

**International Strategic Fit: A Causal Model of Environmental and Resource  
Linkages with Foreign Entry Mode and Performance**

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### **ABSTRACT**

Contingency theorists suggest that corporate performance depends on the successful alignment or strategic fit between an organization's internal processes (strategy, structure, and resources) and the external environment. Yet unresolved, is whether this contingency theory of strategic fit holds true for international expansion. This study extends previous literature by using domestic and foreign environmental factors, as well as resource-related theory to illuminate the productivity-based performance of foreign entry modes.

Previous attempts to measure strategic fit with bivariate interactions have been methodologically inadequate. Using a causal model of strategic fit for international expansion, the complex inter-relationships of domestic and foreign environmental factors, tangible resources of the firm, foreign entry mode strategy and subsequent performance outcomes for small and medium-sized enterprises (SME) are hypothesized. The proposed structural equation model is tested using path analytic techniques in LISREL 8 and temporally sequenced data from 140 publicly-held, small and medium-sized, U.S. based, manufacturing firms. The results indicate significant linkages between: 1) domestic environmental factors and international expansion rate; 2) domestic industry complexity and foreign entry mode strategies; 3) foreign environmental risk and international expansion rate, mediated by tangible resources and entry mode strategies; 4) tangible resources and international expansion rate; 5) entry mode strategies and international expansion rate; and 6) firm size and international expansion rate.

**KEYWORDS: Strategic Fit; International Business; Causal Model**



## **International Strategic Fit: A Causal Model of Environmental and Resource Linkages with Foreign Entry Mode and Performance**

An important theme within the strategic management paradigm has been the alignment of the organization's internal and external factors with strategy (Galbraith & Kazanjian, 1986). Contingency theorists suggest that corporate performance depends on the successful alignment or strategic fit between an organization's internal processes (strategy, structure, and resources) and the external environmental (Burns & Stalker 1967, Lawrence & Lorsch 1967; Aldrich, 1979; Keats & Hitt, 1988). Because the preponderance of investigation within this research stream has been related to product and market diversification, the question remains: Does this contingency theory of strategic fit hold true for international expansion, as well? With the increased importance of internationalization in a globally competitive economy, achieving strategic fit within organizations engaged in foreign markets holds tremendous promise for realizing the performance objectives of the firm.

Research in this area has lacked convergence on a strategic fit model that empirically validates critical international contingencies. There have been challenges inhibiting empirical confirmation: specifically, the plethora of contextual variables and relationships that can be theorized to affect firm performance and the methodological inadequacies associated with prior attempts at testing models of fit.

Issues of fit in an international context are particularly complex due to problems of resource control and coordination, confounded by domestic and foreign environmental factors (Root, 1987). While some researchers have included environmental issues in their strategic fit models (Holzmuller & Kasper, 1991) the role of firm resources has not been thoroughly explored. Recent research suggests resource-related theory as an excellent theoretical framework for conceptualizing the degree of international expansion strategy in terms of resource availability and commitment

associated with various foreign entry modes (Hill, Hwang, & Kim, 1990; Kim & Hwang, 1992; Woodcock, Beamish, & Makino, 1994). Hitt, Hoskisson, and Kim (1997) also recognized the limitations of traditional approaches to operationalizing the related concept of international diversification using entropy measures. They recommended that future research use a measure that directly reflects firm resources and capabilities to improve understanding of performance implications of international expansion. Furthermore, because most of the resource-related research has been on large multinational corporations (MNC), some ambiguity remains as to whether firm size or resource availability best facilitates the internationalization process (Calof, 1993).

Previous attempts to measure strategic fit using bivariate interactions and moderating linkages between environmental, organizational, strategic and performance dimensions have been admittedly flawed. Venkatraman (1989) concluded that considering strategic fit from a moderating perspective inadequately separates fit from the effects of fit and recommended using path analysis to decompose mediating effects of multiple variables. International researchers have recently suggested more holistic models that realistically reflect the complexities of strategic fit for transnational business dynamics (Woodcock, et. al, 1994; Stimpert & Duhaime, 1997). Furthermore, Habib and Victor (1990) suggested a longitudinal approach to capture the lag effects on performance.

The strategic fit model presented and tested in this paper extends previous literature by using resource-related theory to illuminate the productivity associated performance implications of international expansion strategy, within their respective environmental contexts, for small and medium-sized firms. Addressing the previously mentioned methodological inadequacies, this research proposes a temporally structured causal model to examine the complexities of strategic fit for internationalizing firms.

## THEORETICAL FRAMEWORK

### Strategic Fit

The contingency theorist's argument that performance outcomes are maximized when a firm achieves an alignment or "fit" between a firm's external environment, its internal factors and its strategy has been well established in the literature (Burns & Stalker 1967; Lawrence & Lorsch 1967; Keats & Hitt, 1988). Nadler and Tushman (1979) theorized that the greater the total degree of congruence or fit between the various components, the more effective will be the organization, leading to higher levels of goal attainment, utilization of resources, and adaptation.

Prior strategic fit models have varied greatly, in terms of the contingent factors considered and the type of strategic analysis. For example, Galbraith & Kazanjian's (1986) seminal work presented a model of fit describing the effects of internal factors (task, people, structure, reward system, and information processes) on the strategy-performance relationship. Venkatraman and Prescott (1990) examined eight business environments and their co-alignment with strategic business unit (SBU) strategy. Chorn (1991) analyzed the fit between the operational dimensions of production, administration, development, and integration. Habib and Victor (1991) investigated the effects of international strategy and structure on economic performance for manufacturing multinational companies. Naman and Slevin (1993) considered fit between entrepreneurial style, organizational structural, and strategic factors. More recently, Stimpert & Duhaime (1997) proposed a comprehensive model of fit for domestic diversification, suggesting an intervening effect of diversification strategy on firm profitability and performance. They concluded that a logical extension would be to examine a comprehensive model of the intervening effects of international diversification. Although conceptually multifarious, these models explored an number of bivariate linkages between four basic dimensions of the firm: the external environment, organizational factors, strategy and performance. However, none of these previous efforts proposed an adequately comprehensive model to test relationships among all four dimensions simultaneously.

