JOURNAL OF SMALL BUSINESS STRATEGY

TOP MANAGEMENT TEAM HETEROGENEITY AND SME EXPORT PERFORMANCE: INVESTIGATING THE ROLE OF ENVIRONMENTAL UNCERTAINTY

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ABSTRACT

Research has generally found that firms competing in high uncertainty environments gain advantages from having diverse (heterogeneous) management teams (TMTs). Employing a national survey of 70 small- and medium-sized enterprises (SMEs), the present study examined whether TMT heterogeneity in functional background, international work experience, and foreign language proficiency had a stronger relationship with export performance for firms competing in high than those competing in low uncertainty environments. Results were generally weak when market and industry factors contributing to uncertainty were examined separately; however, additional analysis showed that the hypothesized relationship did exist when uncertainty was measured employing both factors simultaneously.

INTRODUCTION

Small- and medium-sized enterprises (SMEs) are increasingly exporting to overseas markets to sell products developed in their home markets or to find growing markets abroad (Barrett, 1995; Rose & Quintanilla, 1996). This increased international involvement has prompted substantial research examining whether managerial characteristics and backgrounds are related to both SME export decisions and performance (Aaby & Slater, 1989; Axinn, 1988; Lim, Sharkey, & Kim, 1993; Reuber & Fischer, 1997).

As the individuals that monitor a firm's environment and make critical decisions to respond to this environment, a firm's top management team (TMT) can play a critical role in the firm's actions and, ultimately, its performance (Hambrick, 1989; Weinzimmer, 1997). Research has generally hypothesized that different backgrounds and experiences provide managers with different skills, attitudes, and biases that they then use to interpret experience and make

decisions (Hambrick & Mason, 1984). Consequently, studies have examined both average characteristics (e.g., percentage of managers with marketing backgrounds) and distributional properties (e.g., a TMT's functional heterogeneity) when examining TMT decision making and its resulting outcomes (Bantel & Finkelstein, 1995).

Research examining TMT distributional properties has generally concluded that the diverse backgrounds within TMT can affect decision making, which, in turn, may impact a firm's performance in two possible ways (Simons, Pelled, & Smith, 1999). On one hand, increasing heterogeneity can increase conflict and decrease communication within a TMT, which can reduce a firm's performance. On the other hand, when a firm competes in a highly variable and changing environment, increasing TMT heterogeneity may result in more complex and creative decision making, which can improve a firm's performance (Hambrick, Cho, & Chen, 1996).

Given the increased environmental uncertainty faced by SMEs as they internationalize their operations (Johanson & Vahlne, 1977; Hart & Tzokas, 1999), we expect TMT heterogeneity should be related to SME export performance. Previous research has examined TMT average characteristics impact international business outcomes given different environmental uncertainty levels (Fletcher & Bohn, 1998), but with limited exception (Carpenter & Fredrickson, 2001), little work to date has examined these relationships for TMT heterogeneity. Thus, this study examines the relationship between TMT heterogeneity and SME export performance given different levels of environmental uncertainty arising from both export market and industry characteristics.

TOP MANAGEMENT TEAM HETEROGENEITY AND EXPORTING

Studying TMT issues constitutes a major research stream in organizational literature because top managers must make decisions that align a firm's strengths and weaknesses with environmental opportunities and threats to enhance a firm's performance (Andrews, 1971). Because these decisions are often ambiguous and unstructured (Mintzberg, Raisinghani, & Theoret, 1976), a TMT's skills and abilities play a critical role in creating and sustaining a firm's alignment with its environment (Wiersema & Bantel, 1992).

Research based on the "strategic leadership" perspective (Cannella & Monroe, 1997; Cyert & March, 1963; Hambrick & Mason, 1984) has focused on TMT background characteristics as a way to study TMT processes. According to this perspective, managers will make decisions based to some extent on their career experiences including functional background and other work experience (Bantel & Jackson, 1989). Consequently, by studying both a TMT's average characteristics and distributional properties, researchers may gain insight into TMT decision processes (Bantel & Finkelstein, 1995).

