THE INTERACTION EFFECT OF DIVERSIFICATION STRATEGY, ENTRY MODE, AND IMPLEMENTATION MECHANISM ON CORPORATE PERFORMANCE: THE KOREA CASE

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ABSTRACT

This paper analyzes the effect that the implementation mechanism of a diversification strategy and mode has on business performance. More specifically, it examines the interaction effects of diversification strategy, mode and implementation on business performance, with a view to figuring out the optimal combination of the three factors of diversification. The result of this study indicates that different diversification strategies and modes require different implementation mechanisms and that only the most relevant combination of the three factors can create the highest performance.

Keywords: diversification strategy, entry mode, implementation mechanism

INTRODUCTION

Research on diversification and firm performance has been ongoing for more than three decades. In general, the main concern of the literature has been on the relationship between diversification strategies, both related and unrelated, and firm performances (Rumelt 1974, 1982, Montgomery 1979, 1985, Bettis 1981, Christensen and Montgomery 1981, Bettis and Hall 1982, Bettis and Mahajan 1985, Palepu 1985, Varadarajan 1986, Varadarajan and Ramanujam 1987, Markides and Williamson 1994) or between modes (internal development, merger and acquisition) and firm performances (Lamont and Anderson 1985, Choi and Philippatos 1983, Wansley, Lane and Yang 1983, Chatterjee 1986, Lubatkin 1987, Singh and Montgomery 1987, Shelton 1988, Chatterjee and Lubatkin 1990, Seth 1990a, 1990b, Lubatkin et al. 1997).

The studies on diversification-performance relationship, however, have yielded mixed empirical results. Some have shown that related diversifications are superior to unrelated diversifications in resulting performances (Rumelt 1974, 1982, Montgomery 1979, Bettis 1981, Varadarajan and Ramanujam 1987), but others have shown that there is no significant difference in performance between the two types of diversifications (Beattie 1980, Bettis and Hall 1982, Montgomery 1985, Palepu 1985, Chang and Thomas 1989).

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Research on post M&A performances has also generated highly conflicting results. Some studies reported that related mergers and acquisitions resulted in better performances than unrelated mergers and acquisitions did (Power 1982, Kusewitt 1985, Singh and Montgomery 1987, Shelton 1988), while others reported that unrelated M&As were the better performers (Lubatkin 1983, Chatterge 1986). Also, other studies reported that there is no significant difference between the two (Burgman 1983, Singh 1984, Lubatkin 1987, Lubatkin et al. 1997). These empirical results are puzzling, given that most theoretical arguments suggest the superiority of related diversifications over unrelated ones.

On the other hand, few empirical studies on the relationship between mode and performance have shown that internal diversifiers showed higher performance than external diversifiers in ROA (Lamont and Anderson 1985). But, in terms of other measures (ROE, ROI, sales growth), external diversifiers showed slightly higher performance than internal diversifiers.

Why are the empirical results conflicting with one another? According to previous research[1], there are two types of positive spurious correlations between the choice of related diversification over unrelated diversification and subsequent profitability (Park 2002, Christensen and Montgomery 1981). They argue that related diversifiers are more profitable after diversification than unrelated diversifiers, due primarily to the spurious correlations caused by prior industry and organizational profitability.

Another critical reason for the mixed results is related to the interaction of diversification strategy and mode, and the implementation mechanism of diversification. Cho and Park (2002) argue that the superiority of related diversification over unrelated diversification is highly moderated by the choice of entry modes. That is, the positive relationship of related diversification to performance is higher in internal development than in M&A. Like wise, if the firm pursues unrelated diversification, M&A will be more beneficial for the firm than internal development. In the study, Cho and Park (2002) also argue that neither strategy nor modes alone can completely explain with respect to performance differences among diversified firms.

This research implies that while certain strategy per se can result in higher performance, it is also possible that such strategy results in higher performance because it is more efficiently implemented than others. In this context, this paper focuses on administrative mechanisms of implementing diversification strategy and mode.

1) Markides and Williamson (1994) argues that traditional measure of relatedness provides an incomplete picture of the scope for a corporation's exploitation of interrelationship between its businesses, and this may causes the mixed results.

In this paper, I will introduce a theoretical model that simultaneously takes into consideration the diversification strategy, entry mode and implementation mechanism simultaneously. Then, I will further provide empirical results of the theoretical model. That is, this paper examines the three-way interactive effects of diversification strategy, mode and implementation mechanism on performance. By doing so, this paper attempts to investigate the best combinations of diversification strategy, entry mode and implementation mechanism that enhances a firm's performance. Specifically, this paper attempts to answer the following research question: In the implementation process of diversification, what effect does the implementation mechanism have on the relationship between diversification strategy/mode and performance?

This study takes an integrated look into an important element of the key implementation mechanism: coordinating mechanisms – structural, control and incentive mechanisms. Further, unlike previous studies that have examined the relationship between diversification strategy and administrative mechanism (e.g. Govindarajan 1988, Hill, Hitt and Hoskisson 1992), this study examines how implementation mechanism, diversification mode, and strategy are linked with one another. This study will provide, in both empirical and theoretical aspects, a more complete understanding of the relationship between diversification and its resulting performance than previous studies have shown. Moreover, the study can contribute to enriching the general theory of diversification by comparing the analysis of Korean and American firms' data.

IMPLEMENTATION MECHANISM AND DIVERSIFICATION PERFORMANCE

A large amount of research on diversification has ignored the importance of strategy implementation in the strategy-performance relationship. Choice of strategy, while important, is not a sufficient condition for superior performance (Jemison and Sitkin 1986), which in turn means that the implementation of a strategy is likely to have a significant effect on the relationship between diversification and performance.

