

Top Management Teams' External Ties for Implementing a Late Mover Strategy*

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Although there has been agreement among scholars that the external ties of the top management team (TMT) are an important means by which executives scan their business environment and gain firsthand insight into other organizations' activities, the efficiency of boundary spanning activities of the TMTs has often been called into question. Accordingly, some successful firms (e.g., General Electric) prohibit one of the most important means for the strong external ties of their TMT -- outside directorship activities -- based on their belief that these activities often absorb significant amounts of managerial time and energy, thereby diverting their efforts away from the focal firm's managerial activities. This study is designed to address this gap between the theory in the current literature and the conventional wisdom of practitioners. In keeping with prior research findings, it first provides a theoretical model, presenting the importance of the fit between the TMT's external ties and a firm's strategy for effective strategy implementation and high performance in late movers. In addition, some forms of intra- and extra-industry ties are hypothesized as more effective means for implementing late movers' strategies, either imitation or resource substitution, than others. The findings in hierarchical regression analysis of a multiyear sample of first and late movers in the computer hardware manufacturing industry suggest that top managers' participation in the boards of outside firms provides incremental performance benefits for late movers implementing a resource substitution strategy. They also reveal that top managers' trade association leadership ties are more harmful to the performance of late movers implementing a resource substitution strategy than to the performance of late movers implementing an imitation strategy. However, inconsistent with expectations, the other types of the TMT's external ties were observed not to provide incremental performance benefit to late movers regardless of the types of strategy they pursued. While several implications for both management practice and research have emerged, perhaps the most fundamental contribution of this study is that it offers an objective measure for late movers' strategies and thus provides research on an issue that has received surprisingly little attention from researchers -- mechanisms through which late movers have produced some remarkable successes over competitors -- despite their practical importance and theoretical development. The findings of this study also provide several insights for practicing managers by addressing how firms may use their top managers' external ties to gain performance benefits. The external ties of top managers are of great importance to the form and fate of their organizations. Therefore, they should receive increased attention from those involved in the selection of top managers. Furthermore, the value of various external ties will not be the same for all late movers, but rather will vary depending on firms' strategies. Thus, in order to gain incremental performance benefits from these various forms of the

TMT's external ties, late movers should establish and develop the ties that match the demands of their chosen strategy. For example, late movers pursuing a resource substitution strategy must seed their top management team with abundant stimuli for the services on other firms' boards while minimizing the size of trade organizational leadership positions held by their top managers.

Kew words: Top management team, External ties, Late mover strategy, Strategy implementation, Organizational performance

I. INTRODUCTION

There has been agreement among scholars that the external ties of the top management team (TMT) are an important means by which executives scan their business environment (Useem, 1984) and gain firsthand insight into other organizations' activities (Burt, 1983). However, the efficiency of boundary spanning activities of the TMTs has often been called into question (e.g., Westphal, Boivie, & Chug, 2006; Davis & Mizruchi, 1999; Scott, 1992). For example, in a critique of the inter-organizational view of interlocking directorates, Zajac (1988) proposed a "personal advancement model" that emphasizes economic incentives, a desire for prestige, and career objectives as motivating individual top managers to hold multiple board memberships. Accordingly, some successful firms (e.g., General Electric) prohibit one of the most important means for the strong external ties of their TMT -- outside

directorship activities -- based on their belief that these activities often absorb significant amounts of managerial time and energy, thereby diverting their efforts away from the focal firm's managerial activities.

This study is designed to address this gap between the theory in the current literature and the conventional wisdom of practitioners. In particular, it first provides a theoretical model addressing the importance of the fit between the TMT's external ties and a firm's strategy for effective strategy implementation in late movers. In addition, some forms of intra- and extra-industry ties are hypothesized as more effective means for implementing late movers' strategies, either imitation or resource substitution, than others. By addressing a relatively different degree of effectiveness for implementing a chosen strategy, this study provides an answer to the question: *Which types of the TMT's external ties are better than others for effective strategy implementation in late movers?* This is a critical question that needs additional research

given the high cost of the boundary spanning activities of the TMT (Zajac, 1988) and the potentially disadvantageous position of being a late mover in an industry (Frynas, Mellahi, & Pigman, 2006; Lieberman & Montgomery, 1988).

II. LATE MOVER STRATEGY AND THE TMT'S EXTERNAL TIES

2.1 Late Mover Strategy: Imitation and Resource Substitution

First movers are able to sustain their competitive advantages by simultaneously controlling the threat of imitation and delaying the resource substitution activities of late movers (McEvily, Das, & McCabe, 2000). Conversely, late movers are able to replicate or surpass the first mover's competitive advantage by copying its unique practices or technologies, or by finding a more effective and/or efficient way of organizing and coordinating productive activities (Hunt, 2000, 2002). Thus, from the standpoint of late movers, the two threats to first movers -- imitation and resource substitution -- can be alternatively considered their best-option strategies.