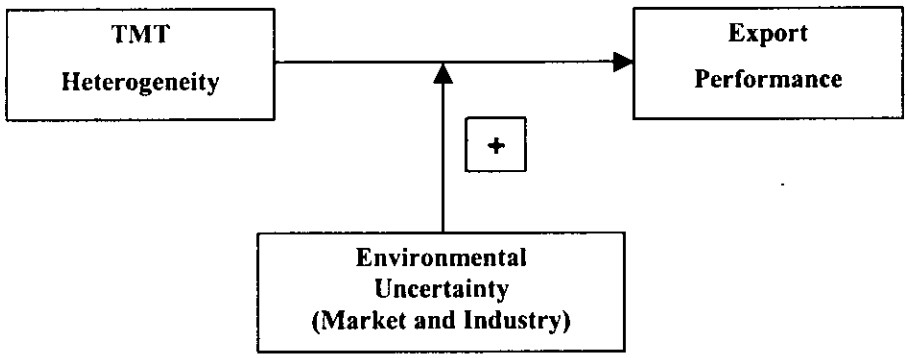
Although several studies have examined the relationship between average TMT characteristics and SME exporting (Dichtl, Leibold, Koglmayr, & Muller, 1984; Lim et al., 1998; Reid, 1983), few have investigated TMT heterogeneity. Results from previous domestic and international heterogeneity studies, however, are instructive. Research employing domestic (U.S.) samples (e.g., Eisenhardt & Schoonhooven, 1990; Hambrick et al., 1996) has found that TMT heterogeneity has a positive relationship with performance when a firm competes in an industry having a large number of highly variable factors (a "high uncertainty" environment, Dess & Beard, 1984; Duncan, 1972). These studies concluded that the diversity of perspectives and skill variety within a heterogeneous TMT prompts members to consider more alternatives and produce more creative decisions. In turn, this decision making process can enhance a firm's performance in high uncertainty environments because the TMT can make better decisions regarding myriad factors affecting the firm. Previous

research has also found that TMT heterogeneity had little or no relationship with performance in low uncertainty environments such as the food industry (Murray, 1989).

Recent international research has found TMT heterogeneity to be similarly valuable in high uncertainty environments. In particular, Carpenter and Fredrickson (2001) found that environmental uncertainty positively moderated the relationship between educational heterogeneity and the scope a firm's global operations. Similar to domestic studies, they suggest that heterogeneity may help a TMT better handle environmental uncertainty encountered overseas.

In general, then, previous studies suggests that the increased decision making complexity and creativity resulting from TMT heterogeneity may be positively related to organizational performance when a firm competes in a high uncertainty environment. Accordingly, given that SMEs can face different environmental uncertainty levels as they internationalize (Hart & Tzokas, 1999), we expected TMT heterogeneity should also be related to SME export performance. In particular, we expected that TMT heterogeneity would have a stronger relationship with exporting performance for SMEs competing in high uncertainty environments than those competing in low uncertainty environments. This relationship is conceptually modeled in Figure 1.

Figure 1 - Model of Relationships between TMT Heterogeneity, Export Performance, And Environmental Uncertainty



UNCERTAINTY IN INTERNATIONAL ENVIRONMENTS

Environmental uncertainty is critical for explaining how firms interact with their respective environments (Milliken, 1987). SMEs competing internationally face varying degrees of uncertainty based on two factors, export market and industry characteristics. Export markets can vary in uncertainty depending on their "psychological" or "psychic" distance from a firm's home country, defined as the sum of factors impeding the flow of information about a market and, thus, increase managers' uncertainty about a given market (Johanson & Vahlne, 1977; O'Grady & Lane, 1996). In addition, industries can vary based on how much firms must adapt products across different markets. Thus, the present study investigated two market (geographic distance and cultural difference from a firm's home country) and one industry characteristic (the degree of industry "globalization") that can impact environmental uncertainty.