Earlier research has also varied in terms of statistical techniques employed to determine strategic fit models. Venkatraman (1989) provided a comprehensive taxonomy of six perspectives of fit, based on: the degree of specificity regarding the functional form of the fit-based relationship; whether the fit model is criterion-free or specific; and the number of variables in the fit equation. Within this theoretical framework, when fit is considered from a bivariate perspective, researchers use the statistical techniques of moderation, mediation, or matching, each being limited in ways other than the number of variables examined. For example, in addition to the age-old problems of hypothesizing and interpreting main effects when interactive effects are present, the moderation approach is limited in its ability to separate the existence of fit from the effects of fit (Venkatraman,1989). The mediation technique is tempered by the theoretical uncertainty of distinguishing between complete and partial mediation models. The matching perspective, on the other hand, presents problems with the reliability of the fit measure and the possibility of spurious relationships between the difference score used to measure fit and the criterion variable (Venkatraman,1989).

In pursuit of a more comprehensive model, Venkatraman & Prescott (1990) argued strongly against disaggregating strategic fit relationships into sets of bivariate interactions. Instead they asserted that strategic fit should follow a holistic pattern of inter-linkages using multi-variate specifications of co-alignment. The fit perspectives involving multi-variate approaches include gestalts, profile deviation, and fit as covariation, each with some degree of methodological deficiency. Gestalts have inherent problems associated with descriptive validity and predictive validity of the gestalts. Descriptive validity presents problems with theoretical interpretability, while predictive validity introduces problems for establishing performance implications and demonstrating the existence of generic strategy types. Venkatraman & Prescott criticized the use of cluster analysis by Miller and Friesen (1984) maintaining that this attempt at a “new contingency approach” only provided an implicit notion of co-alignment. From the profile deviation perspective Venkatraman

and Prescott (1990) offered a pattern analytic scheme, which depends on an ideal profile of strategic dimensions, considering deviations from the ideal as non-fit. They admitted, however, that the assumption of equal importance of this strategic dimension is “generally untenable”. Fit as covariation is based on the principles of factor analysis, which explain covariation among a set of first-order factors to explain an unobservable theoretical construct. Fit is then a function of the effects of the second-order factor on the performance variable, although test statistics to determine goodness-of-fit are limited to the first-order factors.

This research addresses these methodological impediments by using path analysis to simultaneously specify indirect, as well as direct relationships among a holistic system of variables. Using Venkatraman’s (1989) theoretical framework as a gauge, path analysis is not confined by bivariate relationships, criterion variables can be specified, and it accommodates multiple variables. Path analysis also separates the existence of fit from the effects of fit using a system of linear structural equations while simultaneously decomposing the mediating effects of multiple variables. Furthermore, path analysis uses covariance matrices to estimate and test models for fit. Finally, path analysis addresses the problem of lag effects on performance suggested by Habib & Victor (1991) and Stimpert, & Duhaime (1997), while considering temporally-based causality suggested by the literature (Keats & Hitt, 1988).

#### International Expansion Strategy

International strategy has been traditionally examined from an organizational structure perspective (Stopford & Wells, 1972; Habib & Victor; 1991) and an organizational economics perspective (Williamson, 1975, 1981; Anderson & Gatignon, 1986). More recently the literature focus has been on the degree and relatedness of international diversification in terms of product or geographic diversity (Vachani, 1991; Hitt, Hoskisson, & Kim, 1997; Tallman, 1996; Sullivan, 1994). International expansion has also been examined from the perspective of discrete foreign market entry modes (Root, 1987; Kogut & Sing, 1988; Erramilli, 1991; and Agarwal & Ramaswami,

1992).

Analyzing the degree and relatedness of geographic diversification does not address the nature of organizational arrangements firms use to implement their international expansion strategies. While the degree of diversity and relatedness has been popular, the mode of entry provides a richer perspective on international diversification because entry modes are not only operational and transactional in nature, but a unique hybrid of strategy and structure predicated on the degree of resource commitment to the internationalization process (Root, 1987).

### Resource-related Theory

Recent literature advocates a resource-related perspective as an excellent theoretical framework for conceptualizing the degree of international diversification strategy in terms of resource availability and commitment associated with various foreign entry modes (Hill, Hwang, & Kim, 1990; Kim & Hwang, 1992; Woodcock, Beamish, & Makino, 1994). Foreign entry mode strategies have been classified as economic or operational, both converging on a common theme of transfer, allocation, or control of resources (Root, 1987). Resources are critical to entry mode decisions, but previous studies have failed to incorporate important elements of a resource-related theory. To generate an optimal structure or level of internationalization, MNCs take into consideration their unique skills and assets in developing a firm-specific strategy, thereby accommodating a host country's unique demands (Tallman, 1991). Consequently, foreign entry mode strategy is inherently constrained by, and dependent upon, the current level of resources (Collis, 1991). The interaction of available rent-producing resources with other organizational attributes and market characteristics limits the range of strategic choices available to the firm (Tallman, 1991).

Prior research has discussed underlying constructs relative to the firm's resource profile such as resource ownership and commitment relevant to an entrant's involvement with the entity in a target market. This paper synthesizes the concepts of ownership and commitment to determine the

degree of resource intensity required for a particular entry mode strategy. Resource intensity is the level or degree of resources owned and/or committed by the entrant to engage in activities in the target market. These underlying resource-based constructs also indicate that, from the perspective of ownership, commitment, and availability, foreign entry mode strategies are ordinal in nature (Hill et al., 1990; Agarwal & Ramaswami, 1992).