In this respect, a stream of study has examined the effect of organizational arrangements on strategy-performance relationship (Hill, Hitt and Hoskisson 1992). Researches (Hill, Hitt and Hoskisson 1992, Pablo, Sitkin and Jemison 1996, Gupta and Govindarajan 1991, Gomez-Mejia 1992, Gupta 1987), in this area, have focused on 'organizational fit' between strategy and administrative mechanism such as structural arrangements. These studies mentioned above have explored the effect of administrative mechanism on diversification strategy (related or unrelated) - performance relationship, which is summarized in Table 1.

However, few studies examined the moderating effects of administrative mechanisms on entry mode-performance relationships. Furthermore, these studies have not considered simultaneous effects of administrative mechanisms on

diversification strategy-performance relationships and entry mode-performance relationships. Failing to fully consider diversification strategy and mode concurrently, prior studies examining the effects of implementation mechanism on diversification performance have produced incomplete results.

This study takes an integrated look into an important element of the implementation mechanism: the coordinating mechanism. It defines and examines the combination or fitness of diversification strategy, entry mode, and implementation mechanism that have a positive effect on performance. That is, the paper focuses on searching the optimal fitness among diversification strategy, entry mode, and implementation mechanism. The paper examines, for example, what kinds of entry mode and implementation mechanisms are appropriate for related diversification.

On the other hand, existing researches (Busija, O'neill, and Zeithmal 1997, Cho and Park 2002) argue that related-internal' and 'unrelated-external' outperform related-external' and 'unrelated-internal'.

Based on the previous researches, therefore, this paper examines the related diversification*internal development*coordinating mechanism and the unrelated diversification*external development* coordinating mechanism. Further, by using Korean firm data and comparing its results with the results from previous studies, this paper contributes to the generalization of the diversification theory.

Table 1. Major Studies Exploring Relationship among Diversification, Administrative Mechanism, and Performance

Researcher	Research issues	Administrative mechanism used in the study	Research findings
Baysinger & Hoskisson (1989)	The relationship among diversification strategy, control system, and R&D intensity	-control system (strategic vs. financial control)	The choice of diversification strategy and control system systematically affects R&D intensity in multi-product firms
Datta (1991)	The impact of organi-zational differences between acquiring and acquired firms on post-acquisition performance	-reward and evaluation system -management style	Differences in management styles have a negative impact on, but differences in reward and evaluation systems have a insignificant impact on performance
Gomez-Mejia (1992)	The extent to which a match between com-pensation and diversi-fication strategyaffcts firm performance	-algorithmic compensation -experiential compensation	A firm's compensation strategies make a contribution to firm performance if these are attuned to process of diversification

Gomez-Mejia (1992)	The extent to which a match between compensation and diversification strategyaffcts firm performance	-algorithmic compensation -experiential compensation	A firm's compensation strategies make a contribution to firm performance if these are attuned to process of diversification
Gupta (1987)	The effect of SBUs' strategic contexts on the performance of corporate-SBU relations	-mutual coordination -incentive system -decentralization	SBUs' strategic context do significantly moderate the utility of various states of corporate-SBU relations
Gupta & Govindarajan (1986)	Organizational imperatives for the realization of synergistic benefit from resource sharing	-incentive system	The optimal specification of incentive systems for general manager is a function of magnitude of resource sharing
Hill, Hitt & Hoskisson (1992)	The effect of organizational factors on diversification strategy and performance	-decentralization -integration -control system -incentive system	The appropriate fit between strategy, structure, and control system is associated with superior performance.
Hill & Hoskisson (1987)	To link strategies, variations in controll system, and economic performance	-decentralization -decomposition -divisional profit accountability	Different control systems within M-form framework are necessary to realize economic benefits associated with different strategies
Hitt, Hoskisson & Ireland (1990)	The effects of controll system on managers' commitment to innovation in acquiring firm	-control system (behavioral, financial, and strategic control)	With increasing diversification it is necessary for managers to make trade-offs between strategic controls and financial control
Hoskisson & Hitt (1988)	The relationship between control system and R&D investment in diversified firms	- control system (financial vs. strategic control	Increasing levels of diversification require different control systems which have significant implications for investing in R&D.
Govindarajan (1988)	What is the most critical aspect of strategy implementation in multibusiness firms	-budget evaluation -decentralization -locus of control	Performance is a function of The interaction between strategy and the system of administrative mechanism

Gupta & Govindarajan (1991)	How the nature of corporate control might vary across subsidiaries	-structural system -managerial selection system -assessment and compensation system	Differences in knowledge flow patterns among subsidiaries are reflected in the mix of formal and informal administrative mechanisms.
Kerr (1985)	The relationship Between diversification and the design of reward system	-reward system (hierarchy-based, performance-based, and mixed system)	The process by which diversification had been achieved was a greater influence on the design of managerial reward system.
Markides & Williamson (1996)	The relationship among Diversification, organizational structure, and performance	-organizational structure	Related firms that adopt the CM-form structure have better performance than related firms that do not do so.
Martinez & Jarillo (1989)	The mechanisms of Coordination used by MNCs	-structural and formal mechanism -informal mechanism	As time has passed, the mechanism used by MNCs has been changed from formal to informal mechanism.
Pitts (1977, 1980)	A contingency model of Organization structure	-structural mechanism (autonomy) -performance measurement (subjectivity)	Diversification strategy influences multibusiness organization design. (e.g., Corporate staff size relative to sales was larger for internal diversifiers than acquisitive diversifiers)
Rowe & Wright (1997)	The link between diversification and the macro controls imposed through the HRM function	-control system (financial, strategic control)	The level of diversification a firm achieves can have a profound impact on the types of controls used

HYPOTHESES

Previous studies (Govindarajan 1986, Gupta 1987, Hill, Hitt and Hoskisson 1992, Hitt, Hoskisson and Ireland 1990, Kerr 1985, Ouchi 1979, Rowe and Wright 1997) examining the relationship between implementation of diversification and its performance have focused on the organizational fit between strategy and structural or

managerial characteristics. However, these studies do not fully recognize the factors relevant to the implementation process of diversification, and thus suggest only a partial explanation as to the effect of implementation on diversification-performance relationships. Hence, in order to have a comprehensive understanding of the implementation process of diversification and its performance, we propose a new perspective, i.e. the ' internal coordinating mechanism' (Cho and Lee 1998).

