CHIEF EXECUTIVE EXTERNAL NETWORK TIES AND ENVIRONMENTAL SCANNING ACTIVITIES: AN EMPIRICAL EXAMINATION

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Abstract

Environmental scanning is considered as one of the critical ingredients in the strategic formulation process. The Chief Executive Officer (CEO) often plays an important role in gathering, analyzing and interpreting relevant information about the environment. This study contributes to the literature by examining CEO network ties and their effect on the focus of environmental scanning emphasis. Drawing from the social contagion theory and interorganizational networks, we developed and tested hypotheses on the relationship between CEOs intra and extra network ties and environmental scanning emphasis. Our analysis of 90 manufacturing firms indicates that while the extent of CEOs extraindustry network ties is positively related to the focus of scanning, their network ties within the industry has a negative association with general environment scanning. These findings highlight the importance of executive network ties not only as sources of information but also as significant bases of social influence.

INTRODUCTION

The process of organizational adaptation to shifting environmental demands is one of the central issues in strategic management research (Miles and Snow, 1978). A major part of the adaptation process requires that organizations engage in scanning activities in order to identify and monitor important trends in their environment that might affect their operations (Hambrick, 1981; Milliken, 1990; Cho, 2006). The results of environmental scanning are often considered important ingredients for effective strategic formulation (Aguilar, 1967; Hambrick, 1982). A key assumption in the scanning literature is that the Chief Executive Officer (CEO) plays an important role in gathering, analyzing and interpreting important information that pertains to the environment (Daft and Weick, 1984; Daft, Sormunen and Parks, 1988; Thomas, Clark and Gioia, 1993). Consequently, the CEO is viewed as the major information seeker and analyzer of external trends (Hambrick, 1981; Boyd and Fulk, 1996).

In the last couple of decades, empirical research on environmental scanning has examined at least three major issues in organizations: first, a number of empirical studies have explored the types and characteristics of environmental scanning activity in organizations (e.g. Hambrick, 1981; Daft and Weick, 1984; Yasai-Ardekani and Nystrom, 1996). These studies have primarily examined the different "modes", characteristics and detailed process of environmental scanning (May, Stewart and Sweo, 2000). The second group of studies has in general focused on the direct and indirect effect of environmental scanning activities on organization strategy and performance (e.g. Hambrick, 1982; Jennings and Lumpkin, 1992; Thomas et al., 1993; Garg et al., 2003). The third aspect of environmental scanning literature has explored several environmental contingencies that facilitate or hinder the level of environmental scanning behavior in organizations (e.g. Daft et al., 1988; Sawyerr, 1993; Boyd and Fulk, 1996; Elenkov, 1997; Ebrahimi, 2000).

Despite the growing empirical studies on the nature of environmental scanning and its impact on organizational outcomes, the role of executive-level determinants of environmental scanning has received very limited attention in the literature (Hambrick, 1981; Sutcliffe, 1994; Cho, 2006 are the exceptions). In other words, the extant literature has not addressed the question "what executive-related factors influence environmental scanning behaviors in organizations?" In this study, we address the above research question by examining Chief Executive Officer (CEO) external network ties as one such executive-level determinant of the environmental scanning process in organizations. More specifically, we draw from social contagion theory (Marsden and Friedkin, 1993; Williamson and Cable, 2003) and studies on interorganizational networks (Davis, 1991; Geletkanycz

and Hambrick, 1997; Westphal, Seidel and Stewart, 2001) to develop theoretical relationships between CEOs network ties within and outside their respective industries and the extent of their environmental scanning activities.

THEORY AND HYPOTHESIS DEVELOPMENT

Environmental scanning generally refers to the "managerial activity of learning about events and trends in the organization's environment" (Hambrick, 1981: 299). Scanning is often considered as the primary input to the strategy formulation process involving the analysis and interpretation of important information related to the environment (Daft and Weick, 1984). In the past couple of decades, a number of empirical studies have investigated the process of environmental scanning (Aguilar, 1967; Kefalas and Schoderbek, 1973; Hambrick, 1981), and its relationship with organizational strategy (Hambrick, 1982; Miller, 1989; Jennings and Lumpkin, 1992), task environment characteristics (Garg et al., 2003; Daft et al., 1988; Cho, 2006) and strategic uncertainty (Boyd and Fulk, 1996; Elenkov, 1997; May et al., 2000; Ebrahimi, 2000).