Here, imitation is defined as the adoption of first movers' core competence by late

movers to duplicate their advantage (Hunt, 2000, 2002; Haunschild, 1993, 1994). In fact, this inter-organizational imitation has played a central role in several theories of organizational action including organizational learning (Dutton & Freedman, 1985), strategic choice (Lieberman & Montgomery, 1988), and institutional theory (DiMaggio & Powell, 1983). Although Schumpeter (1934, 1950) proposed that large returns exist for innovative behavior, he also argued that imitators can erode the profits of pioneers by sharing and/or reducing their monopoly profits. Further, Lieberman and Montgomery (1988) described the potential advantages for late movers as free-rider effects. According to them, late movers are able to free ride on a pioneering firm's investments in a number of areas including R&D, buyer education, and infrastructure development because imitation costs are usually lower than innovation costs in most industries.

On the contrary, resource substitution is one based on a utilization of the alternative set of resources or capabilities. It is the use of alternative core competencies to achieve a given criterion or to produce outcomes that make that criterion obsolete (Barney, 1991). Thus, in the present study, a resource substitution is defined as embodying a fundamentally different approach to achieving a given objective; that is, embodying a

different “problem-solving approach” by utilizing a different set of resources or capabilities (McEvily et al., 2000; Dosi & Marengo, 1993). In fact, in comparison to an imitation, a resource substitution is often considered a more creative activity of late movers that has a relatively large impact on their returns and the returns of first movers (Hunt, 2002; McEvily et al., 2000). It often provides the basis to reshape the competitive game between the first and late movers, enabling late movers to overtake the pioneer over time (Berndt, Bui, Reiley, & Urban, 1995; Yip, 1982). However, the resource substitution activity of late movers is differentiated from the major innovation of the first mover (Hunt, 2000, 2002). Specifically, a resource substitution by late movers is considered to be a reactive innovation that is directly prompted by the learning process of firms competing for the patronage of the same market segment. In contrast, the pioneering move of the first mover is defined as a more proactive innovation by firms not prompted by specific competitive pressures such as the introduction of a new product or service by competitors — it is genuinely entrepreneurial in the classic sense of entrepreneur.

2.2 Top Management Team’s External Ties

On the question of whether the top person

or the broader team is a better predictor of organizational outcomes, the empirical evidence consistently supports the conclusion that the full team has greater effect (e.g., Bantel & Jackson, 1989; Tushman & Romanelli, 1985). Accordingly, academic researchers have expanded their focus from the chief executive to the entire upper echelon. They have linked top management teams to organizational innovation (Bantel & Jackson, 1989), strategic change (Wiersema & Bantel, 1992; Grimm & Smith, 1991), and performance (Kor, 2003; Geletkanycz & Hambrick, 1997; Michel & Hambrick, 1992). The top management team is composed of the key managers who are responsible for selecting and implementing the firm’s strategies. Typically, it includes the officers of the corporation, defined by the title of vice-president and above (Goll, Sambharya, & Tucci, 2001).

The members of the TMT play an important role in their organization’s social networking to external interest groups (Gargiulo & Benassi, 2000; Rangan, 2000; Smith et al., 1994). They create the social capital that is obtained from “cooperative exchanges” between the parties in social networks and then becomes a valuable resource of organizations (Coleman, 1988). According to D’Aveni (1990), if organizations or society are in the capitalist system, good relationships with outside dominant parties

help organizations establish a competitive advantage and perform efficiently. Therefore, top managers should cultivate good relationships with external parties because the ability of top managers to gain access to the information they need to forecast the future and choose appropriate goals and courses of action is critical to the success of firms (Geletkanycz & Hambrick, 1997; Hambrick & Finkelstein, 1987).

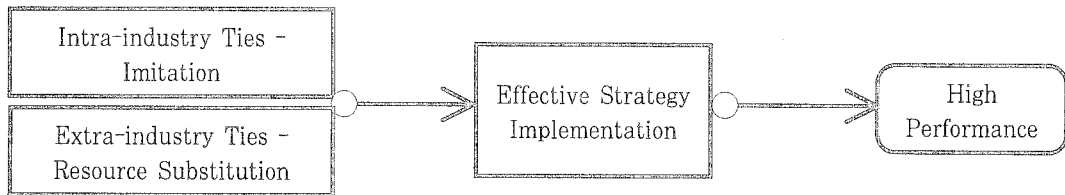
Furthermore, the different types of external ties of the TMT, i.e., "intra-industry ties" that are defined as top managers' boundary spanning relations inside their industry and "extra-industry ties" that are defined as their boundary spanning relations outside industry, were assumed to have different effects on organizational outcome. Granovetter (1973) observed that personal contacts such as interactions throughout the boundary spanning activities of the TMT may alternately reinforce existing perspectives and insights or may expose actors to novel ideas and opportunities. The key to this distinction is the location of outside contacts, whether they cohabit the same environment or operate in different contexts (Geletkanycz & Hambrick, 1997). Contacts who share the same operating environment often provide little new information beyond the actors' own knowledge base. By contrast, contacts operating in other contexts, such as the

interaction with individuals in other industries, expose boundary spanners to more novel ideas.