Internal coordinating mechanism is a routine process that enables the achievement of an appropriate level of integration[2] among businesses within a firm (Cho and Lee 1998). Upon a comprehensive review of previous studies, it can be seen that the internal coordinating mechanism that a diversified firm should have in order to yield high performances may be classified into ***structural mechanism, control mechanism, and managerial incentive mechanism***. In other words, previous researches in this area could be classified into three categories: structural arrangements (Datta and Grant 1990, Martinez and Jarillo 1989, Govindarajan 1986, Hill, Hitt and Hoskisson, 1992, Gupta 1987, Hill and Hoskisson 1987, Markides and Williamson 1996, Pablo, Sitkin and Jemison 1996, Pitts 1980), control system (Baysinger and Hoskisson 1989, Eisenhardt 1985, Hill, Hitt and Hoskisson 1992, Hoskisson and Hitt 1988, Govindarajan and Fisher 1990, Gupta and Govindarajan 1991, Hill 1988, Hitt, Hoskisson and Ireland 1990, Ouchi 1979, Simons 1994, Snell 1992, Rowe and Wright 1997), and reward system (Gomez-Mejia 1992, Gupta 1987, Gupta and Govindarajan 1986, Hill, Hitt and Hoskisson 1992, Kerr 1985).

Based on these arguments, this paper examines the following three hypotheses respectively:

(1) 2 (diversification strategies) x 2 (entry modes) x 2 (structural mechanism),

(2) 2 (diversification strategies) x 2 (entry modes) x 2 (control mechanism),

(3) 2 (diversification strategies) x 2 (entry modes) x 2 (managerial incentive mechanism)

Structural mechanism for efficient implementation of diversification varies according to the types of diversification strategies (e.g., related or unrelated). The economic benefits of related diversification arise from the firm's ability to exploit synergy (Jones and Hill 1988, Markides and Williamson 1996, Porter 1987). Within related-diversified firms there is a need to coordinate the activities of otherwise independent divisions so that skills can be transferred and resources can be shared (Porter 1985). In related diversification, coordination problems are likely to center on combining existing organizational knowledge with new knowledge and managing scarce resources among business units (Kazanjian and Drazin 1987). That is, to exploit the strategy of relatedness successfully, firms need to develop appropriate structural

2) Integration is an interactive and gradual process in which individuals from two organizations learn to work together and cooperate in the transfer of strategic capabilities (Haspeslagh and Jemison, 1991: 106).

mechanisms for transferring competences and resources across business units in an efficient way (Markides and Williamson 1996). Bartlett and Ghoshal (1993) also argue that, to ensure benefit from synergy, related diversifiers have to increase its use of internal benchmarking and its transfer of best practices through horizontal integration. This implies that the realization of synergy requires a structural mechanism that stresses the integration of divisions, i.e., centralization of control (Hill 1988, 1994, Hoskisson and Hitt 1988), for centralization facilitates coordination (Child 1984).

Previous studies, on the other hand, have found substantial structural differences between firms pursuing internal and acquisitive diversification. In one study (Berg 1973), it has been shown that corporate-level staffs are much larger in internal diversifiers than in acquisitive diversifiers. This study found that there is more interdivisional sharing of technological resources achieved through the centralization of activities in the internal diversifiers. The other study (Pitts 1977) suggests that interdivisional managerial transfers tend to be much more common in internal than acquisitive diversifiers. Pitts' study found divisions to be sharing managerial resources more extensively in the internal than the acquisitive diversifiers. These previous studies imply that high integration, i.e., centralization, is favorable for internal diversification. Thus, we expect that the interactions among related, internal diversification and centralization yield higher performances.

In contrast, the economic benefits of unrelated diversification have been argued to arise from the governance characteristics of firms: governance economies (Dundas and Richardson 1982, Hill, Hitt, and Hoskisson 1992, Jones and Hill 1988, Williamson 1975). This implies that, under the condition of high un-relatedness, coordination problems shift from issues of sharing knowledge and resources among business units to issues of efficient management of independent business units (Kazanjian and Drazin 1987). For an unrelated-diversified firm to realize governance economies, two structural features must be present (Jones and Hill 1988, Hill 1988, Williamson 1975). First, each business unit must have autonomy with regard to operating decisions so that the managers of business units can be held accountable for the performance of their business units. Second, to preserve autonomy the relationships between the corporate headquarter and business units should be at arm's length. Thus, we expect that, a structural mechanism that stresses the autonomy of divisions (i.e., decentralization of control) is required (operating and strategic decisions should be decentralized to business units) in order to realize the benefits of unrelated diversifications.

In acquisitive diversification, on the other hand, greater autonomy has to be provided to acquired firms than in internal diversifications, since limited autonomy given to an acquired firm results in the departure of key people in the acquired firm and steep decline in the performance of the acquired firm (Datt and Grant 1990). Especially in unrelated acquisitions, where opportunities for integration of operations

are minimal, it is likely that a much higher level of autonomy will be provided to the acquired firm[3]. Another reason for expecting greater autonomy in unrelated acquisitions is the relatively low level of familiarity that the management in the acquiring firm has of the acquired firm's operations (Datt and Grant 1990). In such situation, it makes sense to provide high autonomy (i.e., decentralization) to the acquired firm and to allow it to continue operating as an independent unit. Thus, this paper expects that the interactions among unrelated, acquisitive diversification and decentralization yield higher performances.