A significant part of the scanning literature has strongly emphasized on the impact of environmental factors on the nature of environmental scanning (Daft et al., 1988; Garg et al., 2003). Daft et al. (1988), for instance, studied the relationship between perceived environmental uncertainty and environmental scanning using data from fifty manufacturing firms and found that as the level of perceived environmental scanning increases, chief executives tend to scan their environment more and use more personal contacts in acquiring relevant information. This result was consistent with the findings of May et al. (2000) and Ebrahimi (2000). Similarly, Garg et al. (2003) examined the relationship between CEO environmental scanning emphasis and firm performance under stable and dynamic environments. Their general findings suggest that executives pay more attention to the task environment in dynamic industries compared to stable industries. Overall, past studies suggest the importance of executives' perceived strategic uncertainty as a predictor of environmental scanning behavior.

Along with the focus on environmental uncertainty, previous research has also identified executives' personal contacts as important sources of external information (Aguilar, 1967; Daft et al., 1988). One such source is executives' external network ties. We believe that network ties can influence CEO scanning behavior because CEOs tend to mimic (DiMaggio and Powell, 1984) and/or refer to (Festinger, 1954) their counterparts when interpreting environmental stimuli. According to social information processing theory (Salancik and Pfeffer, 1978), individual belief is also a function of the attitudes and behaviors of other actors within the social context. As such, executives' interpretation of the environment can be a result of their personal contacts as well as relationships within their social network. In the following section, we draw from the social contagion theory and interfirm network research to develop a theoretical relationship between CEOs external network ties and the focus of their environmental scanning.

Theoretical Background

The social contagion theory was introduced as part of the larger social and interorganizational network literature by Marsden and Friedkin (1993). According to this theory, executives actively seek and develop external network ties with various actors in order to gather critical information as well as resources from their environment. The theory further states that such pursuit of network ties are especially pronounced in times of perceived environmental uncertainty (Nahapiet and Ghoshal, 1998). The social contagion theory complements the resource-dependence perspective (Pfeffer and Salancik, 1978) which essentially argues that organizations are dependent on their external environment for critical resources and that they engage in various strategies in order to manage their uncertainty and need for resource acquisition. The social contagion theory compliments resource-dependence theory by highlighting the role of organizational network ties as mediums of resource acquisition. In summary, social contagion theory argues that studying executives' network ties is particularly

important because these network ties provide executives with important and relevant information that is required for strategic decision-making (Marsden and Friedkin, 1993). Past research has explored the effect of interfirm network ties on several organizational practices and outcome variables (e.g. Westphal and Zajac, 1995; Haunschild, 1994; Westphal et al., 2006). More specifically, past empirical studies have examined the effect of executives' external network ties on transfer of various organizational practices (Davis, 1991; Haunschild, 1993) and strategic conformity (Westphal et al., 2001). Perhaps the most researched area within the inter-firm network literature is 'board of director-interlocks' and its possible effects on the adoption of organizational strategies and practices among firms (Zajac, 1988). In this study, we particularly focus on the CEO's network ties within (i.e. intraindustry network ties) and outside the industry (i.e. extraindustry network ties) and their effect on the focus of environmental scanning activities. External network ties, especially those within the industry, are important not only because they are sources of valuable information but also due to their tendencies to shape strategic decision-making in organizations. Past research has shown that executives' social networks influence the adoption of similar business strategies and practices within the industry (e.g. Galaskiewicz and Burt, 1991; Geletkanycz and Hambrick, 1997; Westphal et al., 2001).