2.3 Fits between the TMT's External Ties and Strategy in Late Movers

Researchers have found that organizations perform well to the extent that the competencies and profiles of their top managers align with the strategies they are pursuing (e.g., Michel & Hambrick, 1992; Gupta & Govindarajan, 1984; Pfeffer, 1972). In the present study, the same rationale applies to the performance of late movers. Specifically, it is suggested that "intra-industry ties" support the implementation of an imitation strategy in late movers. Intra-industry ties provide the knowledge and information related to the industry environment, firms competing within that environment, and the entities that affect their operation. Thus they provide the opportunity to glean insight into first movers' experiences in the focal industry (e.g., Kor, 2003; Burt, 1987). As a well-known fact, the competitive advantage of a first mover lies in the tacit, less-evident aspects of strategic practices including the configuration of internal systems, processes, and resources necessary for effective implementation (Porter, 1996; Barney, 1991). Unless the TMT has access

(Figure 1) TMT's Ties-Strategy Fit, Strategy Implementation, and Performance



to this knowledge, there exists the risk that late movers will only imitate the readily apparent aspects of the first-mover's strategy and fail to comprehend the details and subtleties of execution (Geletkanycz & Hambrick, 1997).

Conversely, "extra-industry ties" are suggested to be critical for the successful organizational outcomes of late movers who pursue a resource substitution strategy. They contribute important inflows of knowledge and information pertaining to other industry environments, as well as the competitive strategies employed by firms operating within them. Thus they provide firsthand insight into the subtleties of the strategic practices that would otherwise only be obtained at the expense of often costly experimentation or trial-and-error learning (Burt, 1987). Hambrick and Finkelstein (1987) explained the importance of awareness of multiple courses of action to successfully implement a creative strategy, pointing out that managerial effectiveness and the viability of the firm hinge upon the ability of top managers to envision a broad

range of strategic options. They suggested that top managers who know of few alternatives enjoy less flexibility in the initiatives they implement; hence, their creative capacity and that of the firm is constrained. Figure 1 presents the model showing the relationships among the TMT's external ties-strategy fit, strategy implementation, and organizational performance.

III. HYPOTHESES: RELATIVE EFFECTIVENESS OF THE TMT'S EXTERNAL TIES

Using the precedents (e.g., Child & Smith, 1987; Pfeffer & Salancik, 1978), this study addresses external ties that are (1) most common at the top management level, and (2) central to the influences relevant to the strategy implementation of firms. I thus rely on the total number of (1) intra-industry importations (i.e., hiring top managers from inside the focal industry) and (2) trade association leadership ties

(i.e., trade organization leadership positions held by the focal firm's top managers) to measure the degree of intra-industry ties of the TMT. For extra industry ties, I rely on the total number of (1) extra-industry importations (i.e., hiring top managers from outside the focal industry), (2) outside directors serving on other firms' boards in different industries, which constitutes extra-industry sent interlocks, (3) outside directors from the different industries serving on the focal firm's board, which reflects extra-industry received interlocks, and (4) professional association ties (i.e., top managers' participation in professional associations). Consistent with prior research (e.g., Geletkanycz & Hambrick, 1997; Zajac, 1988), the data revealed that the top managers in the sample had a very small number of intra-industry sent- and received directorate ties (fewer than 10 percent). Thus I excluded these variables in the test of the hypotheses. Details of the approaches used to measure each form of intra- and extra-industry ties are described in the next section.

According to the model suggested in the previous section, it can be stated that both intra-industry importation and trade association leadership ties have a positive effect on the performance of late movers using an imitation strategy. However, I do not expect them to have the same degree of effec-

tiveness for implementing an imitation strategy. Historically, the hiring of executives from other organizations is widely recognized as one of the most important forms of inter-organizational linkage in that it facilitates the transfer of knowledge across organizational boundaries (e.g., McKelvey & Aldrich, 1983; Aldrich & Pfeffer, 1976). Imported top managers bring with them relationships with former contacts and associates, as well as knowledge gained through personal experience with other firms' policies and practices (Granovetter, 1988). Likewise, intra-industry importation has been considered a primary means by which late movers glean insight into first movers' actions and policies in the focal industry (e.g., Child & Smith, 1987; Aldrich, 1979; Baty, Evan, & Rothermel, 1971). On the country, trade association tie is considered to be a simple vehicles for the exchange of information between firms (Porter, 1980). Consequently, in comparison to intra-industry importation, it has been considered to have a relatively limited ability to bring in the subtleties of the first mover's competitive advantage and thus to add incremental benefits to the performance of late movers implementing an imitation strategy (Geletkanycz & Hambrick, 1997). Therefore,

H1: For late movers, the effectiveness of

hiring top managers from inside the focal industry for implementing an imitation strategy is greater than that of trade association leadership position held by top managers.