### **Structural Equation Model****Error! Bookmark not defined.**

The contribution of this research is to develop and test a holistic model, which adequately explores the inter-relationships between four dimensions of strategic fit, environment, resources, strategy and performance. While previous research has considered simple relationships among small sets of variables, several authors suggest the need for a more comprehensive approach to considering simultaneous effects and causal relationships of a multitude of contextual factors, without unrealistic assumptions of *ceteris paribus* which limits most research (Miller & Friesen, 1978; Miller & Toulouse, 1986; Keats & Hitt, 1988). A well-defined model must account for empirically validated individual fits and theoretically aggregate the integrated or total fit (Namin & Slevin, 1993). Therefore, multifarious linkages in the proposed model are developed from previous empirical evidence and logically extended from related theoretical concepts as appropriate. To avoid under-specification, the model starts with all the relationships that can theoretically and logically justified and is then adjusted for parsimony and fit with the data. It is temporally sequenced to establish causal relationships and accommodate lag effects on performance (Habib & Victor, 1990; Stimpert & Duhaine, 1997)

The structural equation model presented in Figure 1 proposes a system of direct and indirect relationships between environmental factors, organizational resources, foreign entry mode strategy, and performance outcomes. Environmental factors include domestic munificence, domestic volatility, domestic complexity and foreign market risk. Organizational resources include tangible resources (equity availability, debt availability, physical resource commitment). Firm size is

included as a control variable in order to contrast its effects with organizational resources. Entry mode strategies include export, licensing, joint venture, and foreign direct investment. The operating performance outcome considered in this research is international expansion rate. Although the model presents complex direct and mediating relationships simultaneously, the theoretical basis of each linkage for direct effects in this model is presented in temporal order of causality.

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### Environmental Factors

There is evidence that environmental factors related to the firm's industry, (i.e., munificence, volatility, and complexity) have a dominant influence on many organizational variables (Dess & Beard, 1984; Keats & Hitt, 1988). Environmental munificence is defined as the relative abundance of resources in the environment and the capacity to support growth (Dess & Beard, 1984). Volatility (dynamism) is defined as the level of turbulence or instability facing an environment and reflects change that is difficult to predict (Aldrich, 1979; Dess & Beard, 1984; Kuzmicki & Kramer, 1994). For some researchers environmental complexity at the firm level implies a consideration of the number, diversity, and distribution of the task environment within an organization (Aldrich, 1979; Dess & Beard, 1984). At the industry level of analysis, however, an environment is more complex if it is oligopolistically dominated by a few larger firms (Keats & Hitt, 1988).

Environmental Munificence. Although there is limited research addressing industry environmental munificence effects specifically on the financial resources, there is related evidence suggesting a linkage with financial performance of the firm. For example, Venkatraman & Prescott (1990) found a negative relationship between misalignment and financial performance for nine environmental conditions. Financial performance in this context is a function of profitability which generates slack financial resources in terms of equity capital or internal funds (Lehn & Poulsen, 1989). As size is often used as a proxy for resource availability, Keats and Hitt (1988) found that

munificent environments positively impact firm size. They concluded that a munificent industry environment would present opportunities for expansion and enable a firm to generate slack resources in support of growth. These slack resources initially manifest as financial resource, which can be subsequently converted to other types of resource. Therefore environmental munificence is proposed to have a positive influence on external and internal financial resources as indicated in linkages E1 And E2.

While empirical evidence suggests there is no direct relationship between munificence and entry mode strategy ( Kim & Hwang, 1992), researchers have concluded that resources, particularly financial, may mediate the relationship (Chatterjee & Wernerfelt, 1989; Chatterjee, 1990). Hill et al. (1990) also argued that environmental variables, such as munificence, influence the entry mode decision primarily through their influence on the appropriate level of resource commitments. In the context of domestic environmental effects on coalignment, Venkatram and Prescott (1990) characterized strategy as a pattern of resource deployment, but failed to include resource variables in the fit model. Although not adequately tested, this literature does suggest, however, that the effects of environmental munificence on entry mode strategy should be discussed in the context of the intervening effects of firm resources.

Although Keats and Hitt (1988) did not find a direct relationship between munificence and financial measures of performance, they did find that participation in domestic industries with high demand could present opportunities for expansion and enable a firm to generate slack resources in support of growth. It is therefore logical to expect that munificent domestic environment could lead to international expansion, given the proper fit with external, and strategic dimensions, as suggested in linkage E3.

Environmental Volatility. Keats and Hitt (1988) found volatility to be negatively associated with past operating performance, but positively associated with past market performance. Both financial performance measures used by Keats and Hitt (1988) are related to financial resource

availability. For example, liquidity is a measure of the availability of internal funds and is mostly determined by operating performance. The availability of equity funds is directly a function of the change in market price per share (i.e. market performance). Therefore, volatility is expected to negatively influence internal and external financial resource availability (linkages E4 and E5).

Prior research suggests a possible mediating effect of resource availability between environmental factors and entry mode strategy. As mentioned before, Hill et al. (1990) posited that environmental variables influence the entry mode decision primarily through their influence on the appropriate level of resource commitments. Kim and Hwang (1992) suggested their lack of findings in terms of the effects of demand uncertainty on a firm's foreign entry mode strategy could be attributed to the mediating effects of resources.

In a related context (Keats & Hitt, 1988) found a negative relationship between volatility and operating revenue. In as much as poor profitability should negatively affect the ability of the firm to generate slack resources (Mahoney & Pandian, 1992) environmental volatility also should limit opportunities for international expansion, suggesting linkage E6.

Environmental Complexity. The effects of complexity on entry mode strategy are somewhat inconclusive. For example, Hill et al. (1990) concluded that the oligopolistic interdependence of the industry should influence entry mode strategy. Kim and Hwang (1992), however, did not find evidence suggesting that a similar construct of environmental complexity--competition intensity--had an effect on entry mode strategy. Based on more recent research (Brouthers, 1995) this study suggests that firms in highly concentrated industries (oligopolies) will choose entry modes which allow greater control and intensity of resources in order to maintain barriers to entry (E7).

Relative to the relationship between complexity and performance, Keats and Hitt (1988) concluded that complex environments may place constraints on firm growth because firms must use resources to train, hire, and develop specialists to manage interdependencies in their environment. Extending these conclusions to foreign markets, firms in complex industries are less likely to invest

managerial, physical or intangible assets to increase international revenue. This research therefore proposes that firms in complex industries will have lower rates of international revenue growth (E8).