CEO Intraindustry Network Ties and Environmental Scanning

According to the empirical evidence in the interfirm network literature, executive external network ties can serve as a means of obtaining critical information from the environment (Aguilar, 1967). Executives often rely on information acquired from personal contacts and colleagues in other similar firms in order to make strategic decisions. In addition to being a source of valuable information, external network ties can also influence the attitudes and behaviors of executives that especially operate within the same industry context (Geletkanycz and Hambrick, 1997). Such influence has been identified to affect executives' interpretation of environmental stimuli and overall outlook leading to a 'social construction of reality' (Berger and Luckmann, 1967). Based on the extant literature, external network ties within an industry can have two significant impacts on executives. First, the level of network ties within an industry can lead to the development of a relatively homogenous outlook or frame of reference among executives within that industry (Spender, 1989; Hambrick et al., 1993). Spender (1989), for instance, observed from his study of executive cognition in three British industries that executives in those industries tend to exhibit a homogenous interpretation of the industry environment. Such homogeneity of industry outlook has been referred to as "industry recipes" (Spender, 1989) and "common body of knowledge" (Hambrick, 1982). More interestingly, as executives within the same industry develop a shared interpretation framework, they are also most likely to adopt commonly accepted industry wide practices and strategies (Geletkanycz and Hambrick, 1997; Westphal et al., 2001). Westphal et al. (2001), in their longitudinal study of Fortune 500 companies, found that firms with board members of companies that imitate competitor strategies are more likely to do the same in their own industry. Similarly, Geletkanycz and Hambrick (1997), for instance, studied the relationship between external ties of executives and their strategic choice using a multi-year data on fifty five firms in the computer and packaged industries. Their findings generally suggested that executives' intraindustry network ties (i.e. ties within their industry) is positively associated with strategic conformity while executives' network ties outside of the industry tend to relate with organizational strategies that are not always consistent with the overall industry strategy. These and other empirical evidences generally highlight the important impact of executives' external network ties on the imitation of several organizational practices and strategies. This assertion has particularly been described as mimetic isomorphism in the works of neo-institutional theorists (DiMaggio and Powell, 1983; Haveman, 1993; Scott, 1995).

Second, external network ties within an industry can also facilitate strategic conformity and limit the breadth of information search and alternative generation (Finklestein and Hambrick, 1990; Hambrick et al.,

1993). Hambrick et al. (1993), for example, found a strong positive association between executives' industry tenure and commitment to status-quo. Given the aforementioned social influence exerted by network ties, executives that have more ties within their particular industry seem to focus on the immediate task environment (i.e. including the customer, supplier and competitor sectors) than the general environment (i.e. including economic, technological, social/cultural, demographic and legal sectors). Previous researchers have found that chief executives perceived task environments as more important than general environments (Daft et al., 1988; Sawyerr, 1993) especially in dynamic environments (Garg et al., 2003). Consistent with the social information processing theory (Salancik and Pfeffer, 1978), chief executives' intraindustry network ties can serve as sources of social influence on the extent of environmental scanning emphasis thereby restricting the focus of executive attention to the immediate task environment. Accordingly, we argue that CEO's intraindustry network ties reduce the breadth of information search outside the industry and therefore limit the focus of environmental scanning activity in organizations.

Hypothesis 1. The extent of CEO Intraindustry network ties is negatively related to the focus of environmental scanning. Accordingly, CEOs with high network ties within their industry focus more on the immediate task environment and less on the general environment in their environmental scanning.

CEO Extraindustry Network Ties and Environmental Scanning

Contrary to the homogenizing influence of intraindustry network ties, extraindustry network ties often expose executives to a variety of information, perspectives and approaches to business practices (Geletkanycz and Hambrick, 1997; Westphal et al., 2001). There has been some empirical evidence that suggests that executives' network ties outside of their industry facilitates the adoption of business strategies and practices that are not necessarily common within the industry. In their study of fifty five firms from the packaged foods and computer industries, Geletkanycz and Hambrick (1997), for instance, found that executives' extraindustry network ties is positively associated with the adoption of non-conforming business strategies. Executives with diverse network ties outside of their industry come in contact with other executives, board directors, government officials etc that have a significantly different business outlook, management philosophy and frame of reference. These forms of relationships provide executives with a wide array of information that both directly pertain to their business and overall business climate. Executives' extraindustry network ties are also formidable sources of learning since they provide a potentially diverse strategic alternatives and decision-making processes (Useem, 1982).