H1: Related diversification through internal developments employing centralized integration mechanisms will have positive impacts on firm performances, meanwhile, unrelated diversifications via external developments using decentralized integration mechanisms will have positive impacts on firm performances.

Although several researchers (Baysinger and Hoskisson 1989, Govindarajan and Fisher 1990, Hoskisson and Hitt 1994, Rowe and Wright 1997, Simons 1995) have discussed controls in various ways, ***control mechanisms*** used in diversified firms can be classified into two types: financial (output) control and strategic (behavior) control[4]. Financial controls entail evaluating a business unit's performance solely on the basis of objective financial performance. On the other hand, strategic controls entail seeking to control a business unit's performance through specifying and evaluating the types of activities (e.g., ability to innovate, degree of cooperation among independent divisions, productivity) in which the business unit is engaged (Hitt, Hoskisson and Ireland 1990, Rowe and Wright 1997).

Within related diversifiers, the corporate headquarter needs to base its assessment of divisional performance on a wide range of criteria (Govindarajan and Fisher 1990, Hill 1988) in order to exploit benefits from synergy. Related diversifiers are characterized by corporate managers with an in-depth knowledge of divisions' operations, open communication between corporate/divisional managers and the evaluation of divisional managers on the basis of open, subjective appraisal of the quality of the process leading to financial outcomes (Rowe and Wright 1997). That is, these firms have greater information sharing among divisions, and thus can achieve better strategic control compared to unrelated diversifiers (Baysinger and Hoskisson 1989, Hoskisson and Hitt 1988). By using strategic control, related diversifiers provide incentives for business-level managers to seek resource sharing. Hence, this paper

3) In related acquisition, there is often a tradeoff between the benefits of integration in related diversification and the benefits of autonomy in acquisition (Datta and Grant, 1990).

4) This paper assumed socialization control to be a form of behavior control..

expects that related diversifiers must use strategic control mechanisms if they are to realize better firm performances.

On the other hand, in internal developments, interdivisional managerial transfers tend to be much more common than in external diversifications (Pitts 1977). Through the process of managerial transfers, internal diversifiers can acquire knowledge and skills about the new businesses in which they participate, and transfer existing operating systems. Thus, internal diversifiers can utilize strategic control mechanisms as well as financial control mechanisms. Therefore, we expect that the interactions among related, internal diversification and an appropriate mix of strategic and financial control mechanisms yield higher performances.

In contrast, in a highly diversified firm, managers generally have little first-hand knowledge of the operating affairs of an industry, or technology (Dundas and Richardson 1982). And, if managers fail to understand the conditions of individual businesses, strong central influence using tight strategic control can be dangerous (Goold and Campbell 1987). Reliance on subjective strategic control mechanisms within unrelated firms will increase information processing requirements without producing any commensurate increase in economic benefits (Hill, Hitt, and Hoskisson 1992). Further, strategic control across divisions is difficult due to the lack of knowledge of means-ends relationships (Snell 1992). This lack of means-ends relationships encourages the use of financial rather than strategic control mechanisms within unrelated firms. This suggests that reliance on strategic control may become dysfunctional in unrelated diversifiers, whereas the use of financial control mechanism reduces the information processing cost. Thus, they may tend to focus attention almost exclusively on financial results (Baysinger and Hoskisson 1989, Hill and Hoskisson 1987).

On the other hand, in an acquisitive diversification, greater autonomy has to be provided to the acquired firm than in an internal diversification (Datt and Grant 1990). Thus, control mechanism has to be fitted to the level of autonomy given to the acquired firm. That is, in an acquisitive diversification that requires high autonomy, the financial control mechanism is more favorable than the strategic control mechanism. Furthermore, by concentrating on financial control, an objective means for direct comparison across independent business units can be provided (Kerr 1985). Therefore, we expect that the interactions among unrelated, acquisitive diversification and financial control mechanisms yield higher performances.

H2: Related diversifications through internal developments employing the mix of strategic and financial control mechanisms will have positive impacts on firm performances, meanwhile, unrelated diversifications through external developments using financial control mechanisms will have positive impacts on firm performances.

In addition to structural and control mechanisms, a successful implementation of diversification also requires a ***managerial incentive mechanism,*** which influences unreluctant participation from divisional managers. In the context of a hierarchy, the business unit managers can be viewed as agents and the head office as principal (Jones and Hill 1988). Therefore, divisional managers' behaviors and the following consequences vary according to the incentive mechanisms designed. That is, a managerial incentive mechanism is an essential part of the coordinating mechanism, through which the efforts of managers are directed toward the organization's objectives.

The reward mechanism must remain congruent with the firm's diversification strategy if the mechanism is to contribute effectively to strategic objectives. To promote cooperative behavior among managers in related diversifiers, the interdependence among business units must be acknowledged, and emphasis must be laid not only on the performances of individual business units, but also on the performance of the corporation as a whole (Kerr 1985). This is important because corporate profitability within a related diversified firm depends on the success of interdivisional cooperation (Hill, Hitt, and Hoskisson 1992). This means that for a related diversification with a high level of resource sharing, linking the size of incentive to the performance of the corporate will foster greater cooperation among divisions than would tying each divisional manager's incentive solely to the performance of each individual's division.

However, internal diversification has a greater degree of interdependence, and corporate headquarters is more familiar with divisions than in external diversifiers (Pitts 1976, Gomez-Mejia 1992). These arguments imply that linking the bonus of a divisional manager to the performance of the corporate will be more beneficial for divisions with high resource sharing. Based on these arguments, we expect that the interactions among related, internal diversification and incentives that link a divisional manager’s evaluation to the performance of the corporate yield higher performances.