Market Characteristics

Research has long proposed that geographic distance between an SME's home and overseas market impacts environmental uncertainty (Carlson, 1974). Several studies have noted that when a firm conducts business in a country located far from home, its TMT may encounter higher uncertainty stemming from increased difficulty in collecting information about the country or controlling a geographically distant subsidiary (see Dow, 2000 for a recent review). Organizational scholars have noted that the importance of this variable may be declining with advances in transportation and communication, but studies continue to find that operating over greater geographic distance can increase a firm's environmental uncertainty (Gripsrud, 1990; Grosse & Trevino, 1996). Recent research has also shown that this factor impacts environmental uncertainty independently from other factors such as cultural differences (Dow, 2000).

Research has also long hypothesized that cultural differences between an SME's home country and its overseas markets impact environmental uncertainty (Johanson & Vahlne, 1977). Studies have noted that when an SME conducts business in a country having a different culture from its home country, its TMT may encounter higher uncertainty stemming from the increased difficulty in interpreting local culture or perceiving customer needs. Although some studies have found little or no support for cultural impact on international decision making (Benito & Gripsrud, 1992; Sullivan & Bauerschmidt, 1990), a majority have found evidence that cultural differences do impact a firm's environmental uncertainty, and, in turn, its international business operations (Dow, 2000; Erramilli, 1991; Kim & Hwang, 1992; Kogut & Singh, 1988; Shane, 1994).

In contrast, when an SME exports to markets proximate in geography or similar in culture to its home country, its TMT should face lower uncertainty. For example, given the ease of travel as well as the cultural similarity between the U.S. and Canada, U.S. SMEs often face lower uncertainty when exporting to Canada relative to other countries.

Thus, the decision making benefits provided by increased TMT heterogeneity should become more important to export performance as an SME targets countries that differ geographically and culturally from its home country. In countries similar to the SME's home country along these dimensions, these benefits should be less pronounced. Stated formally,

H1: TMT heterogeneity will be more positively related to export performance for SMEs exporting to geographically distant countries than those exporting to geographically proximate countries.

H2: TMT heterogeneity will be more positively related to export performance for SMEs exporting to culturally different countries than those exporting to culturally similar countries.

Industry Characteristics

The present study also investigated industry characteristics such as how much buyer needs vary across countries to measure environmental uncertainty. When an SME competes in an industry characterized by different buyer needs across countries (a "multidomestic" industry, Porter, 1986), its TMT faces increased uncertainty because it must determine when and how to adapt the SME's product to local buyer needs. In contrast, when an SME competes in an industry characterized by more standardized buyer needs across countries (a "global" industry, Roth, Schweiger, & Morrison, 1991), a TMT should face less uncertainty because the SME can sell a standardized product worldwide.

Thus, the benefits provided by increased TMT heterogeneity should become more important to export performance when an SME competes in an industry where different buyer needs exist across markets. In industries with standardized consumer needs, these benefits should be less pronounced. Stated formally,

H3: TMT heterogeneity will be more positively related with export performance for SMEs competing in multidomestic than those competing in global industries.

METHODS

Data Collection

Data for this study were collected employing a mail questionnaire sent to 1,000 SMEs randomly selected from a Dun & Bradstreet database of U.S. small business exporters. SMEs were defined as manufacturers having fewer than 200 employees. The questionnaire was pre-tested with several university faculty members familiar with small business research to ensure content validity.

Following the survey method prescribed by Dillman (1978), a questionnaire was sent to the top manager of each SME followed by a postcard and then a second questionnaire in the case of non-respondents. From the initial sample, 70 surveys were returned as undeliverable. Of the remaining sample, 156 surveys were returned yielding a response rate of 17 percent. This response rate falls well within response rates expected for national SME surveys (Alpar & Spitzer, 1989).