In a similar vein, it is expected that some forms of extra-industry ties have different degrees of effectiveness for implementing a resource substitution strategy in comparison to others. For example, it is expected that the hiring of top managers from outside the focal firm's primary industry will bring more in-depth insight into innovative business practices that diverge from those in the focal industry in comparison to the simple participation of top managers in professional associations. Although active participation in professional associations allows top managers to gain new ideas and perspectives, top managers often do not utilize this form of linkage for the purposes of information acquisition (Burt, 1992; Kotter, 1982). Instead, in many cases, they use these ties to advance their individual agendas (Kotter, 1982) and relative social status (Domhoff, 1967). However, extra-industry managers imported into the TMT are often aware of developments and/or opportunities arising in other areas of the environment, which incumbent managers may not have noticed. They are better able to interpret the firm's relevant environment

from a unique or different perspective (Hambrick, 1982). Therefore,

H2: For late movers, the effectiveness of hiring top managers from outside the focal industry for implementing a resource substitution strategy is greater than that of top managers' participation in professional associations.

The research on director interlocks suggests that these entities function as important conduits of information about business practices (Palmer, Jennings, & Zhou, 1993; Haunschild, 1993; Davis & Powell, 1992). Further, regarding the relative effectiveness of two different forms of directorate ties, top managers' service on other firms' board, or "sent interlock," has been considered the more influential type of external ties than outside directors, or "received interlock," given the direct involvement of these top managers in internal decision-making as well as in the acquisition of information (Haunschild, 1993; Davis, 1991; Mace, 1986). They provide a mechanism through which managers can achieve an optimal business scan of the latest business practices and the overall business environment (Useem, 1984). Furthermore, as the top managers of the focal firm, sent interlocks (serving on other firms' boards) directly influence the strategy

implementation of the focal firm. Although outside directors in received interlock relations have also been cited as important conduits for the transfer of organizational practices across industry boundaries (e.g., Palmer, Barber, Zhou, & Soysal, 1995; Haunschild, 1994), the governing effectiveness of outside board members is frequently compromised by such constraints as time limitations, their being hand-chosen by the chief executive, and/or an unwillingness to aggressively challenge managerial initiatives (Mace, 1986). Therefore,

H3: For late movers, the effectiveness of top managers serving on other firms' boards outside the focal industry for implementing a resource substitution strategy is greater than that of an outside director from outside the focal industry serving on the focal firm's board.

IV. RESEARCH DESIGN

4.1 Sample and Sources of Data

The empirical setting for this study was drawn from a multiyear sample of first and late movers in the computer hardware manufacturing industry. I used several

independent sources to draw an initial sample comprising the largest publicly traded US firms in this industry from 1984 to 2004, including the cross-reference volume in *Dun and Bradstreet's Reference Book of Corporate Management*, analysts' surveys reported in *Standard & Poor's Industry Surveys* as well as *Standard & Poor's Register of Corporations, Directors and Executives*. The sample firms were generated by identifying the firms with primary SIC codes at the 4-digit level. Confirmation that firms were indeed computer hardware manufacturers was done by checking *Hoover's Handbook of American Business*, *Standard & Poor's Register of Corporations, Directors and Executives* as well as 10-K SEC filings.

All information related to the TMT members, including their external ties, was drawn from *Dun and Bradstreet's Reference Book of Corporate Management*, *Standard & Poor's Register of Corporations, Directors and Executives*, as well as Corporate Proxies and 10-K Statements. In determining the TMT membership, I included all individuals with titles including senior vice president and above (e.g., chairman, vice chairman, president, CEO, COO) (Carpenter & Fredrickson, 2001; Finkelstein & Hambrick, 1996). Resource profiles and financial data for first and late movers were established using data from COMPUSTAT.

In the process of merging TMT and resource-profile information, the sample was limited to firm-pairs (first and late movers) that had data available in COMPUSTAT.

4.2 Measures

4.2.1 Operational Definition of Late Mover Strategy

Similar to studies on market-entry strategies, I defined the first mover in the computer industry as the firm that introduced a radically new product or service that exploited a technological discontinuity (e.g., Lee et al., 2000; Zantout & Chaganti, 1996; Tellis & Golder, 1996). First and late movers in the computer industry were identified by implementing a content analysis from *Predicasts F&S Index United States*. I first identified all the introductions of pioneering new-product or service categories for each year of the study period (e.g., Lee, Smith & Grimm, 2003; Ferrier & Lee, 2002). The firms that were cited in the first article reporting the introduction of "a pioneering new product or service" were identified as the first movers for that year. In turn, those who were not the first to introduce any radically new product or service to the industry during that year were defined as late movers. This selection of first and late movers was confirmed from full articles that

appeared in the trade or business press and from industry monographs that detailed the history of the industry.