Foreign Risk. In addition to domestic environmental factors examined in most strategic fit models, an international diversification model of fit must consider foreign risk because of the complexity associated with transnational transactions (Root, 1987). Foreign risk, herein, is defined as the degree of political, financial, and economic stability in the target market (Krayenbuehl, 1988). Anderson and Gatignon (1986) have articulated the risk in transnational activity as the external uncertainty associated with political and economic stability, as well as government policies of the host country.

The effects of foreign risk on resources have been examined in the context of the resource commitment level associated with various entry mode strategies (Contractor & Lorange, 1988; Hill et al., 1990; Woodcock et al., 1994). Previous international research has not considered the effects of foreign risk on the availability of financial resources. Finance literature has discussed the effects of financial risk perception on changes in market price and value (Hagaman, 1994; Ferson & Harvey, 1994). It is reasonable to expect financial markets will react unfavorably in terms of providing equity capital to firms engaged in riskier international expansion (E9). This holds true for the availability of debt capital, in as much as debt investors may consider the risk factor related to a firm's international expansion in making debt capital available (E10).

Risk is reduced by choosing less resource-intensive modes, particularly for SMEs (Contractor & Lorange, 1988). Brouthers (1995) discovered significant relationships between control risk, market complexity risk, and total perceived risk and entry mode choice. Brouthers further suggested that strategic risk must be evaluated in terms of the level of resource commitment the firm is willing to make and the choice of an appropriate strategy. He did not, however, differentiate between entry mode strategies based on these risk factors. Kim and Hwang (1992) found considerable impact of location unfamiliarity on the resource commitment associated with the firm's entry mode strategy,

but did not extend these effects to performance outcomes. Brouthers (1995) suggested that where distribution channels and consumer tastes are similar to the home market, firms would be more willing to invest resources. Kim and Hwang (1992) found that firms with high country risk and cultural distance tend to avoid wholly owned subsidiaries or joint venturing in pursuit of the lower resource commitment mode of licensing. Kogut and Singh (1988) discovered that risk associated with cultural distance increased the probability of choosing a joint venture over an acquisition. Synthesizing this empirical evidence suggests that firms engaged in riskier foreign markets choose less resource-intensive entry mode strategies (E11). Although none of the previous literature expanded the effects of risk to performance outcomes, it is logical to expect that firm engaged in risky target markets will experience additional transactional costs and opportunism (Anderson & Gatignon, 1987) which can limit opportunities for international expansion (E12).

#### Tangible Organizational Resources

Financial Resources. Previous research suggests that the availability of financial resources influences the foreign entry mode strategy. The availability of financial resources, in terms of internal funds and debt capacity, favors foreign direct investment through acquisition (Chatterjee & Wernerfelt, 1991). Chatterjee (1992) also found that firms with available equity funds are likely to favor acquisitive direct investment. In the absence of high stock prices, high levels of internal funds generated using debt instruments favor direct investment through new ventures. Furthermore, foreign direct investments by manufacturers involve some degree of investment in dedicated assets (Hill et al., 1990). Since internal or external funds are required to acquire dedicated assets and make direct foreign investments, the availability of internal or external funds is associated with using resource-intensive modes (R1 and R2).

In terms of the effects of financial resources on performance outcomes Penrose (1959) and Mahoney & Pandian (1992) proposed that the lack of productive resources, such as financial capital, limits firm growth. This suggests the possibility that the availability of financial resources may lead

to higher rates of international expansion (R3 and R4).

Physical Resources. Although there is empirical evidence to suggest a relationship between physical resources and domestic strategy, a relationship with foreign entry mode strategy is not well established and equivocal arguments are inconclusive. Logic suggests that domestically capital-intensive firms may be required to invest in physical assets in the target market to achieve similar economies of scale or avoid costs of opportunism and dissemination risk associated with dedicated production sources. In that case, it is more probable that a higher degree of domestic investment in physical assets will increase the likelihood of SMEs selecting resource-intensive modes of entry. On the other hand, firms that are intensively invested domestically may not have the resources to heavily invest capital in the target market, particularly in the case of SMEs. Although it is not clear whether the entry mode should be more or less resource intense, a correct strategic fit should still result in a greater expansion rate (R5 and R6).

Firm Size. Because of their inherently high correlation, prior researchers have either treated size and firm resources synonymously, or used size as a proxy for resources (Calof, 1994; Walters and Samiee, 1990). Although it is logical to conclude that, on average, larger firms have more resources than smaller firms, they may be unavailable or inappropriate for international expansion. One question to be resolved is whether foreign entry mode choice and performance outcomes are a function of size or firm resources. Firm size is therefore included as a control variable in order to contrast its effects with organizational resources.

#### Foreign Entry Mode Strategy

Although there is no empirical evidence specifically linking entry mode strategy to international productivity, this research proposes an inverse relationship between the resource intensity of the entry mode strategy and international expansion. This proposition is based on the fact that since less resource-intensive mode strategies have fewer barriers to entry, they should result in greater potential for international revenue growth (S1). Firms using less resource intense modes are not burdened by

transactional and opportunity costs associated with acquiring capital, finding agents in the target market, gaining access to distribution channels, navigating foreign government bureaucracy, acquiring and constructing physical assets, and forming financial and legal relationship in a foreign market.

#### Performance Outcomes

As mentioned earlier, the ultimate goal of strategic fit is to maximize performance outcomes. Product/market diversification literature has traditionally conceptualized performance outcomes of fit as accounting-based profitability measures at the corporate level (Keats & Hitt, 1988; Venkatram & Prescott, 1990). Recent research in economics and finance has theorized productivity-based measurements (i.e. sales growth) may have greater applicability in determining overall corporate performance (Nickell, 1996; Geroski, 1998).

Performance outcome measurements of the international strategic fit may be even more vulnerable to the inadequacies of profit-based measurements at the corporate level. For example, Habib & Victor (1990) attributed the lack of consistently positive effects of international strategic fit to an inappropriate measure of performance based on profitability. This inherent incongruence should be obvious, inasmuch as their measurements of strategy and structure were at the transnational strategic business unit (SBU) level while their performance measurement was an aggregate return on assets at the corporate level. This is a common problem attributable to the lack of detailed financial data for internationalized SBUs. In response, recent research in international diversification has increasingly used productivity-based measurements such as relative sales growth and market share (Mitchell, Shaver, & Yeung, 1993; Liouville & Nanopoulos, 1996; Bloodgood, Sapienza and Almeida, 1996). Accordingly, this paper extends the strategic fit research theme by focusing on performance outcomes in terms of the rate of international expansion.