Of the 156 respondents, 40 indicated that they no longer exported and 25 provided insufficient information about TMT characteristics or export performance to permit analysis. Additionally, because heterogeneity constituted the primary construct of interest, 21 SMEs having single-manager TMTs were excluded because by definition these TMTs had no heterogeneity. Including these SMEs would have confounded the analysis of TMTs having more that one member and no heterogeneity. Thus, a final sample of 70 SMEs was employed in the analysis. Table 1 profiles these respondents.

Because late respondents have been shown to resemble non-respondents more than they resemble early respondents (Kanuk & Berenson, 1975), correlations between response order and several survey items such as SME size and export involvement were examined. No significant correlations were found thus reducing concerns of non-response bias.

Dependent Variable

The multidimensional nature of export performance was measured employing three variables provided by respondents: (1) export sales as a percentage of total sales, (2) three-year average industry-relative export profitability, and (3) three-year average industry-relative export growth. The industry-relative scales were used for three reasons. First, given that the study employed a multi-industry sample, absolute performance measures could contain industry effects that could confound results (Dess, Ireland, & Hitt, 1990). Second, previous research has found that small business managers are often unable or unwilling to respond to surveys with absolute measures (Madsen, 1988). Third, measuring performance relative to competitors provides an indication of how successful an SME's strategy is, given the demands of its particular industry (Carpano, Chrisman, & Roth, 1994).

Table 1 - Sample Profile

	Percent of Sample
Total Sales	
Less than $250,000	4.3
$250,000-$499,999	8.7
$500,000-$999,999	10.2
$1-$9 million	49.3
Over $9 million	27.5
Export Percentage	
10% or less	31.7
11-20%	25.0
21-30%	16.6
31-40%	8.4
41% or more	18.3
Firm Export Experience	
Less than 5 years	7.0
5-10 years	28.2
11-15 years	14.1
16-20 years	9.9
Over 20 years	40.8
Three Largest Export Markets are Mostly...	
North American Countries	32.9
Non-North American Countries	67.1
Anglo Cultures	30.0
Non-Anglo Cultures	70.0
Industry Type	
Global	58.6
Multidomestic	41.4

Control Variables

The study included five control variables: company size, TMT size, export age (i.e., number of years an SME has exported), organizational exporting mode, and TMT international orientation in each equation. Company size was included because larger firms may have more resources to contend with environmental uncertainty than smaller ones. Similarly, TMT size was controlled for because larger TMTs have more members to help cope with environmental uncertainty than smaller ones, independent of TMT heterogeneity. Export age was controlled for because firms that have been exporting longer may have overcome initial startup costs, and, in turn, have better performance than firms that have only recently begun exporting. Exporting mode was controlled for because SMEs that export their own products and have to determine how best to market these products overseas ("direct exporters") would face greater uncertainty than those that delegate these responsibilities to another firm ("indirect exporters").

To control for the possibility that top management knowledge represented by average TMT characteristics might impact export performance (Aaby & Slater, 1989; Lim et al., 1993), a variable to control for TMT "international orientation" was included in the equation. This orientation was measured by summing the percentage of managers in each SME who had

lived overseas, spoke a foreign language, and had international work experience (Dichtl et al, 1984). Diagnostics indicated that no multicollinearity problems existed between this variable and the TMT heterogeneity variables.[1]

Independent Variables. The top manager who responded to the survey defined each SME's TMT (Bantel & Jackson, 1989). This method was deemed more appropriate than other methods used in TMT studies for identifying TMT members (e.g., including all vice presidents and above), especially for SMEs. Respondents also provided information about each TMT member's background characteristics. The study focused on heterogeneity in three TMT characteristics that have been found to be related to export performance when examined in percentage terms: (1) functional background, (2) international work experience, and (3) foreign language proficiency. Functional heterogeneity represents the degree of differences across TMT members in terms of their professional backgrounds, which may affect each TMT member's vocabulary and world view (Hambrick et al., 1996). Heterogeneity in the other two variables reflects differences across TMT members in terms of their education or international experiences, which could affect each member's perception of international environmental uncertainty (Carpenter & Fredrickson, 2001). Thus, we expected that these different heterogeneity types would have a complementary relationship with exporting performance.

