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SME PERFORMANCE: A CASE FOR INTERNAL CONSISTENCY

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ABSTRACT

We develop the theoretical arguments for a contingent path relationship among variables representing the environment, capabilities, strategic orientation, and firm performance. The premise underpinning our study is that internal consistency or fit among contingent relationships yields higher performance levels. Structural equation modeling allows for the statistical examination of multiple relationships simultaneously to test our hypotheses. We find support for the notion that internally consistent paths lead to higher levels of performance for a sample of 181 mid-western small and medium-sized manufacturing firms. A discussion of the implications for these findings with respect to managerial practice and future research is provided.

Understanding organization performance is the cornerstone on which the field of strategic management has been built. The ultimate question of interest to strategic management researchers is "What yields higher performance levels for firms?" A large portion of our collective effort over the past three-plus decades has sought to identify and explain the various antecedent factors and conditions that may lead to higher levels of performance.

An important and growing subset of the strategic management literature is research on small and medium-sized enterprises (SMEs) and entrepreneurial ventures. While performance is critical for all firms in a very general sense, SME and entrepreneurial venture survival in the very short term may depend upon the performance levels that managers (owners) may generate from their firm. Hence, understanding the 'what and how' of higher performance is also critically important for SME managers and entrepreneurs.

Many recent research studies (e.g., Chandler and Hanks, 1994; Covin, 1991; Covin and Covin, 1990; Qian and Li, 2003; Wolff and Pett, 2006; Zahra and George, 1999) provide clues and insights into the understanding of SME performance. To illustrate: Covin and Covin (1990) examined the effects of environmental context and competitive orientation on SME performance; Chandler and Hanks (1994) looked at the association between performance, market attractiveness, resource-based capabilities, and strategy; Wolff and Pett (2006) modeled the influence of product and process improvement on the growth and ultimate profitability of SMEs; and Zahra and George (1999) compared the performance outcomes of the manufacturing strategy enacted by corporate new ventures versus independent new ventures in the Each of these studies contributes to the body of

knowledge regarding the SME strategic processes that may yield higher performance levels.

However, our understanding is far from complete. There are many antecedent variables and pathways through which the variables may work. Additionally, the variables may interact or suppress relationships in ways such that counterintuitive results may be revealed by sophisticated data analysis methods. In this research we propose logical arguments for two divergent pathways through which SMEs may realize greater profitability.

In the sections that follow, we propose a path diagram for SMEs that relates environmental conditions, organizational capabilities, and strategic orientation to profit performance. We begin with a review of the literature and the development of our hypothesized relationships. Next, we discuss the data and research method used to test our propositions. Following the methods section, we present an analysis of the results of statistical methodology and last, we present a discussion of our findings with implications for research and managerial practice, and discuss the limitations of this research.

LITERATURE REVIEW AND HYPOTHESES

One of the early theoretical frames proposed in strategic management was environmental determinism. For example, the industrial organization economics view articulated by Porter (1980) proposed that industry structure (i.e., the industry environment) exerts major influence on the profitability of firms within the industry's bounds. The structure-conduct-performance (SCP) paradigm with environmental determinism (Astley and Van de Ven, 1983) at its heart represented the core of the strategic management field until the early 1990s when the resource-based view (Barney, 1991 and the special issue of *Journal of Management*) gained considerable traction. The resource-based view (RBV) is firmly rooted in the strategic choice tradition and argues, very generally, that firm performance is the result of appropriate strategies enacted with the proper resources and capabilities present in the firm.

In the organization theory literature, Hrebiniak and Joyce (1985) proposed the existence of an orthogonal relationship between environmental determinism and strategic choice. Again, very generally, the thrust of the argument is that the external environment and internal choices (strategic decisions) made by managers interact to yield predictable outcomes regarding organizational performance. Empirical tests of the Hrebiniak and Joyce (1985) propositions were undertaken by Lawless and Finch (1989) and Marlin, Lamont, and Hoffman (1994) with the latter providing significant support. Bedeian (1990) articulated ". . .it makes little sense to speak of an organization apart from its environment" because of the reciprocal nature of the relationship between organization and environment.

It is with this backdrop of research tradition that we begin building a case for our research model. We argue that the environment (perceived environmental uncertainty) elicits an assessment of opportunity and the firm's ability to capitalize by means of its capabilities. Further, it is the firm's capabilities that drive the selection of an externally-oriented or an internally-oriented strategy. It is the subsequent consistency with which these paths are implemented that yield higher firm performance levels. Figure 1 illustrates the path model that we propose and test.

Environment

Uncertain, unstable, or hostile business environments may yield difficult conditions for all business firms. However, for SMEs, the margin for error can be particularly thin.