## METHODS

### Sample

The organizations included in this research are U.S.-based publicly-held small and medium-sized enterprises (SMEs) whose annual 10-k reports, required by the Securities and Exchange Commission, have been summarized and compiled in the Financial Disclosure (Disclosure, Inc.) data base covering fiscal years 1988 through 1994. This database contains management information and financial data from the prior three fiscal periods on all American publicly held corporations.

The criteria used for selecting a sample from this population include industry sector, size, and international expansion activity. Manufacturing firms (SIC codes 2000-3999) were chosen because they represent the industrial sector that could require a full complement of resources and a full range of entry modes in their expansion efforts. The effect of industry varies between manufacturing firms and service firms (Erramilli, 1991), while Habib and Victor (1991) found the fit-performance relationship to be different between manufacturing and service MNCs. By studying only manufacturing firms, these effects are constrained. Firms were also selected for this study based on whether current revenue from international expansion activity in the form of exporting, licensing, franchising, joint venture, and foreign subsidiaries is described sufficiently in the management information text of the 10-k report summaries.

The September 1991 edition of Financial Disclosure was used to identify companies that made a single foreign entry mode selection prior to the period during which financial performance was measured (1992-1994). Firms not headquartered in the U.S., and did not provide international revenue figures for the three-year fiscal period ending in 1994 were excluded from the study population, yielding 147 firms. The entry mode distribution is as follows: a) export, 56% (87 firms); b) licensing, 10% (15 firms); c) joint venture, 8% (12 firms); and d) foreign subsidiary, 26% (38

firms).

In keeping with the size standards established by the United States Small Business Administration for small manufacturing firms, this research includes firms with less than 1000 employees. Of the 147 firms 25% had less than 135 employees; 75% had less than 608 employees; the median was 346 employees; and the mean number of employees was 386. This SME size distribution is consistent with previous descriptions of small and medium-sized firms using number of employees (Holzmuller & Kasper, 1991; Osteryoung, 1992; Calof, 1993; Julieu, et al., 1994).

#### Procedures

Data related to environmental factors financial resources, size (number of employees) and historical international sales performance were obtained and analyzed from the Disclosure summaries. Data on foreign risk was obtained from the International Country Risk Guide (ICRG).

The SEM encompasses a nine-year time frame (1986-1994) in which sample firms engaged in international expansion. The study was framed in terms of sequential time periods: 1) industry environmental variables (1986-1988); 2) tangible resources (1988-1990); 3) entry mode strategy determination (1991); and 4) international sales growth (1992-1994). Foreign risk ratings were assessed in 1988.

#### Measurement of Variables **Error! Bookmark not defined.**

In the structural equation model (see Figure1) simultaneous relationships for environmental, resource, strategy, and performance variables are proposed. Environmental variables include industry munificence (MUNIFIC), industry volatility (VOLATILE), industry complexity (COMPLEX) and foreign risk (RISK). Financial resources include external funds (EQUITY) and internal funds (DEBT). Physical resources (PHYSICAL) is the degree of a firm's investment in physical assets. Entry mode strategy (MODE) is based on the degree of resource intensity.

Performance outcome (INTPERF) is identified as the average rate of international revenue growth.

Munificence. According to prior research (Aldrich, 1979; Dess & Beard, 1984; Keats & Hitt, 1988; and Kuzmicki & Kramer, 1994), munificence refers to the availability of environmental resources to support growth. Prior operationalizations (Keats & Hitt, 1988) have measured munificence in terms of average growth in net sales and operating income in the dominant industry during the five-year period prior to the performance period. Keats and Hitt (1988) suggest this temporal approach lends credibility to the causal flow of the structural equation model (SEM). Although Keats and Hitt used both net sales and operating income to measure environmental resources, Dess and Beard (1984) suggested that industry sales are the primary factor in environmental munificence. This research uses a similar approach, measuring the average growth in total revenue (MUNIFIC) between 1986 and 1990 for each primary SIC code, as reported in Financial Disclosure.

Volatility. This concept refers to the instability or difficult-to-predict discontinuities in the dominant industry. Keats & Hitt (1988) measured volatility by the degree of fluctuation in net sales and operating income in the dominant industry during the five-year period prior to the performance period. Following Keats & Hitt, this research uses the standard deviation of the average change in revenue growth during the period 1986-1990 (Financial Disclosure).

Complexity. Keats and Hitt (1988) measured complexity using an index of dynamic concentration. This index, measuring the trend of dominance by large firms in their industry, was found only to affect firm size. Porter (1980) conceptualized complexity based on the monopoly power of dominant firms in an industry and their relative balance in size. Although Kim and Hwang (1992) wrote in terms of intensity of competition, their operationalization included several constructs with marginal consistency with each other. Using Porter's conceptualization to modify

Keats and Hitt's approach, this research measures complexity (COMPLEX) based on the average market share represented by the top twenty firms in the industry as reported in Financial Disclosure during fiscal years 1988 through 1990. This measure emphasizes the degree of competition, which is more relevant to this discussion, rather than the trend of large firm dominance of competition.

Host Country Risk. The risk assessment system used for this research is provided by the International Country Risk Guide (ICRG) and is a comprehensive measurement of foreign risk. This monthly newsletter produces a monthly risk rating using multiple factors that are consistent with the determinants of risk identified in previous academic research (Brouthers, 1995; Cosset & Roy, 1991). ICRG bases its rating on political, financial and economic risk variables (Krayenbuehl, 1988). The political variable contributes 50 percent of the score and financial and economic indicators represent 25 percent each. Political risk is determined by thirteen indicators, such as political leadership, law and order tradition, and quality of bureaucracy. Four factors are used to assess financial risk such as loan default, unfavorable loan restructuring, losses from foreign exchange controls, and repudiation of contracts by governments. Economic risk is measured by six indicators such as inflation, debt service ratio and international liquidity. This research uses the composite political, financial and economic risk rating (RISK) from the November 1988 ICRG (Krayenbuehl, 1988) for each target market. In the case of multiple countries, the composite risk rating is averaged.