Drawing on recent arguments suggesting that the resource-based view and market-entry strategies are conceptually related (e.g., Kor, 2003; Lieberman & Montgomery, 1998), a comparison of the resource profiles of late movers with first movers was adopted as a theoretically justifiable approach to measuring late-mover strategy (imitation or substitution). This approach is consistent with the view that strategy is an observed pattern in an array of actions (Mintzberg, 1978), which is reflected in resource deployments across the key functional activities (Finkelstein & Hambrick, 1990; Porter, 1980, 1985). In particular, previous empirical research (e.g., Geletkanycz & Hambrick, 1997; Finkelstein & Hambrick, 1990; Harrigan, 1985) identified the indicators of key resource deployments as advertising intensity (advertising expense/sales), capital intensity (fixed assets/number of employees), plant and equipment newness (net plant and equipment/gross plant and equipment), R&D intensity (R&D expense/sales), overhead efficiency (selling, general, and administrative expense/sales), and financial leverage (total debt/equity). Advertising intensity, capital intensity, plant and equipment newness, and R&D intensity are all indicators of the allocation

and management of a firm's resources across marketing, innovation, and capacity-expansion activities. Overhead efficiency captures the expense structure, while financial leverage reflects an organization's approach to capital management. When considered together, they provide an overview of firms' competitive profiles (Finkelstein & Hambrick, 1990).

I measured the resource deployments of first and late movers for each year of the study period, and calculated the absolute difference of each late mover's scores from the scores of first mover after standardizing. Then, following Finkelstein & Hambrick (1990), I summed all differences from the six measures to create a single, composite indicator of strategy for each late mover. Thus, the two strategies of late movers are seen as being on a continuum, and a resource profile closer to that of a first mover indicates a strategy based mostly on imitation while a resource profile that is substantially different indicates a greater reliance on resource substitution.

4.2.2 Dependent variable

As a common gauge of organizational profitability, return on assets (ROA) is useful in assessing the performance implications of business strategies because it captures the degree to which management has effectively deployed the firm's assets (Oster, 1990). Thus, in this study the

performance of late movers was measured as their average return on assets in year $t+2$ and year $t+3$. It was captured at time $t+2$ and $t+3$ in recognition of the delay between the time when the external ties of the TMTs affect their strategic actions ($t+1$) and their impact is reflected in performance data (Geletkanycz & Hambrick, 1997). Because it is widely acknowledged that extraneous factors can introduce variability into single-year measures, I used two-year averages (e.g., Meyer & Gupta, 1994; Oster, 1990). In addition, I also performed a second set of analysis using a two-year average of return on sales (ROS) in year $t+2$ and year $t+3$ and checked if it produced results that were different from those reported in ROA. Because of this lagged design, dependent variable was measured up to and including 2004, but the time frame for both independent and control variables was curtailed at 2001.

4.2.3 Independent variables

Research suggests that over time the attention of imported top managers becomes increasingly inward-focused (Katz, 1982). Consequently, prior empirical studies limited the measure of TMT intra-industry importation to the previous 10 years (e.g., Finkelstein & Hambrick, 1990). They also adjusted this measure using a recency factor: $(10 - \text{firm tenure at the focal$

firms)/10. Following these prior researches, in this study each of the top managers who within the previous 10 years had been hired from firms whose primary industry was the same as the focal firm's received 1, which was then adjusted for recency factor. For example, a top manager who had been with the focal firm for four years received an importation score of 0.6. Given that trade associations constitute a forum for the establishment and proliferation of industry rules of behavior that are significantly influenced by the first mover (DiMaggio & Powell, 1983; Herman, 1981), I used a count of the number of trade association leadership positions held by the top managers of the focal firm to measure trade association ties.

I measured extra-industry importation in the same way as intra-industry importation: i.e., a count of extra-industry hires added to the top management team within the previous 10 years, adjusted for recency: $(10 - \text{firm tenure at the focal firms})/10$. I also counted all TMT members' directorships in outside firms for each year of the study period for the measure of 'sent' interlocks. Outside directors bring a unique, outside perspective across industry boundaries (e.g., Palmer et al., 1995; Haunschild, 1994; Davis, 1991). They thus constitute 'received' interlocks, which I measured by counting all outside directors with primary responsi-

bilities outside of the focal firm's industry. Consistent with the findings of previous studies (e.g., Geletkanycz & Hambrick, 1997; Zajac, 1988), the data revealed that top managers in the sample firms had a very small number of intra-industry sent-and-received-interlocks. Accordingly, I excluded these intra-industry interlocks, ensuring that the measure reflected only extra-industry interlocks. Finally, to measure the degree of professional association ties, I counted all top managers' memberships in industry-spanning associations, such as the Conference Board and the Business Roundtable, for each year of the study period. Because the number of external ties covaries with top management team size, I normalized the data by dividing the number of ties by team size.