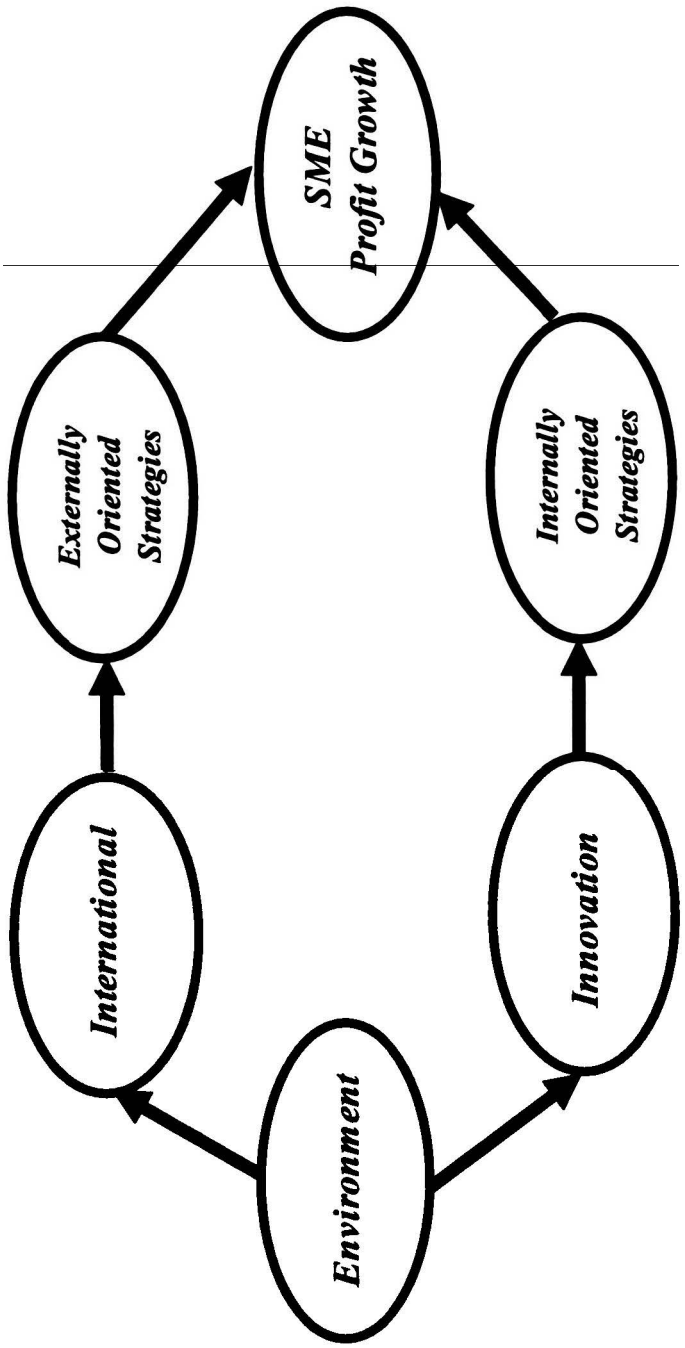

Figure 1 – Hypothesized Research Model

Larger firms may be able to exert relatively greater influence over their environment than small firms. Thus, the impact of externalities might be minimized by the actions of large firms whereas small firms are less likely to successfully shape environmental contingencies. Therefore small firms will likely turn inward and rely on internal characteristics to cope with uncertain or hostile business environments. Organizational flexibility and entrepreneurial posture (i.e., innovation, proactiveness, and risk-taking) can mitigate the effects of hostile environments for SMEs (Covin and Slevin, 1989; Lau, Man, and Chow, 2004; Swierczek and Ha, 2003). Small firms may also be characterized as aggressive in difficult environments (Covin and Covin, 1990).

Many SMEs are owner-controlled and managed with owner interests closely aligned with those of the firm (Zahra and George, 1999). Given this characteristic and the thin margin for error confronting SMEs, flexibility and proactiveness with respect to environmental conditions may be critical elements of the managerial repertoire. Indeed empirical evidence suggests that entrepreneurially-oriented firms seem to perform best in hostile environments (Covin and Slevin 1989). For the purpose of this research study, we propose that uncertain environments lead managers to examine the resources and capabilities of the firm to pursue various courses of action in response to environmental conditions. Two divergent capability sets that SME managers may consider regarding performance growth are to either expand the geographic space of markets served or capture a greater proportion of existing markets.

Geographic market expansion may take a variety of forms that require different levels of capabilities. SME expansion into international markets, whether an initial foray or movement into additional international markets, represents a very significant step by managers. Such a step likely requires possession of a distinctive capability set different from that required for geographic expansion within the firm's domestic country setting. For this reason, we state our first hypothesis in terms of internationalization capability.

H1: Environmental uncertainty is positively related to internationalization capability.

The ability of an SME to accomplish greater market penetration may be dependent upon a very different capability from that of entering new markets. What SMEs lack in resource endowments may be compensated for by flexibility, agility, and their capability to innovate (Acs and Yeung, 1999; Buckley and Mirza, 1997; Qian and Li, 2003). Innovation and proactiveness as a response to environmental uncertainty may lead SMEs to process improvements to lower costs, or product improvements to better meet customer needs. New products and product modifications allow business firms to achieve market leadership and grow market share (Iansiti, 1995). For example, innovative products facilitate market share growth by attracting customers from rivals (Zahra and Nielsen, 2002).

H2: Environmental uncertainty is positively related to innovation capability.

Internationalization

SME internationalization has a long and rich history in the research literature (e.g., Johansen and Vahlne, 1977; McDougal, Shane, and Oviatt, 1994; Wolff and Pett, 2000). The "stage theory" of internationalization (Johansen and Vahlne, 1977) has been the dominant research frame for much of the history. McDougal, Shane, and Oviatt (1994) articulated effectively that some firms are international at founding. Although stage theory has empirical support (Anderson, 1993; Barkema, Bell, and Pennings, 1996; Bilkey and Tesar, 1977), not all SMEs follow an orderly pattern (Wolff

and Pett, 2000) and some are international at inception (McDougal, Shane, and Oviatt, 1994). However, a common thread to SME internationalization is the necessity for the firm to strategically look externally beyond firm boundaries to successfully expand its market size and thereby enhance its performance levels.