Financial Resources. Financial resources have been classified in management literature as external and internal. External resources are determined by the availability of equity capital (Chatterjee & Wernerfelt, 1991). Internal resources are provided by internal funds and debt capacity. Chatterjee (1990) used the ratio of change between the firm's average stock price one year prior to diversification to the average stock price of the period two years before to measure the cost

of equity capital. Chatterjee and Wernerfelt (1992) used the ratio of change of average stock price between two successive five-year periods. As admitted by the authors, this measurement approach did not control for the growth of the market. In fact, the stock price coefficient was negative in both cases. To account for this prior limitation, market price to earnings ratio divided by the average price to earnings ratio in the industry (EQUITY) is used. This approach is based on the assumption that the market provides equity capital for investment opportunities based on the firm's comparative value as measured by their comparative price to earnings ratio (Smith & Kim, 1994).

Financial theorists describe financial resources in terms of financial slack in the form of liquidity and free cash flow (Lehn & Poulsen, 1989; Smith & Kim, 1994). Chatterjee (1990) measured internal funds using the firm's current ratio compared to industry averages and found no significant influence on entry mode when the firm's stock price was also considered in the model. Deletion of stock prices, which were highly correlated with the internal funds measure, yielded a significant relationship between internal funds and entry mode. From these results, Chatterjee suggested that long-term debt might have a more important role in strategic moves. In subsequent research, Chatterjee and Wernerfelt (1991) found that borrowing capacity, as measured by the ratio of long term debt to market value, was positively associated with unrelated diversity. Short term liquidity had marginal effects on diversification. Similar to the previously mentioned research, this research measures internal resources by dividing the firm's long term debt to market value of equity ratio by the average industry long term debt to market value of equity ratio within its two digit SIC code (DEBT). This average measurement of a firm's comparative long-term liquidity or debt capacity for a three-year period prior to entry mode choice is an indicator of the availability of internal funds for international expansion (Chatterjee, 1990). Dividing by the industry average corrects for industry effects.

Physical Resources. This research measures physical resource availability in terms of the firm's capital intensity, following Chatterjee & Wernerfelt (1991). This approach is based on the premise that fixed assets are inflexible and transaction-specific, relative to current markets and cannot be readily transferred to foreign production efforts (Anderson & Gatignon, 1986; Kim & Hwang, 1992). The degree to which a firm's fixed assets are used to generate revenue in the domestic market would indicate that international expansion would require a similar investment because of the nature of their industry. Therefore, physical capital intensity, as measured by the ratio of fixed assets to sales, divided by its' industry average (PHYSICAL), is used to determine the firm's relative investment in physical resources.

Entry Mode Strategy--Resource Intensity. Expansion mode is categorized into one of four groups based on an evaluation of the text of the SEC 10-k summaries to determine which entry mode has been primarily utilized by the firm. Entry modes strategies were ranked, as supported by prior research (Hill et al., 1990; Agarwal & Ramaswami, 1992), based on the intensity of resource required by each mode. Accordingly, direct foreign investment, the highest in resource intensity, was coded four, joint venture was coded three, licensing was coded two, and exporting was coded one.

Performance. Although more comprehensive measures of performance are preferred, these data are only available at the aggregated corporate level, which does not accurately reflect the influence of variables in an international context. Furthermore, recent research advocates productivity-based measurements (i.e. sales growth) as important determinants of overall corporate performance (Nickell, 1996; Geroski, 1998). Others have measured the success of internationalization using sales growth (Bloodgood, Sapienza and Almeida, 1996). Consequently, this research measures performance based on the average growth in international sales over the most

recent three-year period, 1992-1994, as reported in Financial Disclosure data base.

Firm Size. Although several organizational attributes have been suggested in the literature in terms of affecting mode of entry and performance (Woodcock et al., 1994), few were consistent between each of the four entry modes considered in this research, except size (Calof, 1994; Julieu, 1994; Baird, 1994). Although its effects are constrained by limiting the study to firms with less than 1000 employees, size, measured by the number of employees is included as a control factor.

#### Data Analysis **Error! Bookmark not defined.**

Data analysis was performed using a structural equation model (SEM), which tests complex sets of direct and indirect causal relationships between dependent, independent, and mediating variables using path-analytical estimating procedures in LISREL 8 (Joreskog & Sorbom, 1993). This technique allows simultaneous analysis of complex sets of relationships by estimating the coefficients of a set of linear structural equations.

The structural equation model specifies the causal relationships among the factors and estimates unknown coefficients in a set of linear structural equations. This method allows for errors in equations (residuals and disturbances). It yields estimates of the residual covariance matrix and the measurement error covariance matrix as well as estimates of the unknown coefficients in the structural equations, if all these parameters are identified.

## RESULTS

First, preliminary analysis of the measurement variables used and their summary statistics are presented. Descriptive statistics provided in Table 1 include product moment correlation (Pearson), mean, standard deviation, skewness, and kurtosis.

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insert Table 1 about here  
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Although the financial and physical resource variables (EQUITY, DEBT, and PHYSICAL) indicate non-normality, violations of multi-normality (unless they are elliptical distributions) do not affect the consistency of maximum likelihood (ML) estimators of the covariance structure (Bollen, 1989). Based on Bollen's analysis, this research assumes that the ML method is robust enough to account for the degree of non-normality in this data. Other statistical assumptions of independence of observations and linearity of relations are reasonably met. Regarding possible assumption violations of uncorrelated error terms, the stochastic error terms in each structural relationship in cross-sectional studies are normally uncorrelated (Joreskog & Sorbom, 1993).

As suggested by Joreskog (1993), this analysis employs the alternative models approach, using multiple nested models that provide a reasonable fit and a plausible theoretical interpretation. Beginning with the most flexible model, the three models are ordered in decreasing number of parameters (increasing degrees of freedom) and are tested sequentially. Each succeeding model is increasingly more parsimonious and nested within the previous model. The model preceding the model, which substantially worsens the fit, is proposed to be the best model.