Unlike in related diversified firms, in a division that is essentially autonomous and seldom sharing resources with other divisions, tying its manager's bonus to the performance of the corporate as a whole would weaken the link between performance and reward, and thus is likely to be counterproductive (Gupta and Govindarajan 1986). Accordingly, the incentive mechanism should be linked to divisional as opposed to overall corporate performance.

On the other hand, Pitts (1977) notes that external (acquisitive) diversifiers tend to provide their business units with greater autonomy. Leontiades (1980), extending on Pitts' (1977) work, argues that external diversifiers adopt loose controls and decentralized operations to spur entrepreneurship and innovation, and that few employees transfer across units in external diversifiers. This means that an incentive mechanism tying each divisional manager's incentive solely to the performance of

each individual's division makes greater contribution to acquisitive diversifiers than to internal diversifiers. Therefore, the following hypotheses concerning the interactive effect of incentive mechanism and diversification strategy on firm performance are derived from the preceding discussion.

H3: Related diversifications through internal development linking the incentives of a divisional manager to the performance of the corporate will have positive impacts on firm performances, meanwhile, unrelated diversifications via acquisitive diversification using divisional profitability-based incentive mechanisms will have positive impacts on firm performances.

METHODS

Sample and Data Collection

Samples were drawn from the 50 largest Korean Chaebols[5] in 1996. To test the hypotheses, our study examines the 50 Chaebols' diversification activities (related and unrelated diversification through internal development or mergers and/or acquisitions) and implementation mechanisms in manufacturing industry.

The data on firms' diversification strategy and mode were obtained from annual report and history of business unit (affiliates) and Chaebols. This paper also examines the implementation mechanisms of diversification. Testing the hypotheses on implementation mechanisms requires the collection of data on the internal organizational arrangements of diversified firms. Since such data are not available from published sources, I conducted a survey. The survey questionnaires were mailed to the headquarters and the executives of business units of the 50 largest Korean Chaebols. Of the 50 Chaebols that received the questionnaires, 36 Chaebols/228 business units[6] (affiliates) responded and were included in the sample. The respondents' position ranged from CEO to senior manager.

Dependent variables

Economic performance for each diversification activity (business unit) was measured in two ways: by the 3-year average annual return on assets (ROA) and return on sales (ROS) for the years 1995 to 1997. The measures were adjusted for industry profitability by subtracting primary 2- or 3-digit industry profitability from each business unit's profitability. Since no one measure is capable of capturing multiple performance objectives, these multiple performance measures are generally accepted

5) Korean Chaebol is a large diversified business group that is owned and managed by a closed kinship. Whereas "diversified business" means running business in many related and unrelated business areas, "closed kinship" refers to the founder of the business group and hid his blood related family members.

6) Business units mean Chaebol's affiliates, and thus the data is gathered at the level of affiliates.

and have also been used in other major studies in this field (Rumelt 1974, Montgomery 1979, Bettis 1981, Bettis and Hall 1982, Lamont and Anderson 1985, Simmonds 1990).

Independent variables

The three independent variables, relatedness of particular diversification activity, diversification mode, and implementation mechanism, were defined as follows.

In this study, to measure the "relatedness" or "unrelatedness" of each business unit, we calculated entropy index[7] of the Chaebol before and after each diversification activity (business unit) occurred. When measuring degree of relatedness using entropy index, total diversity consists of related diversity and unrelated diversity. Related diversity index is used, in this paper, in measuring the relatedness of a diversification activity with existing businesses. That is, this paper categorized the diversification activity as related or unrelated by analyzing whether the degree of relatedness of firm is increasing or decreasing after a specific diversification activity. In another words, we measured the change in degree of relatedness of Chaebol resulting from specific diversification activity. Changes in the degree of a Chaebol's relatedness resulting from diversification activities are calculated by subtracting related diversification index of Chaebol after a particular diversification activity from related diversification index of the Chaebol before the particular diversification activity.

Thus, negative (-) values mean that firm's relatedness decreased due to unrelated diversification activity and the diversification activity (affiliate) was coded "-1"(unrelated). Positive (+) values mean that firm's relatedness increased due to related diversification activity and the diversification activity was coded "1"(related). This resulted in 115 related and 113 unrelated activities.

The diversification mode involves mergers and/or acquisitions (external mode) and internal development (internal mode). In this study, if a diversification activity was executed through internal venturing it was coded "1"(internal diversification). If the activity was executed through mergers and/or acquisitions it was coded "-1"(external diversification). Of the 228 samples, 163 were identified as activities via internal ventures, whereas the remaining 65 were identified as activities via M&A.

Three main questions in the survey, designed to ask company policies regarding coordinating mechanism- *structural, control, and incentive mechanism*, were used for the construction of implementation mechanism variables. Specifically, the respondents were asked to indicate their firm's actual approach to utilizing the following three implementation mechanisms, *decentralization* (the degree to which decisions are decentralized to the business units, the degree to which decisions are centralized at the corporate headquarter), *type of control* (the extent to which the corporate headquarter

7) The entropy measure used in the analysis is based on the study of Palepu (1985) and Nayyar (1992).

relies on comprehensive subjective and objective non-financial criteria, the extent to which the corporate headquarter relies on financial criteria when evaluating business unit performances), and *reward system* (the extent to which business unit/affiliate performances are considered, the extent to which overall corporate performance along with qualitative evaluations are considered in senior/top manager's bonus assessment).