A common step in the internationalization process for many SMEs is responding to foreign customer inquiries. SME internationalization in the form of sporadic or experimental activity is categorized as an initial phase in the process (Leonidou and Katsikeas, 1996). Following the initial phase and the relative success of efforts during this phase, many SME firms progress to an advanced phase (Leonidou and Katsikeas, 1996) in which they actively engage internationalization activities ranging from simple exporting to foreign direct investment. SME internationalization capability is related to the knowledge, experience, and attitude possessed by the firm's top management team (Reuber and Fischer, 1997). Given a penchant for internationalization, SMEs are likely to adopt strategies that will facilitate the process of internationalization for the firm. Such strategies are likely to be relation-building activities directed at gaining cooperation or access to the targeted new market. As such, we argue that the strategies are externally (focus is external to the boundaries of the firm) oriented.

H3: Internationalization is positively related to externally oriented strategy.

Innovation

Typically SMEs are characterized as resource constrained when comparison is made to large-sized firms. Therefore, to effectively compete in the marketplace, SMEs must either neutralize the disadvantage that size may create or turn a resource constraint to their advantage. While SMEs may lack resources *vis-à-vis* their large-firm counterparts, there is general agreement that SMEs are more flexible, agile, and innovative (Acs and Yeung, 1999; Buckley and Mirza, 1997; Qian and Li, 2003).

Innovation for SMEs may generally be categorized into either of two forms: product-oriented or process-oriented innovation. Verhees and Meulenberg (2004) found that many times SME innovation is manifested in the form of product modification while Romano (1990) argued that the internal drivers for SME growth from innovation were technology, R&D, and the ability to generate a competitive edge in the firm's product market. The capability to innovate and adapt new technology to make product and process modifications is likely due to the greater creativity and innovativeness of small-firm employees (Acs and Yeung, 1999).

New products and product modifications allow business firms to achieve market leadership, growth, and improve profitability (Iansiti, 1995). Innovative products may facilitate market share growth by attracting customers from rivals or open new markets to the firm thereby attracting new customers (Zahra and Nielsen, 2002). Kyriakopoulos and de Ruyter (2004) found that the effective use of a firm's stock of innovation know-how combined with new information in-flows allowed SMEs to create new products yielding improved firm performance. The thrust of our arguments lead us to the conclusion that innovation capability is focused on strategies that deal with products and processes within the firm's boundaries and are therefore internally-oriented strategies.

H4: Innovation is positively related to internally-oriented strategy.

In making our arguments for the distinction between externally-oriented and internally-oriented strategy, we do not imply that the firm's focus is exclusive in either direction.

What we wish to convey in our arguments and the resulting hypotheses above is that the preponderance of strategic effort and outlook by the SME is external to new markets or internal to products and processes.

Performance

The arguments we have presented thus far lay out two distinct paths. One associative path argues the case for the relationship between environmental uncertainty, internationalization capability, and externally-oriented strategy. Another path argues the case for the relationship between environmental uncertainty, innovation capability, and internally-oriented strategy. If these relationships hold under empirical scrutiny, each path may be interpreted to have a high level of internal consistency with respect to the management decisions and actions taken by SMEs. With capabilities, decisions, and strategies that are internally consistent, each path may lead the firm to higher levels of performance. In other words, firms may take dissimilar paths to achieve similar outcomes (Galbraith and Kazanjian, 1986). However, at this point in our discussion, we make no conjecture that SMEs choose one or pursue both. We argue that both paths may lead to higher performance as long as there is internal consistency or fit among the contingent actions managers may enact.

In the discussion above, we presented the notion that many (though not all) SMEs progress through stages (Johansen and Vahlne, 1977) in the development of their internationalization capability. Effective implementation of strategies to utilize internationalization capability is a significant undertaking for SMEs. Under the premises of stage theory, SMEs operate from an established base of business activity in their domestic market while implementing strategies to successfully expand their geographic markets. Researchers report certain internal firm conditions that help to successfully carry out the firm's strategies including experience among the top management team (Bilkey and Tesar, 1977; Garnier, 1982; Moon and Lee, 1980), special competitive advantages (Jaffe, Pasternak, and Nebenzahl, 1988), the possession of unique products, profit advantage, and technological competence (Koh, 1989) and excess production capacity (Kaynak, Ghauri, and OlofssonBredenlow, 1987). Each of these conditions aids the firm in successful implementation of its strategies and may lead to higher performance.

H5: Externally-oriented strategy is positively related to performance.

In a recent study, Verhees and Meulenberg (2004) linked market orientation, market intelligence, and product innovation to performance. Information-gathering, market understanding, and sense-making are necessary precursors for SME performance. Such a market orientation is likely to elicit development of the internal resources and capabilities commensurate with adequately meeting the markets needs with appropriate products. Chandler and Hanks found that "[f]irms with higher levels and broader varieties of resource-based capabilities grew faster and had higher levels of business volume" (1994: 343). Performance growth is related to R&D, product innovation, and the ability to gain competitive advantage in the product market (Romano, 1990). Product improvements and new products provide firms the momentum for market leadership and growth (Iansiti, 1995). Product innovation opens firms to market share growth and hence sales growth by increasing the customer base in current markets or attracting new customers by opening new markets to the firm (Zahra and Nielsen, 2002).