4.2.4 Control Variables

Top management team tenure was controlled for using the mean number of years that members of the TMT had spent in the firm. Because startup firms often perform differently at various stages of development I also controlled for firm age, measured as the number of years since the firm was founded (Kor, 2003; Markman & Gartner, 2002). In addition, firm size, measured as the log of total assets, was controlled for because it has been identified in various studies as a factor that impacts organiza-

tional outcomes (e.g., Kor, 2003; Dean, Brown & Bamford, 1998). Finally, because of the lagging nature of the dependent variable (performance at time $t+2$ and $t+3$), current performance at time t was included as an additional control. Such controls are necessary when datasets are slow to change over time and/or may be influenced by unobserved variables (Judge et al., 1982).

V. RESULTS

The final sample consisted of 766 responses by 55 late movers to the pioneering moves of first movers. The means, standard deviation, and correlations for the study's key variables are reported in Table 1.

The model and hypotheses presented in this study were examined using hierarchical regression analysis. The data were corrected for autocorrelation by applying the Cochrane-Orchutt transformation (Kmenta, 1986), and the Durbin-Watson statistic (2.02) was examined to verify that autocorrelation was not a problem (Wasserman & Kutner, 1985). Each of the variables was mean-centered prior to forming the multiplicative term to alleviate multicollinearity (Aiken & West, 1991). Variance Inflation Factor

(VIF) was examined to verify that multicollinearity was not a problem. Table 2 reports the hierarchical regression analysis results for the two-year averages ($t+2$ and $t+3$) of the late movers' performance.

Strategy and firm size had positive and significant effects on late-mover performance ($p<.001$ and $p<.01$, respectively), and current performance at time t also was positively related to future performance ($p<.001$). However, firm age was not significantly related to late-mover performance. Trade association ties were negatively and significantly related to the performance of late movers ($p<.001$) while the importation of top managers from inside the firm's focal industry was not related to performance. Both types of interlocking directorates, extra-industry sent- and received-interlocks, were related to the performance of late movers; specifically, top managers' service on other firms' boards was negatively related to the performance of late movers ($p<.05$) while outside directors serving on the focal firm's board was positively related to performance ($p<.001$). These findings imply that top managers' participation in trade organizations and service on other firms' boards, at least in part, diverts their efforts away from the focal firm's managerial activities and thus negatively affects the firm's performance.

In the fit model suggested earlier, it was

<Table 1> Descriptive Statistics and Pearson Correlations*

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12
1. Strategy (t+1)	5.74	2.29												
2. Average ROA (t+2, t+3)	-0.78	12.32	-.07											
3. Intraindustry Importation	0.44	0.66	-.03	-.01										
4. Trade Association Ties	0.20	0.50	-.14	-.02	-.02									
5. Extraindustry Importation	0.42	0.58	.15	-.03	.01	-.07								
6. TMT Outside Directorship	0.93	1.49	-.01	.01	-.03	.01	.06							
7. Outside Director	1.70	1.60	-.14	.11	-.18	.21	.05	.15						
8. Professional Association Ties	0.28	0.64	.09	-.02	-.10	.03	.22	.26	.27					
9. TMT Tenure	11.16	5.92	-.19	.05	-.40	.17	-.28	.29	.32	.08				
10. Firm Age	32.50	26.47	-.32	.0	-.18	.10	-.01	.20	.47	.12	.37			
11. Firm Size	7.22	1.76	-.50	.1	-.09	.12	-.11	.24	.34	-.03	.52	.49		
12. Strategy (t)	6.12	2.40	.57	.03	-.01	-.11	.05	.06	-.20	.02	-.11	-.28	-.37	
13. Current Performance	0.51	20.14	-.22	.2	.06	.03	-.02	.04	.08	-.01	.07	.06	.30	-.16