The initial model (Model 1) to be tested is the most flexible model (fewest paths constrained to zero). Model 2 is the theoretical model, which represents the direct and indirect relationships between environmental factors, resources, entry mode and performance, as proposed in Linkages E1-E15, R1-4, and S1. Model 2, nested within Model 1 constrains the following 2 paths: MUNIFIC and VOLATILE to MODE (see M2 in figure 1). Model 3, nested within Model 2, constrains one path: EMP to INTPERF (see M3 in figure 2). This model tests the informal hypothesis, whether removing the effects of the number of employees (size) on performance worsens the model. Before selecting the best of these competing models, each is assessed for overall fit to the data.

In order to determine the model fit to the data, both general and specific indicators were examined. Table 2 provides a summary of the primary indicators of overall fit of the data to the

model: Chi-square ( $\chi^2$ ), Goodness of Fit (GFI), Adjusted Goodness of Fit, Root Mean Squared Residual (standardized), and Root Mean Square Error of Approximation.

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insert Table 2 about here  
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The  $\chi^2$  for Model 1 is 6.87 (df=11, p=.81) indicates a very good fit, particularly after dividing by the degrees of freedom (Medsker, 1994) to adjust for sample size (6.87/11=.63). The GFI (.99) and AGFI (.94) are well above the .90 threshold, also indicating a very good fit. The standardized RMSR (.02) and the RMSEA (.01)<sup>1</sup> are well below the .05 threshold, again suggesting a good fit. The fit statistics for Model 2, which eliminates 2 paths from MUNIFIC and VOLATILE to MODE (M2 in figure 1) reveals that  $\chi^2 = 8.68$  (df=13, p=.80) and a  $\chi^2$ /df ratio of .67, all indicating a very good fit with the data. Additionally, the GFI (.99) and the AGFI (.94) indicate a very good fit. The RMSR (.02) and the RMSEA (.01)<sup>1</sup> are also well below the designated thresholds.

Evaluating Model 3 which eliminates one path from EMP to INTPERF (M3 in figure 1) reveals that  $\chi^2 = 111.70$  (df= 14, p=.00), with a  $\chi^2$ /df ratio of 7.98 indicating a very poor fit. Although the GFI (.91) is above the threshold, the AGFI (.52) is well below the acceptable threshold; and while the RMSR (.04) is within the acceptable range, the RMSEA (.23) is well above the acceptable threshold. When taken as a whole, these fit statistics indicate a poor fit.

Since both Model 1 and 2 are theoretically plausible models and can be considered a good fit, testing for the best model is achieved by comparing each successive nested model with the previous model. The chi-square difference is calculated and compared to a critical value. The  $\chi^2$  difference between Models 1, the least constrained model, and Model 2, the hypothesized model, is 1.81 while adding 2 degrees of freedom. This increase is less than the critical value in a chi-square

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1 <sup>□</sup> Rounded up to the next hundredth.

distribution (5.99, df=2,  $\alpha=.05$ ), thereby failing to reject the hypothesis that the restricted parameters equal zero. This indicates that eliminating paths from MUNIFIC and VOLATILE to MODE as hypothesized in the theoretical model does not significantly worsen the fit to the data.

Comparing Model 3 to Model 2, shows a dramatic increase in chi-square (103.02) with an increase of 1 degree of freedom which is greater than the critical value (3.84, df=1,  $\alpha=.05$ ), thereby rejecting the restrictions of the path from EMP to INTPERF. Therefore, an alternate model that proposes that number of employees does not directly affect performance significantly worsens the fit to the data. According to the inferential methodology proposed by Joreskog (1993), the hypothesized model (Model 2) is considered the best model. Considering these results of model comparison, further analysis focuses on the hypothesized model (Model 2). The unstandardized structural parameter estimates of the indirect and total effects for each path in Model 2 are presented in Table 3. The statistical inference using t-values for the hypothesized causal relationships in Model 2 are hereby reported.

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insert Table 3 about here  
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Regarding industry environment, the direct effects of MUNIFIC on EQUITY (E1) and DEBT (E2) are not significant, while the direct effects on INTPERF (E3) are significant ( $p<.01$ ). The signs of the parameter estimates for each variable were in the direction hypothesized. Additionally the parameter estimates for the indirect effects on MODE and INTPERF are zero, indicating no mediating effects of EQUITY, DEBT, or MODE, respectively. These results suggest that firms in domestic growth industries have higher international expansion rates, as proposed in linkage E3.

The direct effects of VOLATILE on EQUITY (E4) and DEBT (E5) are not significant. The direct effect of VOLATILE on INTPERF (E6) is significant and negative ( $p<.01$ ). Again, weak parameter estimates for the indirect effects on MODE and INTPERF indicate that EQUITY, DEBT,

and MODE do not have mediating effects. The results indicate a negative influence of domestic industry volatility on international expansion rate, as proposed in linkage E6.

COMPLEX positively affects MODE ( $p < .05$ ) as suggested in linkage E7. The direct effect of COMPLEX on INTPERF (E8), is marginally significant at the  $p < .10$  level. However, the indirect effect was significant at the  $p < .05$  level, suggesting a strong mediating effect of MODE on the COMPLEX-INTPERF relationship. The results indicate a significant relationship between the complexity of the domestic industry environment and the resource intensity of the entry mode, as proposed in linkages E7 and E8.

In terms of foreign environmental effects, the direct effect of RISK on EQUITY (E9) is significant ( $p < .05$ ), but not in the direction expected. The results indicating foreign market risk had a positive impact on the availability of external financial resources contradicted the proposed direction of the relationship in E9. The direct effects of RISK on DEBT (E10) and MODE (E11) are not significant. The direct effect of RISK on INTPERF (E12) is significant at a marginal level ( $p < .01$ ). The indirect effects of RISK on INTPERF are significant at the  $p < .05$  level, suggesting strong mediating effects of EQUITY and MODE on the relationship. The results indicate that although the direct effect of foreign risk on entry mode strategy was not significant, by introducing the mediating effects of equity capacity, marginally significant negative total effects on international expansion rate resulted.