In terms of environmental scanning activities, we believe that CEOs with more network ties outside of their industry are in general in a better position to gather pertinent information on both their industry as well as the overall business climate. CEO extraindustry networks are also indirect sources of influence in terms of broadening the focus of environmental scanning activity to include the exposure to different decision-making approaches, industry best practices and emerging socio-economic and political trends. Useem (1982), in his study of managerial rationality in large American and British corporations, observed that most executives that are appointed in other firms' board of directors tend to use the opportunity to learn and carefully evaluate the consequences of various strategic decision-making approaches and business practices. Consequently, these executives develop an exposure to a wide array of strategic information, decision alternatives and business philosophies. Hence, we argue that CEOs with greater extraindustry network ties will have a broader focus of environmental scanning activity when making strategic decisions for their firms.

Hypothesis 2. The extent of CEO extraindustry network ties is positively related to the focus of environmental scanning. CEOs with significant network ties outside of their industries have a broader environmental scanning than those who don't.

METHODOLOGY

Sample Selection

In order to test the above hypotheses, we selected our sample firms from the COMPUSTAT research database. Firms were included in the respective industries if (1) they are based in the United States, (2) they are not highly diversified conglomerates or subsidiaries of a foreign company, and (3) they are publicly traded in the U.S. We only focused on publicly-traded U.S. based firms because of issues of data availability and difficulty of comparing organizational variables across different countries. Highly diversified conglomerates were also ruled out of the final sample because it is often difficult to make inference on the causal linkage between strategic decision processes and organizational outcomes in firms with multiple business units. Moreover, we included firms from a wide ranging industries including food processing (SIC Code 2000-2090) to Computer and communication equipments industry (SIC Code 3570-3576). Since the Food Processing and Computer communication industries represent stable and dynamic environments respectively (Geletkanycz & Hambrick, 1997), including these diverse industries ensures the generalizability of the study's results in both contexts. Applying the aforementioned criteria, 90 firms were included in the final sample of the study.

Measures and Data Sources

Focus of environmental scanning: Past studies have identified the focus of executive environmental scanning as an important part of the strategic formulation process (e.g. Daft et al., 1988; Cho, 2006). The narrowness and breadth of environmental scanning activity generally suggests the extent of external information gathered and examined by executives in the process of formulating business strategies (Hambrick, 1982; Jennings and Lumpkin, 1992). In order to measure the focus of environmental scanning activity, we first considered eight external environmental sectors identified in previous literature (Daft et al., 1988; Jackson and Dutton, 1988; Cho, 2006). These sectors have in general been categorized as part of the firm's immediate task environment or general environment. The immediate task environment includes the competitor, supplier and customer sectors. The general environment includes the demographic, economic, political/legal, social/cultural and technological sectors (Bourgeois, 1980). Once the environmental sectors are identified, we used content analysis to measure the degree of narrowness and breadth of environmental scanning behavior within the sample firms. Content analysis of organizational official documents such as annual reports has been used in the environmental scanning literature to examine managerial attention and cognitive patterns (D'Aveni and MacMillan, 1990; Cho, 2006). The underlying assumption of this method is that words and official written communications of executives can be used as indicators of their cognitive focus and attention (Huff, 1990; Abrahamson and Hambrick, 1997; Nag et al., 2007). Hence, we used the sample firms' annual reports (including letter to shareholders) to identify a list of words that can be categorized in each of the eight different environmental sectors mentioned above. Two final steps were taken to measure the focus of environmental scanning activity:

1. Using a specialized Computer Assisted Text Analysis (CATA) software, Concordia (Watt, 2004), we identified a list and frequency of words used in each firm's annual reports that correspond to each of the eight environmental sectors (i.e. customer, supplier, competitor, economic, technological, demographic, political/legal and socio-cultural sectors) for the year 2006. For instance, for the customer sector, we compiled a possible list of words that can be used to explain the sector such as customer, customers, clients, consumers etc. Similarly, a list of words explaining each of the other sectors was compiled and entered into the content analysis software, Concordia, to identify the number of times these words were used in the letter to shareholders and annual reports (10-k) filed to the Security and Exchange Commission (SEC). We chose this year due to the extensive availability of quantitative as well as qualitative archival data for each firm in the sample.

