firm to quickly and easily change its policies, practices, or procedures to meet the diverse or changing demands of the environment (Rowe and Wright, 1997). The condition created by strategic control is suitable for implementing synergy. On the other hand, behavior control may be deterred when the imposition of financial control is high with high physical resource sharing. It is possible that high physical resource sharing may enhance the emphasis of short-term benefit for financial control.

The use of output control is constrained by having a clear set of standards by which to judge the subordinates' contributions. It is suggested that goals and incentives can be used in human resource management to control performance when cause-effect relations are not completely known (Snell, 1992). Due to the fact that strategic control makes subsidiary managers know more about their own businesses and can ensure high goal congruence, high sharing of physical and executive resources can still facilitate the use of output control. However, for

intangible resource, it is excluded. One explanation for this finding is that intangible resource is hard to estimate, thus managers have no idea how to establish a clear set of standards to evaluate the subordinates' performance when intangible resource sharing is high.

Output control can be emphasized when the imposition of financial control is high accompanied with low sharing of financial resource. These findings indicate that high sharing of financial resource hinders the use of output control within a subsidiary when financial control is emphasized by the parent company.

The situations for the use of input control are very similar to that of behavior control. The emphasis of input control is high when the imposition of strategic control is high accompanied with high sharing of physical, intangible, or executive resources. In contrast, the emphasis of input control is low when the imposition of financial control is high with high physical resource sharing. Thus, input control in human resources may act in conjunction with behavior control. It seems rational to presume that selection and training require an understanding of the behaviors needed on a job (Snell, 1992).

Overall, these findings imply that although the constructs of behavior, output and input control provide a viable framework for integrating human resource management as a whole to theories of organization, they do not appear to be mutually exclusive. In view of their relative strengths and weaknesses, it may be that a combination of the three to achieve efficiency and creativity.

# VI. CONCLUSION

Which combination of HRM control systems is used depends on the situation existing for each focal subsidiary. A subsidiary characterized by high sharing of physical, intangible, or executive resources accompanied with high imposition of strategic control might lean toward behavior control and input control. A subsidiary characterized by high physical resource sharing accompanied with high imposition of financial control might deter the use of behavior, output, and input control. Output control is emphasized when imposition of strategic control is high with high sharing of physical or executive resources, or imposition of financial control is high with low financial resource sharing. From a practical standpoint, these

findings suggest that executives should be cognizant of several contingencies that might guide their choice among various approaches to HRM. From a research standpoint, there are several issues raised in this study that suggest avenues for future investigation on HRM and control.

As a guide to future empirical research, it is prudent to also examine some of the key limitations of this study. Perhaps the most obvious limitation is that the one-time data resemble a snapshot. Although the theoretical discussion preceding the hypotheses imply a specific causality in each case, the cross-sectional nature of the data prevented and appropriate methodology for the examination of specific causal linkages. Future research might try to use case study extensively to examine the specific linkages.

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# 企業控制策略與資源共享的交互作用對子公司人力資源控制的影響—台灣集團企業的研究

**廖曜生***

## 摘要

人力資源控制對企業經營績效有極大的影響，然而人力資源控制的使用須視企業控制策略與資源共享的互動情況而定。從 79 家企業所得到的實證結果發現，當子公司在實體、無形或執行資源的共享程度很高，同時受到集團母公司高度的策略控制時，將有利行為與輸入控制的使用；當子公司有高度的實體資源共享，同時受到高度的財務控制時，將可能不利行為、輸出與輸入控制的使用；對輸出控制有利的情境存在於高度策略控制配合高度實體或執行資源共享時，或者是高度財務控制與低度財務資源共享時。

關鍵詞彙：企業控制策略，人力資源控制，資源共享

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