Control variables

This paper included industry profitability, business unit size (Size) and total diversification (TD) of a corporation as control variables. Industry profitability has a significant effect on the diversification-performance link (Christensen and Montgomery 1981, Bettis and Hall 1982, Rumelt 1982, Montgomery 1985, Chang and Thomas 1989). Therefore, the effects of industry profitability were analyzed by measuring diversification performance as unit profitability minus industry profitability. Industry profitability was measured by 3-year average ROA and ROS of 2- or 3-digit SIC industry in which a particular business unit was engaged.

Business unit size was also included as a control variable in this paper. While Chatterjee and Wernerfelt (1991) speculated that firm size may be positively related to unrelated diversification, Wiersema and Bantel (1992) expected firm size to be negatively related to unrelated diversification. Hence, this paper controlled the size effect of the diversifier on performance. As a measure of firm size, we used the natural logarithm of the assets of business units.

Total diversification of a corporation, measured by the entropy index[8] mentioned above, was also included as a control variable to examine the pure effect of diversification strategy, mode, and implementation on performance after controlling for the degree of diversity.

Data Analysis

This paper used the following regression model to test hypotheses 1, 2 and 3 after controlling for industry effect and total diversification of firm, etc.

$$ROA_i/ROS_i = \alpha + \beta_1 Mode_i + \beta_2 Related_i + \beta_3 Mechanism_i + \beta_4 TD_i + \beta_5 Size_i + \beta_6 Related*Mechanism_i + \beta_7 Mode*Mechanism_i + \beta_8 Related_i * Mode_i * Mechanism_i + \varepsilon$$

In the equations, ROA_i and ROS_i represent the dependent variables of $_i$th diversification activity. $Mode_i$, $Related_i$, $Mechanism_i$, $Mode_i*Mechanism_i$, $Related_i*Mechanism_i$, and $Related_i*Mechanism_i*Mode_i$ represent independent

8) Firm total diversification is given by: Firm total diversification = Σ Pi ln(1/Pi), where Pi is the share of the ith segment (4-digit industry) in the total sales of the firm.

variables of the $_i$th diversification activity (diversification mode and relatedness are coded "1" or "-1"). TD_i, and $Size_i$ denote the two control variables.

RESULTS

Table 2 shows means, standard deviations, and correlations among the variables used in this study.

Table 2. Means, Standard Deviations, and Correlations (n=228)

Variable	Mean	S.D	1	2	3	4	5	6	7	8
1 ROA	0.0039	0.0510								
2 ROS	-0.0100	0.0700	.727***							
3 Mode	0.7168	0.4515	.019	-.016						
4 Related	0.4912	0.5010	-.031	.010	.146**					
5 Diversity	1.2412	0.4371	-.028	-.116*	-.004	-.104				
6 Size	12.2907	2.1983	.182***	.185***	-.111*	.180***	.187***			
7 Mechanism 1 (integration)	3.4336	0.9510	-.003	-.002	.039	-.057	.350***	.210***		
8 Mechanism 2 (control)	3.5177	0.8231	-.020	-.094	-.082	-.113*	.354***	.096	.461***	
9 Mechanism 3 (reward)	3.5310	0.7189	-.008	-.003	.096	-.110*	.389***	.094	.331***	.397***

* P<0.10 ** P<0.05 *** P<0.01

Model 5 in Table 3 to Table 6 partially supports hypothesis 1 and 2, and Model 5 in Table 7 and Table 8 fully support hypothesis 3 that the interaction of diversification strategy, coordinating mechanism, and mode will be positively related to diversification performance.

The statistically significant effect that the interaction among related diversification, internal venturing and centralized integration mechanism has on ROA provides a partial support for hypothesis 1 (See Table 3). That is, introduction of the three-way interaction term brings about a significant increase in variance of the business unit

performance explained. This means that the interaction between related diversifiers using centralized integration mechanisms and those using internal developments is positively related to ROA.

Table 3. Regression Results (Structural Mechanism)

Variable	Dependent: ROA				
	Model 1	Model 2	Model 3	Model 4	Model 5
Related	0.051	0.037	0.059	0.128*	0.003
	(0.747)	(0.539)	(0.853)	(1.693)	(0.026)
Mode	0.038	0.046	0.035	0.081	-0.034
	(0.569)	(0.684)	(0.523)	(1.209)	(-0.379)
Mechanism	0.073	0.070	0.097	0.064	0.063
	(1.085)	(1.037)	(1.359)	(0.963)	(0.874)
Size	0.231***	0.217***	0.237***	0.209***	0.202***
	(3.342)	(3.149)	(3.411)	(3.012)	(2.936)
Total Diversity	-0.065	-0.056	-0.056	-0.047	-0.067
	(-0.958)	(-0.831)	(-0.807)	(-0.671)	(-0.966)
Related* Mechanism		0.135** (2.034)		0.112* (1.683)	0.132 (1.340)
Mode* Mechanism			0.127* (1.960)	0.007 (0.095)	-0.157 (-1.465)
Related*Mode				0.145** (1.970)	0.249*** (2.764)
Related*Mode* Mechanism					0.347** (1.978)
R^2	0.049	0.067	0.059	0.076	0.092
F	2.810***	3.108***	2.346***	2.550**	2.750***
ΔR^2		0.018	0.010		0.016
F for ΔR^2		4.139**	2.547*		3.911**

* P<0.10, ** P<0.05, *** P<0.01

In case of ROS, however, introduction of the three-way interaction term didn't show significant increase in variance of performance explained. According to the results on Table 3 and Table 4 (Model 2), on the other hand, related diversification firms using centralized integration mechanisms yield higher performances, and unrelated diversification firms using decentralized integration mechanisms yield higher performances. In case of hypothesis 2, the interaction among related diversification, internal venturing and strategic control has significant effect on ROA (See Model 5 in

Table 5). That is, the statistically significant effect that the interaction of related diversification, strategic control mechanism and internal venturing has on performance supports hypothesis 2 in terms of ROA.