2. Once the list and frequency of words in the annual report corresponding to each environmental sector is identified, the focus of environmental scanning was calculated as follows:

$$\text{Focus of environmental scanning} = \sum_{gw=1}^{5} (f_{gw}) \Big/ \left(\sum_{tw=1}^{3} (f_{tw}) + \sum_{gw=1}^{5} (f_{gw}) \right), \text{ where:}$$

tw = total number of words representing each of the task environment sectors in the annual report

gw = total number of words representing each of the general environment sectors in the annual report

f_{gw} = frequency of words corresponding to each of the five general environment sectors (i.e. demographic, economic, political/legal, social/cultural and technological)

f_{tw} = frequency of words corresponding to each of the three task environment sectors (i.e. customers, competitors, suppliers)

Hence, higher proportion indicates a broad focus of environmental scanning and that executives' attention was devoted to the general environment as opposed to just the immediate task environment. Conversely, a lower proportion suggests that executive attention to external environmental factors such as economic, socio-cultural, political and legal sectors has been fairly limited. Similarly, ***Task Environment Scanning*** was calculated by summing the number of words mentioned in each firm's 2006 annual report that particularly relate with the customer, supplier and competitor sectors. We followed the same procedure for calculating ***General Environment Scanning*** by focusing on the five sectors of the general environment identified in the literature.

CEO External Network Ties*:* Consistent with Geletkanycz and Hambrick (1997) and Carpenter and Westphal (2001), the extent of CEO extraindustry network ties is measured by counting the number of board appointments each CEO has outside of the industry the firm operates in. For example, the extent of external ties of sample firms within the computer industry was measured by counting the board appointments of each firm's CEO in firms outside the computer industry. Similarly, we measured CEO intraindustry network ties by counting the number of board appointments of each firm's CEO within the industry. We used each firm's annual proxy statements as well as various other sources of executive biographical information (e.g. Business Week's executive biography database) on the internet to obtain data on external network ties.

Control Variables

We controlled for the effects of *firm size*, *CEO industry tenure, firm past performance* and *total number of words* in the annual reports. Past research has shown that the ability of firms to effectively scan their environment partly depends on their size and resources. Accordingly, Firm size was included in the analysis and was measured using the log of number of employees of sample firms. Moreover, since executives' knowledge of their respective industry tends to develop with their tenure on the job, we decided to control for the length of industry tenure. Following Hambrick et al. (1993) and Stone and Tudor (2005), we measured *CEO industry tenure* by the number of years he/she spent working as the executive level within the current industry. *Dun & Bradstreet Reference Book of Corporate Management* and annual proxy statements were used as to collect data on CEO industry tenure. We measured *firm past performance* by averaging the last two years (2004 and 2005) of Return on Asset (ROA) of each firm in the sample. Finally, we also controlled for the number of words in the letter to shareholders (2006 annual reports) for each firm since the number of total words most likely affect specific words used in environmental scanning activity (Cho, 2006).

For the data analysis, we used hierarchical multiple regression analysis. This particular statistical tech-

nique enables to separately present the percentage of variance in the dependent variable that was explained by the control as well as the predictor variables (Hair et al., 2006). Prior to the analysis, we checked for the assumptions of multiple regression analysis including linearity, normality and heteroskedasticity and found no major violations. We entered the control variables in the first block (Model 1) to account for the percentage of variance explained in the dependent variable. Next, the predictor variables (CEO network ties) were entered in the second model. The examination of tolerance and VIF factors in the regression analysis showed no major case of multicollinearity (Hair et al., 2006).