*Correlations greater than .07 are significant at the .05 level; N =766

<Table 2> Effects of the TMT's External Ties on Performance (N=766)*

	Restricted Model	Full Model
Intra-industry Importation	0.061 (1.67)	0.070 (1.92)
Trade Association Ties	-0.109 (-3.11) **	-0.149 (-4.18) ***
Extra-industry Importation	0.047 (1.21)	0.029 (0.70)
TMT Outside Directorships	-0.106 (-2.82) **	-0.097 (-2.55) °
Outside Directors on Firm's Board	0.154 (4.01) ***	0.146 (3.71) ***
Professional Association Ties	-0.048 (-1.19)	-0.042 (-0.98)
Firm Age	0.037 (0.87)	0.019 (0.45)
Firm Size	0.118 (2.62) **	0.132 (2.95) **
Current Strategy (t)	0.156 (4.07) ***	0.131 (3.33) ***
Current Performance (t)	0.175 (4.83) ***	0.172 (4.82) ***
<i>Interaction of strategy with</i>		
Intra-industry Importation		0.018 (0.48)
Trade Association Ties		-0.167 (-4.59) ***
Extra-industry Importation		0.046 (1.03)
TMT Outside Directorships		0.101 (2.68) **
Outside Directors on Firm's Board		-0.033 (-0.92)
Professional Association Ties		0.027 (0.64)
R^2	0.102	0.136
F -Statistic	8.537 ***	7.345 ***
ΔR^2		0.034
Change in F		4.917 ***

° p < .05; ** p < .01; *** p < .001.

* Standardized regression coefficients are reported. T-test results are in parentheses.

supposed that there are two-way interactions in such a way that top managers' external ties provide incremental performance benefits for late movers implementing strategy when they align with a chosen strategy. Given that strategy was measured according to resource similarity with the first mover, the expected sign for the interaction terms of intra-industry ties for strategy was negative while that for resource substitution was positive. On an overall basis, the results show that the fit between the TMT's external ties and a firm's strategy generally made a significant contribution over and above the restricted model ($\Delta R^2=0.034$, $p<.001$).

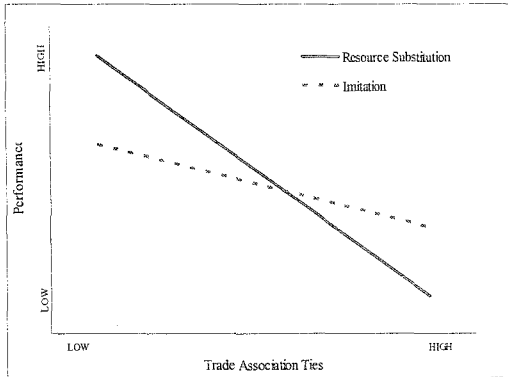
Hypothesis 1 posited the greater effectiveness of intra-industry importation than that of trade association leadership ties for implementing an imitation strategy of late movers. However, the results indicate that the strategy of late movers significantly moderates only the relationship between the TMT's trade organization leadership ties and the performance while it does not moderate the relationship between intra-industry importation and the performance of firms. Given that the main effect of trade-association ties was observed to be significantly and negatively related to the performance of late movers, however it was not clear whether or not they were harmful to the performance of late movers implementing

either an imitation or resource substitution strategy. Therefore, I created the figure by following the procedures suggested by Aiken and West (1991). Figure 2 is a graphic representation of the pattern of the two-way interaction using one standard deviation above and below the mean of the interacting variable to establish end points (Aiken & West, 1991). As shown in Figure 2, and as expected, the negative link between TMT's intra-industry trade association leadership ties and performance was stronger when late movers implemented a resource substitution strategy rather than an imitation strategy.

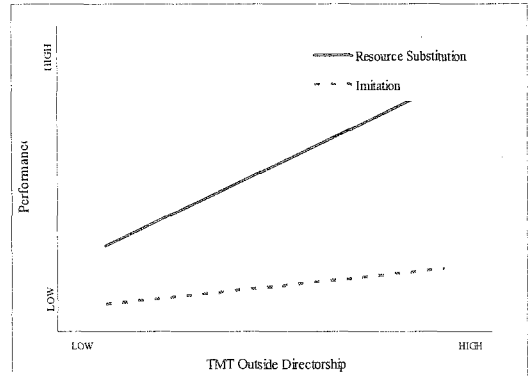
Hypothesis 2 states that extra-industry importation has a stronger influence on performance than professional association ties when a late mover is implementing a resource substitution strategy. The results reveal that, inconsistent with expectation, the relationship between either type of these extra-industry ties and the performance of late movers was not moderated by a firm's strategy. This finding implies that both hiring top managers from outside the focal industry and top managers' participation in general professional associations do not provide incremental performance benefits for late movers implementing a resource substitution strategy.

Finally, hypothesis 3 posits the greater effectiveness of outside directors serving on other firms' boards in different industries to

<Figure 2> Trade Association Ties-Strategy Interaction for Performance



<Figure 3> TMT's Outside Directorships-Strategy Interaction for Performance



that of outside directors on the focal firm's board for implementing a resource substitution strategy. The results indicate that, consistent with expectation, the late movers pursuing a resource substitution strategy gain incremental performance benefits from their top managers' participation in the boards of outside firms, while they do not gain incremental performance benefits from outside directors on the firm's board. Thus, hypothesis 3 was supported. Figure 3 demonstrates the pattern of the two-way interaction between the TMT's outside directorships and strategy. In a separate model, I used two-year averages of ROS as a measure of performance, and the results were unchanged.