Heterogeneity was measured by employing Blau's (1977) index of heterogeneity,

$$Heterogeneity = 1-\Sigma(P_i)^2$$

where P equals the proportion of TMT members in the *i*th category.

Respondents also provided information about market and industry factors. For market factors, respondents were asked to indicate their SMEs' three largest export markets. SMEs were then classified dichotomously according to whether or not they primarily exported to (a) North American and (b) Anglo countries (Ronen & Shenkar, 1985). Because countries in this group are geographically proximate and culturally similar to the U.S., respectively, these classifications provide a means for testing the relationship between TMT heterogeneity and export performance based on both geographic distance and cultural difference.

For industry factors, respondents indicated the degree to which their SMEs' industries exhibited characteristics of a global industry based on Roth et al. (1991) measure. Responses for each SME were summed to determine an overall "global industry" score with low and high scores indicating global and multidomestic industries, respectively (@= .78).[2]

A list of all variables and their operationalizations is included in Table 2.

Data Analysis

To examine the relationship between heterogeneity and export performance based on different levels of environmental uncertainty, we employed moderated regression. This type of regression is appropriate given that the slope (i.e., "form") of the relationship was expected to vary based on market and industry characteristics (Arnold, 1982; Cohen & Cohen, 1983).

For the present study, moderated regression analysis involved a two-step data analysis process employing the following equations:

(1) Export performance = Control variables + TMT heterogeneity variables + Environmental variable
(2) Export performance = Control variables + TMT heterogeneity variables + Environmental variable + (TMT heterogeneity variables x Environmental variable)

Table 2 - Questionnaire Items

VARIABLES	*MEASURES*
Dependent	
Export Percentage	"What percent of total sales is derived from exporting?"
Export Profit	"Over the past three years, how does your company's profitability from export sales compare to other companies' within the industry?" (1=much lower, 5=much higher)
Export Growth	"Over the past three years, how does your company's growth in export sales compare to other companies' within the industry?" (1=much lower, 5=much higher)
Control	
Export Age	"In what year did your company begin exporting?"
TMT Size	"How many managers take part in major company decisions, both domestic and global?"
International Orientation	Sum of percentages for three questions: "Which managers listed above have global work experience?" Which managers listed above have lived in other countries?" and "Which managers listed above speak a foreign language fluently enough to conduct business in that language?"
Export Mode	What method of exporting does your company use most often? (1=company has export unit, 2=marketing department handles exports, 3= another firm handles our exports, 4=other (explain))
Total Sales	What were your company's total sales last year? (1=less than $100,000, 10=$250 million or more)
Independent	
Functional Heterogeneity	Blau's heterogeneity measure for managers having functional/specialty areas in marketing, production, research/engineering, finance/accounting, other)
Language Heterogeneity	Blau's heterogeneity measure for "Which managers listed above speak a foreign language fluently enough to conduct business in that language?"
International Work Experience Heterogeneity	Blau's heterogeneity measure for "Which managers listed above have global work experience?"
Non-Anglo Culture	Majority of top three export markets were Australia, New Zealand, Canada, United Kingdom, and Ireland = 0, Otherwise = 1
Non-North American Country	Majority of top three export markets were Canada, Mexico, and Caribbean countries = 0, Otherwise = 1
Industry Globalization (reverse scored from Roth et al., 1991)	"Please indicate how characteristic each of the following factors is in describing your industry" (1=Extremely, 5= Not at All) (1) Buyer/customer needs are standardized worldwide, (2) Product awareness/ information exists worldwide, (3) Standardized product technology exists worldwide, (4) Companies exist that compete in all key markets worldwide, and (5) Companies market a standardized product worldwide

A significant increase in the amount of variance explained, measured as change in R^2 in Equation (2) relative to Equation (1), would indicate that the relationship between TMT heterogeneity and export performance varies under different environmental uncertainty levels (see Cohen & Cohen, 1983).