Covin (1991) contrasted an entrepreneurial strategic posture with conservative strategic posture in business firms. Several important differences emerged in Covin's analysis. However, an important similarity in the contrast was the emphasis on operating

efficiency by both the entrepreneurial and conservative SMEs. Hence attention to organizational process improvements to affect operating efficiencies may be relatively universal among SME firms. Resource-constrained firms must get maximum productivity from the resources they possess. We postulate that all of the above are illustrative of inwardly-oriented strategic positions which yield higher performance levels for SMEs.

H6: Internally-oriented strategy is positively related to performance.

We have chosen to articulate the hypotheses in our model strictly along the paths discussed. Obviously there can be arguments made and hypothetical relationships proposed between environment and internal- or external-oriented strategy, and between innovation capability and external-oriented strategy and internationalization capability and internal-oriented strategy. However, such relationships, if present, would undermine our contention that each path represents an internally consistent pattern within the SME. Since we will be employing structural equation modeling (SEM) analytical procedure as specified below, we will test a saturated model and report on these relationships regarding how they either do or do not support our premises regarding internal consistency.

METHODOLOGY

Design

The survey questionnaire method was employed to examine the above hypothesized relationships in our proposed model. From a directory of business firms published by the largest newspaper in a mid-western state, we compiled a list of all firms self-reporting their market scope as national or international. Secondly, we eliminated all firms from the list that were large (those with 500 employees or more) and non-manufacturing. The resulting database comprised 4,614 businesses, from which 855 firms were randomly selected for our survey administration. Our selection process yielded a sample that was all small or medium-size firms (fewer than 500 employees) and representative of manufacturing firms from a cross-section of industries. A letter and survey questionnaire with a self-addressed return envelope was sent directly to the president (owner) of the business soliciting a response to the questionnaire. Postcard reminders were also mailed out three weeks after the initial questionnaires. This technique resulted in 198 responses, of which 182 provided complete information needed for this study. The overall response rate was 21 percent, which is consistent with similar studies that survey top management or owners (Hambrick, Geletkanycz, & Fredrickson, 1993).

Measurement

Performance

Performance is a multidimensional construct, and managers/owners of SME firms are often reluctant to provide objective information regarding the dimensions of sales, asset utilization profitability, or changes along any of these dimensions. This reality makes it extremely difficult to gain objective measures for the construct. Following other researchers that have examined SME performance (e.g., Chandler and Hanks, 1994; Zahra and George, 2000) we asked respondents to answer questions concerning their performance level in comparison to the overall industry. The categorical performance scale used for each item was based on a five-point Likert scale format (1 - *lowest 20 percent* to 5 - *highest 20 percent*) asked in relation to their firm's performance level compared to the industry average. Because of the aforementioned multidimensionality, respondents were asked their firm's performance levels relative to the industry for return on sales (ROS), sales

growth, and return on assets (ROA). We believe this process adequately measured the multiple dimensions of SME performance.

Although we expected that SME firms employed these multiple dimensions of performance consistent with our thinking, research results have been very limited when dealing with the phenomena of SME performance (Chandler & Hanks, 1994). Therefore, we undertook an exploratory assessment through a principal component factor analysis with a varimax rotation to determine if the different performance dimensions adequately represented the construct. The result from this analysis suggests the presence of a single solution representing SME performance. The performance measure was determined reliable (Cronbach a = .77). For analysis purposes we labeled the measure 'Performance.'

Environmental Uncertainty

The environmental uncertainty construct was measured using five distinct items similar to Covin and Slevin's (1989) approach used to asses the environment. Respondents were asked how they perceived general environment conditions over the next few years for their businesses. The five-items they responded to included the economic; demographic; political/legal/regulatory; international/global; and societal issues facing their firm. The scale used was based on a five-point scale which ranged from 1 indicating *highly unfavorable* to 5 indicating *highly favorably*. The five-items were then analyzed using an exploratory principal component factor analysis with a varimax rotation. A single construct emerged, which also proved highly reliable (a= .75), this we labeled 'Environment.'

Internationalization

Respondents were asked five questions concerning the firm's current international activities and their intentions regarding future international activities. These items were based on Campbell's (1996) research, which suggest actions may impact managerial decisions, especially when it comes to exporting. Therefore, we asked a series of questions dealing with internationalization intentions centered on a firm's desire to either continue or develop such capabilities. The focus of these questions was to get a better grasp or understanding of a firm's degree of interest concerning internationalization. The items were scaled on a five-point Likert type scale (1 - *strongly disagree* to 5 - *strongly agree*). The five questions were – exporting is a desirable task for my firm; my firm is planning to export; my firm is planning to export to new markets; to fulfill a need in an international market; and production capacity to meet international demand. The factor analysis provided a single solution and yielded a high degree of reliability (a = 0.90). The underlying construct was labeled 'Internationalization Capability'.