In terms of tangible organizational resources, EQUITY does not affect MODE (R1), but the direct effect of EQUITY on INTPERF (R3) is significant at the  $p < .01$  level. DEBT does not significantly effect MODE (R2) or INTPERF (R4) and there are no mediating effects of MODE. PHYSICAL does not significantly impact MODE (R5), but the direct effect on INTPERF (R6) are significant at the  $p < .01$  level. Also, MODE has no mediating effect on the relationship. Therefore, support was found for the positive impact of external financial resources on international expansion rate, as proposed in linkage R2.

The findings indicate that the direct effect of MODE on INTPERF (S1) is significant ( $p < .01$ ). This research therefore finds that firms engaged in higher resource-intensive modes would experience slower international expansion rates.

This study used size, in terms of number of employees, as a control variable in the SEM. Although not formally hypothesized, EMP has a significant direct effect on INTPERF ( $p < .01$ ) while not having a significant effect on MODE. Also, removing the proposed effects of the number of employees on performance significantly worsened the fit of the model. This confirms the importance of size as a determinant of performance in the causal model. In fact the proportion of variance for performance explained by the model declines from 92% to 84% with the elimination of size from the model. However, the fact that size was not highly correlated with any resource variable lends support to the idea that although size is important it should not be used as a proxy for resources.

The coefficient of determination,  $R^2$ , for the hypothesized model is .92. This would seem to be a rather large proportion of variance explained for a multiple regression equation. Saris and Stronkhorst (1984) argued that for good quality data, an  $R^2$  of .90 should be required. In contrast, the  $R^2$  for the multiple regression equation with all the independent variables regressed against performance is .286.

Further analysis of the squared multiple correlations indicate the amount of variance accounted for in each of the endogenous variables in the model. The large amount of variance explained (92%) for performance suggests that the model is very effective in explaining the causes of international expansion rate. The amount of variance explained for the other endogenous variables is relatively small, indicating that the joint linear relationships with MODE, EQUITY, and DEBT are not very strong.

## **DISCUSSION**Error! Bookmark not defined. **& CONCLUSIONS**

This paper extends strategic fit literature by using domestic and foreign environmental

factors, as well as resource-related theory to illuminate the productivity-related performance of foreign entry modes. The proposed causal model indicates a very good fit between several environmental and resource factors, entry mode strategy and the international expansion rate of small and medium-sized publicly held firms. The statistical results of the model's fit with the data also support the idea of using path analysis as a methodological tool for determining strategic fit models.

The results indicate that domestic and foreign environmental factors should be considered in international expansion. Specifically, a munificent domestic environment is conducive to international expansion, while an unstable domestic environment and risky foreign environment will have a negative impact on the productivity of international expansion efforts. Also, managers in industries dominated by large firms should realize that their attempts to expand competitively may require a higher degree of resource commitment.

This study also demonstrates that practitioners should consider their resource availability in determining their international expansion strategy. Specifically, the relative availability of equity capital and the relative investment in physical assets impact the rate of international expansion. Management could, therefore, interpret a strong financial market for their respective corporate stock as an opportunity for international expansion, while leveraging may not result in rapid international expansion. Firms with relatively high levels of capital investment may attempt rapid international expansion to achieve necessary economies of scale. Finally, managers should expect that strategies requiring equity investments, i.e., joint ventures and direct investment, will result in slower expansion rates. Therefore, for fast international expansion with minimal barriers to entry, exporting may be preferred.

This research also provides support for the idea that comprehensive and holistic models, which are well fitted to the data, provide much more information about complex relationships and are more representative of real world intricacies. The high explanatory power of a well-identified

causal model is predicated on its ability to measure, simultaneously, direct and indirect relationships, using some variables as dependent and independent factors. This should compare favorably to bivariate multi-variate regression analyses, which consider only direct relationships while, unrealistically, holding all other variables in the model constant.

#### Strengths and Weaknesses of Research **Error! Bookmark not defined.**

As in all research there are limitations not within the control of the researcher. First of all, this paper was intended to study small and medium sized firms to prove that internationalization can be successfully achieved with the proper alignment, regardless of size. Because of the scarcity of financial data on privately held companies, only publicly held firms were used. With the understanding that many researchers define small businesses as privately held (Osteryoung, 1992), the use of publicly held firms required a liberal interpretation of a medium-sized firm. Using the Small Business Administration's definition of a small business definition (less than 1000 employees) helps to focus on the smaller segment of this population.

In collecting the performance data from the Disclosure database, limitations appeared. One was the lack of consistency in describing the predominant mode used in international expansion. Another was the inconsistency in reporting foreign sales in financial statements. Also, firms did not always specifically identify each country in which they were actively engaged, often referring to geographic regions instead. As a result of these limitations, the potential sample size was reduced, as well as the variability of foreign risk among countries.

#### Summary

With the growing structural imbalance of U.S. trade American businesses must focus on SME international expansion to maintain America's global competitive position. Multinationals have long dominated this arena in the United States, whereas SMEs play a larger role in international diversification in most other countries (Holzmuller & Kasper, 1991). By focusing on publicly held, SMEs rather than large multinational firms, this research supports the importance of expanding the

role of “mini-multinationals” (Hill & Helleloid, 1994). This study also suggests further research is warranted to investigate and refine contingency theory using causal modeling techniques, thereby validating more comprehensive and holistic strategic fit models.

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Table.1

Correlation Matrix, Mean, Standard Deviation, Skewness and Kurtosis

	EMP	MODE	INTPERF	EQUITY	DEBT	PHYSIC	RISK	MUNIFIC	VOLATILE	COMPLEX
	1	2	3	4	5	6	7	8	9	10
1	1.000									
2	.025	1.000								
3	-.085	-.056	1.000							
4	-.042	-.084	.006	1.000						
5	-.054	.067	.015	.017	1.000					
6	-.060	.048	.029	-.038	.066	1.000				
7	.463	.089	-.083	-.001	-.096	.055				
8	-.418	-.075	.112	-.012	.013	-.023				
9	-.048	-.096	-.079	.175	-.051	-.009	1.000			