RESULTS

Table 1 presents the means, standard deviations and correlations of the study variables. Task environment and general environment scanning are included in Table 1 although they are part of the calculation in creating the third variable-focus of environmental scanning. As explained in the method section above, the task environment includes the customer, supplier and competitor sectors of the environment. The general environment, on the other hand, focuses on the economic, technological, socio-cultural, demographic and political/legal sectors of the environment (Bourgeois, 1980). The results of hierarchical multiple regression analysis are shown in Table 2. We regressed each of the dependent variables on the control and predictor variables separately to examine the effect of executives' intra and extra industry network ties on their scanning behavior. As expected, three of the control variables (i.e. firm size, CEO industry tenure and total words in annual report) together explained 33% and 40% of the variance in task environment and general environment scanning respectively (Models 1 and 3). Based on our result, firm past performance does not appear to have any effect on environmental scanning behavior.

Our first hypothesis stated that the extent of CEO intraindustry network ties will be negatively related to the focus of environmental scanning. As the results in Model 6 (Table 2) shows, we did not find statistically significant support for first hypothesis. However, when general environment scanning is regressed on both control and predictor variables, we found a statistically significant negative relationship between CEO Intraindustry network ties and general environment scanning (Model 4 in Table 2). The second hypothesis proposed a positive relationship between CEO extraindustry network ties and focus of environmental scanning activity. As the results in Model 6 show, we found a statistically significant positive relationship between CEO extraindustry network ties and focus of environmental scanning activity. Hence, our second hypothesis is fully supported. Both the control and predictor variables combined explained 36% of the variance in task environment scanning, 45% of the variance in general environment scanning and 10% of the variance in focus of environmental scanning.

Table 1
Means, Standard Deviations and Correlations[a]

	Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1	Firm Size	3.44	4.94	1								
2	CEO Industry Tenure	14.12	11.98	0.11	1							
3	Firm Past Performance	-0.44	3.72	0.05	-0.07	1						
4	Total number of words in Annual Report	3934	749.35	-0.16	-0.07	0.11	1					
5	CEO Intraindustry network ties	0.61	1.07	0.27**	-0.06	0.04	-0.01	1				
6	CEO Extraindustry network ties	0.84	1.45	-0.16	-0.07	0.10	0.02	0.41***	1			
7	Task Environment Scanning	108.77	65.83	0.13	0.17	0.09	0.50***	-0.08	-0.19*	1		
8	General Environment Scanning	50.61	32.17	0.19*	0.13	0.07	0.55***	-0.15	-0.09	0.69***	1	
9	Focus of environmental scanning	0.32	0.12	0.06	-0.04	-0.02	.192*	-0.02	0.15	-0.20*	0.48***	1

[a] n = 90 * P-Value < 0.10 ** P-Value < 0.05 *** P-Value < 0.01

DISCUSSION

The central argument of this paper is that organizations adapt to the changing demand of their environment by reshaping their business strategies and that environmental scanning-the process by which executives notice and acquire relevant information-plays a critical role in formulation of strategies. More specifically, we hypothesized and argued that examining executive external network ties is important since (1) most executives obtain valuable information from their personal contacts within and outside of their industries, and (2) these network ties, being more than just sources of information, can also serve as medium of social influence shaping strategic decision-making processes and the adoption of various business practices (Galaskiewicz, 1985; Zajac, 1988).

In this study, we found that CEOs with extensive network ties outside of their industries (i.e. measured as the number of board appointments) tend to have a broader environmental scanning emphasis. In other words, CEOs that have extensive network ties focus more on broader sectors of the environment such as the economic, political/legal, socio-cultural and technological factors that could affect their firm's operation. This is consistent with previous findings in the literature (Geletkanycz and Hambrick, 1997). Conversely, we also found a strong negative relationship between CEOs network ties within their industry and their general environment scanning. This finding is interesting because it highlights the social influence exerted by executive network ties (Galaskiewicz, 1985; Westphal et al., 2001). As CEOs develop more and more network ties with other executives and board members within the industry, they tend to "learn" and adopt similar business practices and decision-making processes. More importantly, CEOs with high level of network ties within the industry are more likely to focus their attention to similar strategic issues and areas considered by their peers as crucial (Abrahamson and Hambrick, 1997). Such "homogenization" of attention can also play key role in their environmental scanning activity restricting their focus mainly to task environment sectors such as customers, suppliers and competitors.