Innovation Capability

Innovation capability was determined by using an adaptation of Qian and Li's (2003) measure. R&D expenditures are an indicator of how innovative a firm may be, e.g. higher expenditures signify more commitment and hence more innovation. Qian and Li (2003) employed objective measures of year-over-year change in R&D expenditures as their measure. Since we are dealing with private firms, as noted above objective measures are difficult to obtain. Therefore, we measured innovation capability with a single measure asking the respondents how their firm's R&D expenditures changed relative to the industry as a percent of sales when compared to the previous year (Qian and Li, 2003). The scale for this item was based on a five-point Lickert type scale (1 = *lowest 20 percent* to 5 = *highest 20 percent*). This construct was labeled 'Innovation Capability.'

Externally-oriented strategy

Externally-directed strategy was measured by asking respondents three questions dealing with the strategic growth activities they would be taking over the next few years to improve their firm's competitive position in the industry. The three items included: making an acquisition; exploring a joint venture; seek a cooperative strategic alliance. For each of these items we used a five-item response scale ranging from 1 = *not at all important* to 5 = *very important*. Principal component factor analysis with a varimax rotation resulted in a single underlying construct represented by the three questions. The reliability of the scale was acceptable (a = 0.79) and we labeled the construct 'External Strategy.'

Internally-oriented strategy

To measure internally-oriented strategy, respondents were asked four questions relating to internal strategic growth options. Respondents were asked these questions relative to likely actions they would be taking over the next few years to improve their firm's competitive position in the industry. The four items included: initiate a new product line; undertake new product development; acquire new production technology; and creation of new products/services. We used a Likert type five-item measure (1 - *not at all important* to 5 - *very important*). Again, a principal component factor analysis with a varimax rotation was utilized. The resulting single construct was found to be reliable (a = .84) and we labeled this construct 'Internal Strategy.'

ANALYSIS AND RESULTS

Measurement validation

We used a multistage process to examine the construct validity as outlined by Anderson and Gerbing (1988). As stated above, for each construct, we examined the item to total correlations and performed exploratory principal component factor analysis. We did this because the scales we employed were somewhat different from other studies in the field. We then conducted a confirmatory factor analysis to test for the multidimensionality and convergent validity of the constructs.

The results of the confirmatory factor analysis suggest that all composite constructs were adequate and could be used in the analysis. The scale items, factor loadings, reliability, and fit statistics are all in the acceptable range. The results suggest that the standardized loadings are highly significant for all items and the underlying constructs are valid. In addition, the fit indices for the analytical model suggest that the model fits the data very well (χ^2/df = 2.29, RMSEA = .05, NFI = .96, NNFI = .97, CFI = .98). This confirmed the dimensionality and convergent validity of the constructs in the model (Anderson and Gerbing, 1988; Fornell and Larcker, 1981). Table 1 reports the means, standard deviations, and correlations for the constructs. These findings provide further evidence for discriminant validity of the measures employed in this study.

Research Model Testing

The original data was used as the input to test the proposed research model as represented in Figure 1. We employed the Amos software package in SPSS. Following Anderson and Gerbing's (1988) recommendations, the error variances of the composite scores representing the underlying latent variables were set for each composite indicator. The complete research model results from this analysis are reported in Table 2. The findings show a good fit based on the various fit measures (χ^2/df = 2.45, RMSEA = .06, NFI = .96, NNFI = .97, CFI = .98).

The results reported in Table 2 present the results of the structural equation modeling

Table 1 - Correlations, Means and Standard Deviations of Study Variables [a]

Variables	Mean	S.D.	1	2	3	4	5
Environment	3.32	.56					
International	3.53	.99	.365**				
Innovation	2.92	1.81	.314*	.259*			
External	2.75	1.12	.280*	.438**	.236*		
Internal	3.47	.74	.287*	.334*	.382**	.399**	
Profit Growth	3.31	.83	.402**	.384*	.429**	.413**	.460**

*$p < .01$; **$p < .001$;

Table 2 - Results - Model Parameter Estimates and Fit Statistics

Estimates and Fit Statistics	Standardized Estimate	Critical Ratios	R^2
Model Parameters:			
Environment → Innovation	.510	6.26	.26
Environment → International	.488	5.64	
Innovation → International	.125 [ns]	1.43	.31
Environment → External	.159 [ns]	1.56	
Innovation → External	.121 [ns]	1.32	
International → External	.395	4.48	.34
Environment → Internal	.136 [ns]	1.37	
Innovation → Internal	.299	3.11	
International → Internal	.268	3.10	.32
External → Profit Growth	.260	3.03	
Internal → Profit Growth	.262	3.17	.18
Goodness-of-Fit Statistics:			
$\chi^2/df = 2.45$			
RMSEA = (.06)			
ECVI = 3.281 (ECVI for Saturated Model = 2.785)			
NFI = .96			
NNFI = .97			
CFI = .98			

R^2 indicates the proportion of variance accounted for each of the constructs.