Table 4. Regression Results (Structural Mechanism)

Variable	Dependent: ROS				
	Model 1	Model 2	Model 3	Model 4	Model 5
Related	0.043	0.032	0.060	0.147**	0.133
	(0.632)	(0.464)	(0.880)	(1.968)	(1.352)
Mode	0.034	0.040	0.024	0.067	0.054
	(0.515)	(0.605)	(0.353)	(1.009)	(0.609)
Mechanism	0.041	0.043	0.063	0.029	0.042
	(0.611)	(0.642)	(0.880)	(0.440)	(0.582)
Size	0.233***	0.222***	0.237***	0.214***	0.213***
	(3.385)	(3.222)	(3.425)	(3.104)	(3.083)
Total Diversity	-0.131*	-0.124*	-0.119*	-0.106	-0.108
	(-1.940)	(-1.838)	(-1.708)	(-1.533)	(-1.547)
Related*		0.117*		0.081	0.061
Mechanism		(1.651)		(1.230)	(0.567)
Mode*			0.048	0.045	0.175
Mechanism			(0.861)	(0.666)	(1.607)
Related*Mode				0.188**	0.200**
				(2.567)	(2.215)
Related*Mode*					0.092
Mechanism					(0.905)
R^2	0.056	0.067	0.058	0.088	0.088
F	3.268**	3.155***	2.646**	2.996***	2.616***
ΔR^2		0.012	0.008		0.000
F for ΔR^2		2.680*	0.244		0.052

* P<0.10 ** P<0.05 *** P<0.01

In case of ROS, however, the results didn't support hypothesis 2. On the other hand, according to the results on Table 5 and 6 (Model 3), internal development firms using strategic control mechanisms yield higher performances, and merged firms using strategic financial mechanisms yield higher performances.

Finally, hypothesis 3 was fully supported as shown in Table 7 and Table 8. That is, the interaction among diversification strategy, entry mode and incentive mechanism produce positive relations to firm performances, i.e., ROA and ROS. The three-way

interaction of diversification strategy, incentive mechanism and mode may be positively related to firm performance due primarily to the combined effect of diversification mode and incentive mechanism. On the other hand, according to the results on Model 2 and 3 in Table 7 and Table 8, related diversification or internal development firms that use corporate performance and qualitative evaluations in senior/top manager's bonus assessment yield higher performances.

Table 5. Regression Results (Control Mechanism)

Variables	Dependent: ROA				
	Model 1	Model 2	Model 3	Model 4	Model 5
Related	0.073	0.141	0.057	0.153	0.301**
	(1.054)	(1.309)	(0.823)	(1.400)	(2.211)
Mode	0.056	0.049	0.205**	0.204**	0.345***
	(0.823)	(0.723)	(2.102)	(2.083)	(2.761)
Mechanism	0.045	0.050	0.138*	0.118	0.114
	(0.693)	(0.954)	(1.837)	(1.572)	(1.465)
Size	0.204***	0.207***	0.204***	0.199***	0.199***
	(2.914)	(2.949)	(2.943)	(2.867)	(2.889)
Total Diversity	-0.085	-0.086	-0.067	-0.054	-0.025
	(-1.240)	(-1.254)	(-0.977)	(-0.794)	(-0.351)
Related* Mechanism		0.087		0.040	0.113
		(0.824)		(0.377)	(0.834)
Mode* Mechanism			0.207**	0.182*	0.464*
			(2.117)	(1.858)	(1.891)
Related*Mode				0.145*	1.865
				(1.928)	(0.469)
Related*Mode *Mechanism					0.495*
					(1.802)
R^2	0.040	0.043	0.059	0.077	0.091
F	2.270*	1.949*	2.741**	2.572**	2.680***
ΔR^2		0.003	0.019		0.014
F for ΔR^2		0.678	4.481**		3.246*

* P<0.10 ** P<0.05 *** P<0.01

In case of performance variable ROA, three hypotheses were supported. In case of ROS, however, only hypothesis 3 was supported. One of the reasons for such result is that sales (revenue) can be managed on a monthly and even weekly basis. This flexibility allows incentive mechanism to respond more sensitively.

DISCUSSION AND IMPLICATIONS

This study attempted to integrate three major research themes: diversification strategy, entry mode and implementation mechanism. Integrating these research streams, this study suggested that diversification strategy, mode, and implementation mechanism have an interactive effect on business unit performance.

Table 6. Regression Results (Control Mechanism)

Variables	Dependent: ROS				
	Model 1	Model 2	Model 3	Model 4	Model 5
Related	0.022	0.158	0.009	0.184*	0.255*
	(0.326)	(1.486)	(0.135)	(1.717)	(1.884)
Mode	0.013	0.001	0.134	0.124	0.190
	(0.195)	(0.005)	(1.386)	(1.282)	(1.535)
Mechanism	0.099	0.111*	0.139*	0.111	0.121
	(1.514)	(1.693)	(1.847)	(1.482)	(1.567)
Size	0.219***	0.225***	0.220***	0.215***	0.216***
	(3.163)	(3.256)	(3.183)	(3.154)	(3.155)
Total Diversity	-0.160**	-0.162**	-0.145**	-0.312*	-0.118*
	(-2.360)	(-2.401)	(-2.138)	(-1.951)	(-1.694)
Related* Mechanism		0.175*		0.125	0.053
		(1.670)		(1.193)	(0.392)
Mode* Mechanism			0.168*	0.133	0.070
			(1.733)	(1.376)	(0.573)
Related*Mode				0.176**	0.077
				(2.366)	(0.557)
Related*Mode *Mechanism					0.233
					(0.857)
R^2	0.058	0.070	0.070	0.104	0.107
F	3.331**	3.245***	3.290***	3.563***	3.206***
ΔR^2		0.012	0.013		0.003
F for ΔR^2		2.790*	3.002*		0.734

* P<0.10 ** P<0.05 *** P<0.01

The specific findings can be summarized as follows: (1) Related diversification combined with centralized integration mechanism is associated with increased performance (ROA), and vice versa. (2) Related diversification combined with strategic control mechanism is associated with increased performance (ROA), and vice versa. (3) Related diversification combined with incentive mechanism that link a divisional manager's evaluation to the performance of the corporate is associated with

increased performance (ROA and ROS), and vice versa. These findings show that realizing synergistic benefits depends on how firms design implementation mechanisms, such as control systems, to align business units effectively.