THEORETICAL AND PRACTICAL IMPLICATIONS

The findings of our study have some important implications for both research and practice. In terms of theoretical implications, we believe that the findings of this study contribute to the environmental scanning literature by (1) providing empirical evidence on the important effect of executives' network ties on firm-level environmental scanning activities, and (2) more specifically, highlighting the relationship between the extent of network ties and its impact on the narrowness or breadth of environmental scanning activity. This study also has a number of managerial implications. First, the findings of this study emphasize on the value of external network ties not just as sources of information but also as mediums of social influence. As such, external network ties of executives can indirectly influence the type and frequency of interorganizational imitation. In short, executives' association can also influence their decision-making behaviors. Second, the findings of this study also point to a possibility of an 'industry-effect'- the nature of executive network ties and environmental scanning could vary in different industries. Accordingly, some industries tend to disproportionately focus on macro-level (general environment) environmental scanning and therefore could find actively building extraindustry network ties highly beneficial. Conversely, other industries may incline to pay closer attention to task environment scanning. In such industries, emphasis on building and maintaining intraindustry network ties could be warranted. Thus, the 'fit' between the types of executive network ties and environmental scanning could be dependent on the nature and characteristics of the industry the firm operates in.

Table 2. Results of Hierarchical Regression Analysis# (n = 90)

	DV = Task Environment Scanning		DV = General Environment Scanning		DV = Focus of Environmental Scanning	
Variable	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Firm Size	0.20**	0.19*	0.27***	0.36***	0.10	0.19
CEO Industry Tenure	0.19**	0.18**	0.14*	0.12	-0.04	-0.04
Firm Past Performance	0.04	0.06	0.01	-0.02	-0.05	-0.08
Total number of words in Annual Report	0.54***	0.54***	0.60***	0.61***	0.21*	0.22**
CEO Intraindustry network ties		-0.06		-0.26***		-0.18
CEO Extraindustry network ties		-0.14		0.08		0.26**
R^2	0.33	0.36	0.40	0.45	0.05	0.10
ΔR^2		0.03		0.05**		0.05*
F	10.65***	7.85	14.19***	11.37***	1.10	1.78

*# Standardized Regression Coefficients are shown * P-Value < 0.10 ** P-Value < 0.05 *** P-Value < 0.01*

RESEARCH LIMITATIONS AND FUTURE DIRECTIONS

We recognize that, just as any empirical research, our study has a number of limitations. First, the study has a cross-sectional as opposed to longitudinal research design. Although cross-sectional single year studies are beneficial, scholars often emphasize the importance of a longitudinal observation in establishing conclusive empirical evidence. Second, the sample in our study is essentially restricted to U.S.-based firms that make cross-cultural generalization difficult. Consequently, we believe that future studies in this area should examine the role of interorganizational network ties on environmental scanning in a longitudinal context. Future research should also consider using multi-country samples in order to empirically test the relationship between interorganizational network ties and environmental scanning activities. Finally, future research could also explore the role of industry characteristics in the relationship between executive network ties and focus of environmental scanning. Indeed, there could be a reasonable argument to be made on how some industries tend to focus their environmental scanning at the general environment level while others disproportionately emphasize task environment scanning. In the earlier case, executive extraindustry network ties could be advantageous while executives' intraindustry ties serve the latter better in terms of obtaining critical business information and enhance the quality of environmental scanning activity.

CONCLUSION

In this study, we have empirically examined the relationship between CEO external network ties (both within and outside of industry) and focus of environmental scanning. The results of our analysis reveal that depending on the type of network ties CEOs have, the focus of environmental scanning and implicitly executive attention could vary. We specifically found that CEOs with wide network ties outside of their industries tend to have a broader environmental scanning. Conversely, those CEOs that have high level of network ties within their industry paid less emphasis on the general environmental sectors that indirectly contribute to firm success.

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