VI. DISCUSSION

Building largely on the conceptual arguments of Cyert and March (1963) and Hambrick and Mason (1984), researchers have found considerable empirical support for the view that organizational profiles reflect the characteristics and social processes of senior management. However, because empirical studies of upper echelons have mainly focused on factors endogenous to the firm's senior executives (e.g., Zajac & Westphal, 1996; Wiersema & Bantel, 1992; Michel & Hambrick, 1992; Finkelstein, 1992), the role of the TMT's relationship with external parties has received relatively little attention (Kor, 2003). The present study helps redress this imbalance in the current literature.

Using a multiyear sample of first and late

movers in the computer hardware manufacturing industry I found that top managers' participation in the boards of outside firms provides incremental performance benefits for late movers implementing a resource substitution strategy. I also found that top managers' trade association leadership ties are more harmful to the performance of late movers implementing a resource substitution strategy than to the performance of late movers implementing an imitation strategy. However, inconsistent with expectations, the other types of the TMT's external ties were observed not to provide incremental performance benefit to late movers regardless of the types of strategy they pursued. One possible explanation for these unexpected findings may be explained by the varying utility or function of these alternative types of ties. Firms may not rely on each of these forms of linkage for purposes of strategy implementation. Rather, firms may ascribe differing values and applications to them (e.g., attracting critical resources, gaining organizational legitimacy).

The present study constitutes a first attempt at studying the impact of top managers' external ties on the organizational outcomes of late movers. While several implications for both management practice and research have emerged, perhaps the most fundamental contribution of

this study is that it offers an objective measure for late movers' strategies and thus provides research on an issue that has received surprisingly little attention from researchers -- mechanisms through which late movers have produced some remarkable successes over competitors -- despite their practical importance and theoretical development. Also, by providing evidence of the firm-level effects of inter-organizational ties formed and maintained by top managers, this study offers further evidence of the relevance of studying TMTs.

The findings of this study also provide several insights for practicing managers by addressing how firms may use their top managers' external ties to gain performance benefits. The external ties of top managers are of great importance to the form and fate of their organizations. Therefore, they should receive increased attention from those involved in the selection of top managers. Furthermore, the value of various external ties will not be the same for all late movers, but rather will vary depending on firms' strategies. Thus, in order to gain incremental performance benefits from these various forms of the TMT's external ties, late movers should establish and develop the ties that match the demands of their chosen strategy. For example, late movers pursuing a resource substitution strategy must seed their top

management team with abundant stimuli for the services on other firms' boards while minimizing the size of trade organizational leadership positions held by their top managers.

Building directly on the findings and limitations of the present study, several research questions for future investigation are raised. Firstly, the sampling frame of this study limits the generalizability of the results although it allowed control for environmental factors. Obviously, extension of the proposed model to other industries would improve the overall generalizability of the results. Secondly, this study has limited its scope to one specific motivation -- effective strategy implementation -- for forming the TMT's external ties. However, as pointed out earlier, evidence suggests that several motivations underlie the formation of the TMT's external ties. For example, boundary spanning relationships have been linked to the management of critical resource dependencies necessary to maintain on-going operations (e.g., Burt, 1980; Pfeffer & Salancik, 1978), and its related concept of inter-organizational power (Pfeffer, 1987); the attainment of organizational legitimacy (Galaskiewicz, 1985); as well as organizational learning (Levitt & March, 1988). These differing motivations may also shape top managers' views of and attention to their external

relationships. Therefore, future studies need to attend to these different motivations underlying network formation and delve further into the array of consequences which emerge from these top managers' external ties.

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후발기업 전략실행에 있어 최고경영자 팀 외부네트워킹의 상대적 효율성에 대한 연구*

유재욱**

요 약

본 연구는 후발기업 전략실행에 있어 최고경영자들의 다양한 외부네트워킹들이 갖는 상대적 효율성을 비교 평가하였다. 이를 위하여 먼저 성공적인 전략실행을 통해 기업성과를 향상 시키고자하는 후발기업의 전략과 최고경영 팀의 외부네트워킹 간 조화(fit)의 중요성을 강조하는 이론적 모델을 제시하였고, 더불어 컴퓨터 하드웨어 제조업에 종사하는 기업 최고경영자들의 외부교류활동에 대한 다년간 데이터의 위계적 회귀분석(Hierarchical regression analysis)을 실행하여 제시되어진 모델의 이론적, 실무적 가치를 확인하였다. 본 연구의 결과는 기업의 전략과 최고경영자 팀의 사외교류활동 간의 전략적 조화의 중요성뿐만 아니라, 기업경영의 실무적 차원에 있어 최고경영자 사외교류활동의 효율적 관리와 조정의 중요성을 강조하고 있다.

주제어: 최고경영자 팀, 외부네트워킹, 후발기업 전략, 전략실행, 기업성과

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