(SEM) analysis used in this effort. As shown, the analysis illustrates a significant positive relationship between environment and international capability (support for Hypothesis 1); a significant positive relationship between environment and innovation capability (support for Hypothesis 2); a significant positive relationship between international capability and external strategy (support for Hypothesis 3); a significant positive relationship between innovation capability and internal strategy (support for Hypothesis 4); and significant positive associations between both external and internal strategy and performance (support for Hypotheses 5 & 6). In sum, all of the hypotheses stated above were supported by the results of the analysis. In addition, recall that we wanted to examine the level of internal consistency with respect to each of the paths proposed. Also presented in Table 2 are the levels of association between environment and external and internal strategy (both relationships are non-significant), the level of association between innovation capability and international capability (not significant), and the association between innovation capability and external strategy (not significant) and international capability and internal strategy (significant). To summarize this additional analysis beyond the relationships proposed in our model, the only significant association found was between international capability and internally-oriented strategy. In total, these results suggest that the path of relationships proposed are internally consistent with the ability of SMEs to achieve a relatively high level of performance (approximately 18% of the variance in performance is accounted for in this research model). We will discuss this in more detail in the discussion and conclusions section below. Figure 2 presents the results of our analysis in graphic form.

DISCUSSION AND CONCLUSION

At the beginning of this paper we set forth the goal to examine two alternate paths that SME firms might follow to achieve higher levels of firm performance. We presented the theoretical underpinnings for specific hypotheses relating the various constructs examined and found considerable empirical support for the model we proposed. However, there are certain limitations to this research report that need to be factored into the discussion about the managerial implications and generalizability of the findings to SME firms.

First, the current study examined a cross-sectional sample of businesses competing in a range of industries. The cross-sectional nature of this study is somewhat mitigated by the fact that only SME manufacturing firms were included in the sample This approach allowed for us to generalize the study's results somewhat; however, it would be beneficial to examine firms in specific industries or, even more narrowly, industry groups. Such research would help managers to understand where the relationships hold and where they may not hold. Second, the measures we employed reflect the objectives of this study; however, the measures are not all-inclusive of the various concept-ualizations in the SME literature. Alternate conceptualization may indeed yield very different outcomes from what we have found in this study. Such results could be very beneficial in better refining the concepts researchers use, but managerial application could yield less than fruitful outcomes. We believe this to not be the case, but would like to err on the side of conservative application and raise the possibility. Finally, the study's use of self-reported, subjective measures as provided by key respondents to capture the constructs may yield biased results. Unfortunately, the nature of the firms studied (i.e., SMEs) severely inhibits the collection of secondary objective data with which to compare and corroborate key informant responses. This is particularly true with respect to the performance data, which is a key dependent variable in our study. All of these issues remain to be addressed by future

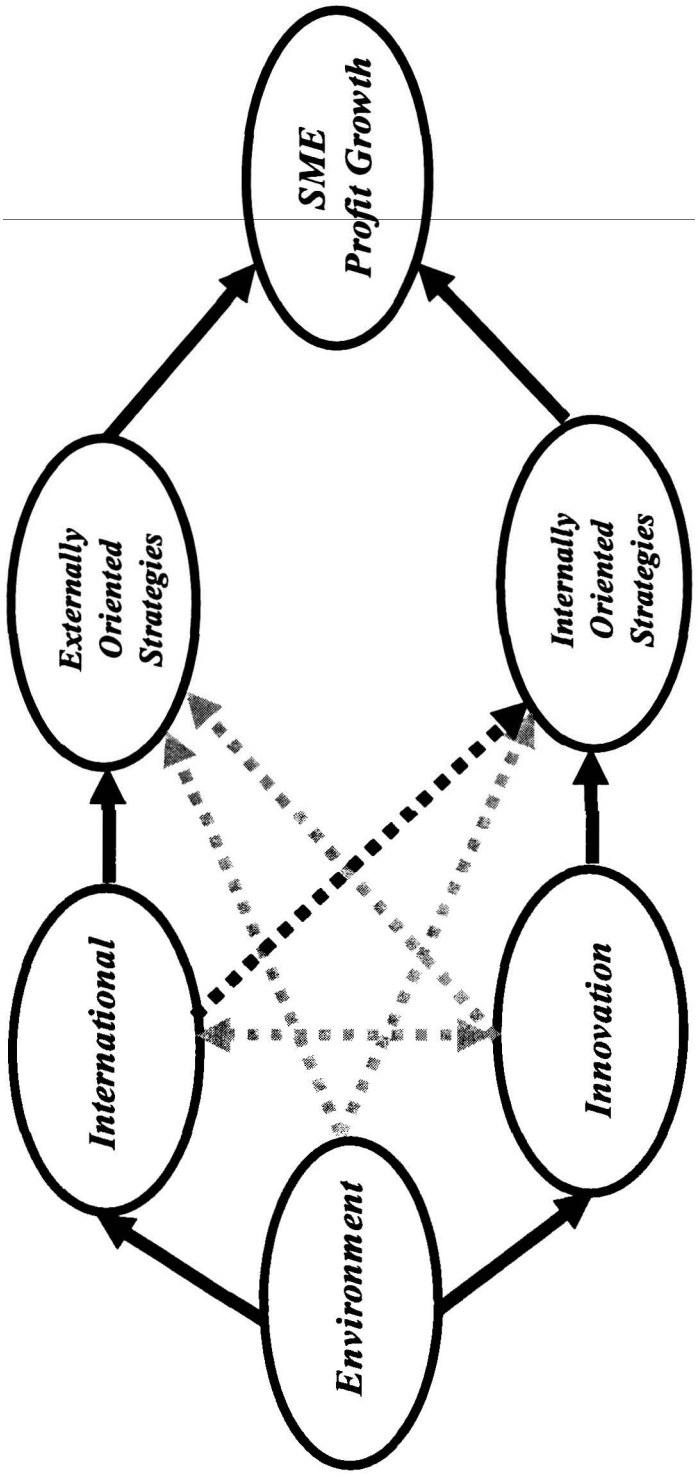

Figure 2 – Research Model Results

(Hypothesized relations solid lines; exploratory relations dotted lines; significant relations black; non-significant relations grey)

studies.