RESULTS

Surprisingly, regression results (available from the first author) provide no support for Hypothesis 1 or 2, which predicted that TMT heterogeneity would have a more positive relationship with export performance for SMEs exporting to higher uncertainty (geographically distant or culturally different) markets than those exporting to lower uncertainty (geographically proximate or culturally similar) markets, respectively. In addition, results provide only weak support ($p < .10$) for Hypothesis 3, which predicted that TMT heterogeneity would have a more positive relationship with export performance for SMEs competing in higher uncertainty (multidomestic) than those competing in lower uncertainty (global) industries.

These findings may result from one of two causes. First, as suggested by Dow (2000) and others, the importance of environmental uncertainty variables may be declining with advances in transportation and communication. As noted, however, most recent research continues to support the impact of both geography and culture on environmental uncertainty. Second, international environmental uncertainty may require a more complex measure. To investigate this latter possibility, we conducted additional analysis.

Upon further review of previous psychic distance studies, we noted that samples in studies that failed to support the importance of psychic distance often employed either global (Sullivan & Bauerschmidt, 1990) or cross-industry samples that may have included both multidomestic and global industries (Benito & Gripsrud, 1992). In contrast, studies finding support often used multidomestic industry samples (Gripsrud, 1990; O'Grady & Lane, 1996). These results make intuitive sense because SMEs in global industries can offer standardized products worldwide; thus, the impact of cultural differences and geographic distance may be reduced. For example, an SME exporting to either a geographically distant or culturally different country could still face relatively low uncertainty in a global industry because its TMT would not have to gather local information to adapt the product. Environmental uncertainty, thus, may result from a combination of market and industry factors. To investigate this possibility, we reanalyzed our data with new measures created by combining industry globalization with geographic distance and cultural difference, respectively.

Tables 3 and 4 summarize the regression results for this additional analysis. As shown in these Tables, results generally support our additional analysis. Table 3 shows the interaction between environmental uncertainty (geographic distance x global industry) and TMT heterogeneity produces a significant ($p < .05$) change in R^2 for both export percentage and profit. Functional heterogeneity produces the strongest support for the hypothesized relationship having a positive effect for both performance measures. In contrast, the language proficiency and work experience heterogeneity have a negative relationship with export percentage and profit, respectively, contrary to expectations. These contrary results will be discussed below.

Table 3 - The Effects of Geographic Distance and Industry Type on the Relationship between TMT Heterogeneity and Export Performance

	Export Percentage		Export Growth		Export Profit	
Variables	**1**	**2**	**1**	**2**	**1**	**2**
Intercept	12.41	40.64†	2.30	3.28*	3.69***	5.09***
Export Age	.28†	.21	.01	.01	.01	.01
TMT Size	.82	.57	.18†	.19*	.02	.02
International Orientation	12.14*	15.50**	.52†	.51†	.21	.24
Export Mode	-1.15	1.52	.12	.15	-.32†	-.31†
Total Sales	-1.67	-1.48	-.03	-.03	.10	.12
Non-North American Country x Global	.39	-2.64†	.03†	-.06	-.00	-.11
Heterog in Function	7.26	-37.44	-.77	-2.36	-1.25	-4.03**
Heterog in Speaking Foreign Language	-19.29	1.22	-.42	.17	-.62	-.60
Heterog in Int'l Work Experience	-2.12	-38.82†	-.71	-.89	-.10	1.13
Non-NA x Global Heterog in Function		4.20†		.14		.22*
Non-NA x Global Heterog in Foreign Language		-2.89†		-.06		-.02
Non-NA x Global Heterog in Int'l Work Exp		3.82*		.03		-.11*
Df	(9, 59)	(12, 56)	(9, 57)	(12, 54)	(9, 57)	(12, 54)
R^2	.14	.27	.18	.20	.15	.29
F	1.05†	1.72†	1.39	1.14	1.14	1.80†
Change in R^2		.13		.02		.14
F		3.36*		.50		3.34*

$^{\dagger}p < .10$, $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$

Table 4 shows the interaction between environmental uncertainty (cultural difference x global industry) and TMT heterogeneity produces a significant ($p<.01$) change in R^2 for export profit. Again, functional heterogeneity produces support for the hypothesized relationship.