Table 7. Regression Results (Incentive Mechanism)

Variables	Dependent: ROA				
	Model 1	Model 2	Model 3	Model 4	Model 5
Related	0.108	0.0551	0.104	0.097	0.166*
	(1.578)	(0.774)	(1.524)	(1.235)	(1.766)
Mode	0.050	0.065	0.087	0.106	0.165**
	(0.749)	(0.968)	(1.243)	(1.508)	(1.974)
Mechanism	0.127*	0.074	0.075	0.070	0.081
	(1.916)	(1.111)	(1.129)	(1.065)	(1.209)
Size	0.210***	0.203***	0.215***	0.204***	0.218***
	(3.046)	(2.969)	(3.134)	(2.985)	(3.223)
Total Diversity	-0.073	-0.076	-0.057	-0.055	-0.073
	(-1.083)	(-1.135)	(-0.832)	(-0.807)	(-1.077)
Related*		0.171**		0.160**	0.042
Mechanism		(2.477)		(2.317)	(0.382)
Mode*			0.122*	0.092	0.202*
Mechanism			(1.762)	(1.323)	(1.863)
Related*Mode				0.092	0.011
				(1.229)	(0.120)
Related*Mode					0.243*
*Mechanism					(1.681)
R^2	0.045	0.070	0.058	0.086	0.103
F	2.576**	3.336***	2.701**	2.939***	3.148***
ΔR^2		0.026	0.013		0.012
F for ΔR^2		6.136**	3.104*		2.826*

* P<0.10 ** P<0.05 *** P<0.01

By using three-way interaction model this study provides a better understanding of the effect of the relationship among diversification strategy, mode, and mechanism on diversification performance. As pointed out by partially significant three-way interactions a combination of diversification strategy, mode, and implementation mechanism has a positive impact on business performance, which implies that different diversification strategies and modes require different coordinating mechanisms. These findings have both practical and theoretical relevance. At the level of practice, this study argues that it is critical for any diversified firm to choose the

optimal mix of diversification strategy, mode and implementation mechanism to increase diversification performance. In the theoretical aspect, this study has taken a small step toward building a more comprehensive theory of diversification strategy, mode, and implementation mechanism at the business level by testing a trivariate model instead of the bivariate analysis used in previous studies (e.g., Hill, Hitt and Hoskisson 1992, Kerr 1985).

Table 8. Regression Results (Incentive Mechanism)

Variables	Dependent: ROS				
	Model 1	Model 2	Model 3	Model 4	Model 5
Related	0.060	0.022	0.056	0.078	0.257***
	(0.884)	(0.311)	(0.827)	(0.993)	(2.776)
Mode	-0.005	0.005	0.032	0.051	0.212**
	(-0.079)	(0.073)	(0.454)	(0.734)	(2.576)
Mechanism	0.077	0.116	0.021	0.040	0.090
	(1.152)	(1.427)	(0.290)	(0.570)	(1.353)
Size	0.232***	0.227***	0.238***	0.227***	0.240***
	(3.393)	(3.327)	(3.484)	(3.339)	(3.614)
Total Diversity	-0.138**	-0.140**	-0.121*	-0.115*	-0.118*
	(-2.051)	(-2.089)	(-1.793)	(-1.711)	(-1.777)
Related*		0.122*		0.121*	0.137
Mechanism		(1.776)		(1.653)	(1.282)
Mode*			0.123*	0.095	0.337***
Mechanism			(1.780)	(1.362)	(3.164)
Related*Mode				0.124*	0.007
				(1.753)	(0.076)
Related*Mode					0.408***
*Mechanism					(2.867)
R^2	0.058	0.072	0.072	0.093	0.132
F	3.416***	3.391***	3.393***	3.202***	4.160***
ΔR^2		0.013	0.013		0.033
F for ΔR^2		3.154*	3.167*		8.221***

*: P<0.10, **: P<0.05, ***: P<0.01

However, this research has some limitations. Although statistically significant, the strength of the observed interactions, in terms of their contribution to total variance explained, was not great. One explanation for the reason why this study did not find stronger support for the hypotheses is that the measures of related and unrelated diversification based on the entropy index may not capture actual relatedness (Nayyar

1992). Additionally, unobservable factors, such as management quality, may account for much of the unexplained variance in performance.

This paper collected respondents' perceptions data and measured coordinating mechanism variables. However, the subjective variables based on respondents' perceptions data have some limitations in terms of validity and reliability. Hence, future research needs to use objective variables in measuring the mechanism variables.

Furthermore, this paper does not consider the dimension of time since the point of survey data collection was not conducted when diversification activities have occurred. This limitation may restrict the contribution and implication of the research.

Therefore, future research could incorporate time dimension and other organizational variables that are relevant in implementing different diversification strategies. Theses variables may include human resource policies (such as cross-business unit job rotations), the managers' functional and industry backgrounds, and conflict resolution practices.

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