As we presented in the results section above, the outcomes of this research project generally support the path model that we have specified with respect to SME performance and research-based antecedents to performance. The most significant contribution this research makes is the internal consistency, or "fit" (Venkatraman, 1989) that the theoretically derived and empirically supported path relationship represents with respect to SME performance. Our results suggest that consistency between environmental conditions, international capabilities, and external strategic orientation yield higher levels of performance for SMEs. At the same time it supports the contention that consistency between environmental conditions, innovation capability, and internal strategic orientation yield higher levels of performance. The lack of significant relationships between constructs outside the path also lends credence to the notion of fit and internal consistency. In other words, innovative SMEs may not be well served by a strategic orientation that leads them to consider acquisitions, alliances, or joint ventures.

The one exception to a clean model was the significant relationship between international capability and an internal strategic orientation. This may be explained by the proposition that an international capability is more universally applicable than is innovative capability. In other words, international capability may be useful in both opening new markets and penetrating existing markets to gain greater overall market share. In a recent study, Verhees and Meulenberg (2004) argued that internationalization capability represents openness to learning and capability development with respect to product and process improvements. Efforts to internationalize an SME may provide the impetus to improve internal processes for efficiency, adapt products for foreign markets, or develop new lines of products for international customers. SME internationalization and the relationship to strategy and performance may be very fruitful areas for future research.

As Bedeian (1990) implied, firms are embedded within their environment, they adjust to their environment, and they help to shape their environment. Our results indicate that environmental factors play a significant role with respect to the capability set and strategic orientation alignment to achieve higher levels of performance. Though our study was cross sectional, a reasonable extrapolation of the study's implications regarding successive time periods is a recursive SME growth-model. In such a model (for both paths illustrated above) the feedback loop would extend from performance outcomes back to managerial interpretations of environmental conditions with subsequent adjustment to capabilities and strategies. Absent longitudinal studies and data, a recursive SME growth-model is conjecture, but would add greatly to our understanding of the SME growth process.

Our goal in this study was to propose logical and theoretical arguments for a path model of environment-capability-strategy-performance and empirically test its appropriateness and viability with data from a sample of SME managers. The outcomes reported above support the notion that internally-consistent capabilities and strategies are important for SME performance.

IMPLICATIONS FOR PRACTICE

Practicing managers are consistently on the lookout for ideas that will help them manage their firms more effectively for better profitability and growth. In this study we provide support for the notion that internal consistency between environment, organizational capability, and strategy may yield higher levels of profit growth in small and medium-sized firms. In our terminology, internal consistency is

synonymous with the concept of fit. Very simply stated, when conditions, resources and capabilities, and strategic actions "fit" together, the yield is a positive, superior outcome for managers and their organizations. Absent such a fit among these business contingencies, the firm may not be able to maximize performance relative to organizational effort. Given the arguments we provide in the paper and the results of our data analysis, we suggest that managers seek to understand the paths of decisions and actions relative to their organization's environmental context, organizational capabilities, and strategic actions. Strategic consistency seems to be rewarded.

REFERENCES

Acs, Z.J. &Yeung, B. (1999). Conclusion. In Acs, Z.J. & Yeung, B. (Eds) *Small and Medium-Sized Enterprises in the Global Economy*, 164-173. University of Michigan Press: Ann Arbor, MI.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin, 103*(3), 411-423.

Anderson, O. (1993). On the internationalization process of firms: A critical analysis. *Journal of International Business Studies, 24*(2), 209-231.

Astley, W.G. and Van de Ven, A.H. (1983). Central perspectives and debates in organization theory. *Administrative Science Quarterly, 28*, 245-273.

Barkema, H., Bell, J., & Pennings, J. (1996). Foreign entry, cultural barriers and learning. *Strategic Management Journal, 17*(2), 151-166.

Barney, J.B. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*, 99-120.

Bedeian, A.G. (1990). Choice and determinism: A comment. *Strategic Management Journal, 11*, 571-573.

Bilkey, W.J. & Tesar, G. (1977). The export behavior of smaller-sized Wisconsin manufacturing firms. *Journal of International Business Studies, 8*(Spring/Summer), 93-98.

Buckley, P.J. & Mirza, H. (1997). Introduction. In Buckley, P.J., Campos, J., Mirza, H. and White, E. (Eds) *International Technology Transfer by Small and Medium-Sized Enterprises: Country Studies*, 1-5. Macmillan: London.

Campbell, A. J. (1996). The effects of internal firm barriers on the export behavior of small firms in a free trade environment. *Journal of Small Business Management 34*, 50-58.

Chaganti, R., Chaganti, R. and Mahajan, V. (1989). Profitable small business strategies under different types of competition, *Entrepreneurship Theory and Practice, 13*(1), 21-35.