Table 4 - The Effects of Cultural Differences and Industry Type on the Relationship between TMT Heterogeneity and Export Performance

	Export Percentage		Export Growth		Export Profit	
Variables	**1**	**2**	**1**	**2**	**1**	**2**
Intercept	18.63	32.48†	2.70**	3.46**	3.58***	4.71***
Export Age	.28†	.29†	.01	01	.01	.01*
TMT Size	1.05	.86	.19*	.19*	.02	.03
International Orientation	12.39*	12.93*	.53†	.58*	.18	.21
Export Mode	-1.89	-2.12	.07	.08	-.31†	-.35
Total Sales	-1.71	-1.91	-.03	-.07	.08	-.01
Non-Anglo Country x Global	.32	-.79	.02	-.08	.01	-.07
Heterog in Function	-.11	-19.75	-1.10	-2.21†	-1.09	-2.91**
Heterog in Speaking Foreign Language	-19.57	19.17	-.39	.25	-.63	.41
Heterog in Int'l Work Experience	-4.50	-32.25	-.77	-1.13	-.18	.84
Non-Anglo x Global Heterog in Function		1.79		.15		.19*
Non-Anglo x Global Heterog in Foreign Language		-3.22		-.05		-.09
Non-Anglo x Global Heterog in Int'l Work Exp		2.26		.04		-.08
Df	(9, 59)	(12, 56)	(9, 57)	(12, 54)	(9, 56)	(12, 53)
R^2	.13	.19	.15	.18	.16	.31
F	.99	1.09	1.15	1.15	1.14	1.96*
Change in R^2		.06		.03		.15
F		1.35		.66		3.89**

$^{\dagger}p < .10$, $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$

DISCUSSION AND CONCLUSION

Prompted by increased small business exporting, research has examined the relationship that TMT characteristics have with export performance. Building on this research, the present

results show the relationship between TMT heterogeneity and export performance varies across SMEs depending on environmental uncertainty.

The results provide both interesting managerial and theoretical implications. For managers, they suggest that functional heterogeneity provides performance benefits to SMEs competing in high uncertainty international environments. These findings are consistent with previous research suggesting that the skill variety resulting from this heterogeneity has value for TMTs, especially those contending with diverse, changing environments (Hambrick et al., 1996). Interestingly, however, the results also suggest that other forms of TMT heterogeneity (e.g., language proficiency or work experience) do not unequivocally provide performance benefits given the negative coefficients for some heterogeneity/environmental uncertainty interactions. These mixed findings suggest that whereas having TMT members who have foreign language proficiency or overseas work experience may be valuable for SMEs that export (as demonstrated by the positive significant relationship between "international orientation" and export performance), increasing heterogeneity in these TMT attributes may impede communication among members and, thus, have negative effects on TMT decision making (Wiersema & Bird, 1993).

For theory, the results shed some light on a possible reason for mixed results in previous research examining environmental uncertainty factors such as geographic and cultural distance. The weak results for individual factors coupled with stronger results for the combination of market and industry factors provide evidence that conflicting results in previous research examining environmental uncertainty may result from sampling firms in different types of industries. Accordingly, these findings show that future studies should consider both factors when examining environmental uncertainty's impact on international business operations. These results coincide with other recent research showing how examining multidimensional aspects of international risks can impact managerial decisions (e.g., Brouthers & Brouthers, 2001).

Limitations

These results should, of course, be interpreted in light of the study's limitations. Most importantly, this research provides a cross-sectional view of the relationship between TMT heterogeneity and export performance. Thus, the resulting significant relationships cannot be assumed to be causal; that is, increased TMT functional heterogeneity helps SMEs improve performance more in high uncertainty than in low uncertainty environments. The relationship, in fact, may be driven by reverse causality; that is, exporting to markets with higher environmental uncertainty may prompt SMEs to hire TMT members with diverse functional backgrounds to help the firm contend with this uncertainty. The study mitigates the cross-sectional limitation somewhat by using 3-year average performance measures as well as controlling for an SME's export experience. However, future research should employ a longitudinal research design to further examine the direction of the TMT heterogeneity-performance relationship.

Future Research

The results suggest possible three future research avenues. First, future research could examine whether TMT heterogeneity affects other organizational outcomes such as propensity to export (Axinn, Savitt, Sinkula, & Thach, 1995). Specifically, previous research has shown that some types of heterogeneity are associated with both the geographic dispersion of a firm's foreign operations and its dependence on foreign sales (Carpenter & Fredrickson, 2001).

Second, future research could move beyond heterogeneity measures to examine the underlying constructs associated with heterogeneity. This study represents an initial attempt to examine this relationship in small business international context and using heterogeneity as a measure of TMT decision-making complexity. As noted in recent studies, however, heterogeneity only serves as a surrogate for these TMT processes; thus, future research should attempt to move beyond the "black box" of heterogeneity measures and examine TMT decision making directly (Kilduff, Angelmar, & Mehra, 2000).

Third, future research could examine other sources of environmental uncertainty that could affect the relationship between TMT heterogeneity and export performance. For example, Brouthers and Brouthers (2001) recently found that the stability managers perceive in an overseas market's social, economic, and political environment can also impact business decisions. Thus, future studies could examine these and other market factors that, along with cultural and geographic distance, may interact with industry factors to affect SME exporting outcomes.

In conclusion, investigating key success factors in small business exporting remains a critical area for research. Results from this study indicate that TMT functional heterogeneity is related to higher export performance when an SME competes in a high uncertainty environment. Results also indicate that environmental uncertainty can vary based on both market and industry characteristics. Overall, these results provide evidence for the important role TMT decision processes play in small business exporting. They also present possible explanation for mixed results in previous research regarding environmental uncertainty's influence on international business outcomes.

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(APPENDIX ON FOLLOWING PAGE)

Appendix - Means, Standard Deviations, and Intercorrelations of Study Variables

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Export percent	22.23	17.89													
2. Export profit	3.00	.82	.29												
3. Export growth	3.04	.96	.48	.47											
4. Total sales	4.93	1.17	***.02***	.17	.08										
5. TMT size	3.55	1.54	***.02***	.11	.22	.49									
6. Export age	19.28	14.28	.11	.12	.06	.14	.06								
7. Export mode	2.03	.58	.05	***.19***	***.06***	***.16***	***.26***	.01							
8. Internat-ional orientation	.59	.61	.33	.11	.24	.00	***.05***	***.01***	***.15***						
9. Heterog in Function	.61	.13	***.03***	***.13***	***.01***	.23	.49	.11	***.08***	***.06***					
10. Heterog in Language	.13	.20	.04	.01	.08	.07	.06	.09	***.16***	.60	.08				
11. Heterog in Int'l Work Exp	.21	.22	.14	.09	.06	.16	.17	***.01***	***.14***	.45	***.06***	.31			
12. Non-North American country	.61	.49	.31	.23	.31	.10	.10	***.01***	***.17***	.11	***.13***	.19	***.02***		
13. Non-Anglo culture	.67	.47	.30	.28	.23	.16	.13	.03	.01	.12	.13	.13	***.07***	.35	
14. Industry globalization	16.05	4.01	***.14***	***.34***	***.08***	***.21***	***.10***	***.18***	.07	***.01***	***.14***	***.04***	***.16***	***.08***	***.21***

Correlations greater than .22 are significant at $p<.05$. Note that Industry globalization is reversed scored.