Chandler, G. & Hanks, S. (1994). Market attractiveness, resource-based capabilities, venture performance and venture performance. *Journal of Business Venturing, 9*, 331-349.

Covin, J.G. (1991). Entrepreneurial vs. conservative firms: A comparison of strategies and performance. Journal of Management Studies, *25*(5), 439-462.

Covin, J.G. & Covin, T.J. (1990). Competitive aggressiveness, environmental context, and small firm performance. *Entrepreneurship Theory and Practice, 14*(Summer), 35-50.

Covin, J. G. & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal, 10*(1), 75-87.

Fornell, C. and Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(February), 39-50.

Galbraith, J.R. and Kazanjian, R. (1986), *Strategy Implementation: Structure, Systems and Process (2nd edition)*,

New York: West.

Garnier, G. (1982). Comparative export behavior of small Canadian firms in the printing and electrical industries. In M.R. Czinkota & G. Tesar (Eds), *Export Management: An International Context,* 113-131. New York: Praeger.

Hambrick, D., Geletkanycz, M., & Fredrickson, J. (1993). Top executive commitment to the status quo: Some tests of its determinants. *Strategic Management Journal, 14*(6), 401-418.

Hrebiniak, L.G. and Joyce, W.F. (1985). Organizational adaptation: Strategic choice and environmental determinism. *Administrative Science Quarterly, 30,* 336-349.

Iansiti, M. (1995). Shooting the rapids: Managing product development in turbulent environments. *California Management Review, 38*(1), 37-58.

Jaffe, E., Pasternak, D.H. & Nebenzahl, I. (1988). The export behavior of small Israeli manufacturers. *Journal of Global Marketing, 2*(2), 27-49.

Johansen, J. & Vahlne, J.E. (1977). The internationalization process of the firm: A model of knowledge development and increasing foreign commitments. *Journal of International Business Studies, 8*(1), 23-32.

Kaynak, E., Ghauri, P.N. & OlofssonBredenlow, T. (1987). Export behavior of Swedish firms. *Journal of Small Business Management, 25*(2), 26-32.

Koh, A.C. (1989). An evaluation of the current marketing practices of United States firms. *Developments in Marketing Science, 12,* 198-203.

Kyriakopoulos, K. & de Ruyter, K. (2004). Knowledge stocks and information flows in new product development. *Journal of Management Studies, 41*(8), 1469-1498.

Lau, T. Man, T.W.Y. & Chow, I. (2004). Organizational capabilities and performance of SMEs in dynamic and stable environments. *Entrepreneurship and Innovation,* November, 221-229.

Lawless, M.W. and Finch, L.K. (1989). Choice and determinism: A test of Hrebiniak and Joyce's framework on strategy-environment fit. *Strategic Management Journal, 10,* 351-365.

Leonidou, L.C. and Katsikeas, C.S. (1996). The Export Development Process: An Integrative Review of Empirical Models. *Journal of International Business Studies, 27*(3), 517-551.

Marlin, D., Lamont, B.T. and Hoffman, J.J. (1994). Choice situation, strategy, and performance: A reexamination. *Strategic Management Journal, 15*(3), 229-239.

McDougal, P.P., Shane, S. & Oviatt, B.M. (1994). Explaining the formation of international new ventures: The limits of theories from international business research. *Journal of Business Venturing, 9,* 469-487.

Moon, J. & Lee, H. (1990). On the internal correlates of export stage development: An empirical investigation in the Korean electronics industry. *International Marketing Review, 7,* 16-26.

Porter, M.E. (1980). *Competitive Strategy.* New York: Free Press.

Qian, G. & Li, L. (2003). Profitability of small- and medium-sized enterprises in High-tech industries: The case of the biotechnology industry. *Strategic Management Journal, 24,* 881-887.

Reuber, A.R. & Fisher, E. (1997). The influence of the management teams international experience on the internationalization behaviors of SMEs. *Journal of International Business Studies, 28,* 807-825.

Romano, C.A. (1990). Identifying factors which influence product innovation: A case study approach. *Journal of Management Studies, 27*(1), 75-95.

Swierczek, F.W. & Ha, T.T. (2003). Entrepreneurial orientation,

uncertainty avoidance and firm performance. *Entrepreneurship and Innovation*, February, 46-58.

Venkatraman, N. (1989). The concept of fit in strategy research: Toward verbal and statistical correspondence. *Academy of Management Review*, *14*(3), 423-444.

Verhees, F.J.H.M. & Meulenberg, M.T.G. (2004). Market orientation, innovativeness, product innovation, and performance in small firms. *Journal of Small Business Management*, *2*(2), 134-154.

Wolff, J.A. & Pett, T.L. (2000). Internationalization of small firms: An examination of export competitive patterns, firm size and export performance. *Journal of Small Business Management*, *38*(2), 34-47.

Wolff, J.A. & Pett, T.L. (2006). Small firm performance: Modeling the role of product and process improvement. *Journal of Small Business Management*, *44*(2), 268-284.

Zahra, S.A. & George, G. (1999). Manufacturing strategy and new venture performance: A comparison of independent and corporate ventures in the biotechnology industry. *The Journal of High Technology Management Research*, *10*(2), 313-345.

Zahra, S.A. & Nielsen, A. (2002). Sources of capabilities, integration and technology commercialization. *Strategic Management Journal*, *23*, 377-398.

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