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Torben J. Andersen Mahesh P. Joshi

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Center for Strategic Management and Globalization Copenhagen Business School Porcelænshaven 24 2000 Frederiksberg Denmark www.cbs.dk/smg

# Strategic Orientations of Internationalizing Firms: A Comparative Analysis of Firms Operating in Technology Intensive and Common Goods Industries

**Torben J. Andersen** Copenhagen Business School

Porcelænshaven 24, 1.53 DK-2000 Frederiksberg Denmark

Phone: +45 3815-2514 Email: <u>ta.smg@cbs.dk</u>

### Mahesh P. Joshi

George Mason University Enterprise Hall, MSN 5F5 Fairfax, VA 22030 USA

Phone: +1 703-993-1761 Email: <u>mpjoshi@gmu.edu</u>

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#### Abstract

The strategic orientations of global integration and local responsiveness (the I-R framework) continue to dominate analyses of internationalization strategies and identify the basic strategy typologies of multinational enterprise. Much effort has been devoted to verify the generic strategies established within the original I-R framework but few studies have investigated their implied performance effects. In conformity with the foundations of the I-R framework we characterize the strategic orientations by their implied corporate decision structures and strategy processes and analyze their performance associations in two distinct industrial environments. The evidence from this analysis contradicts predictions in the conventional I-R framework. We explain this conundrum from a resource-based perspective as firms operating in technology intensive environments outperform when they have access to diverse multinational resources whereas firms in common goods businesses gain economies from global product standards.

<sup>&</sup>lt;u>Keywords</u>: Global integration, Internationalization strategy, Local responsiveness, Multinational enterprise (MNE).

#### Introduction

Choosing a strategy that allows the corporation to compete successfully in the international arena is one of the critical challenges facing contemporary executives (Grein, Craig and Takada, 2001). Global expansion can provide new business opportunities (Bartlett and Ghoshal, 2000; Gupta and Govindarajan, 2000) but also imposes complexity and uncertainty as the corporation operates across multiple national settings (Datta, 1988; Rosenzweig and Singh, 1991; Zaheer, 1995; Rugman, 2000). The associated cost-benefit trade-off has been treated in the international business (IB) literature as a choice between strategic orientations emphasizing global integration and local responsiveness (Prahalad and Doz, 1987; Bartlett and Ghoshal, 1989, 2000; Yip, 2003) collectively referred to as the integration-responsiveness (I-R) framework.

While empirical studies have attempted to confirm the existence of strategy typologies within this I-R framework under the premise that they drive sustainable competitive advantage (e.g., Roth and Morrison, 1990; Leong and Tan, 1993; Taggert, 1997, 1998), the implied performance effects have generally not been analyzed. The current study addresses this shortcoming in the IB literature and uncovers empirical evidence that contravenes the conventional predictions derived within the I-R framework. This discrepancy is explained by incorporating a resource-based perspective focused on the firm's access to diverse international resources (Eisenhardt and Martin, 2000; Kay 2005; Sambharya, Kumaraswamy and Banerjee, 2005; Foss and Pedersen, 2005) in conjunction with the market-based considerations in the original I-R framework.

The paper is organized as follows. First we introduce the I-R framework and develop

hypotheses grounded in market-related and resource-based arguments. Then we outline the research design and describe the analysis adopted to test the hypotheses. Finally, the results are presented and discussed while offering our conclusions from the findings.

#### Background

Researchers in IB have typically adopted the I-R framework to understand the process of international expansion and related choices between strategic orientations. Hence, the integration-responsiveness paradigm constitutes a dominant analytical foundation for internationalization strategy (Prahalad, 1975; Doz, 1976; Prahalad and Doz, 1987; Harzing, 2000; Sambharya, Kumaraswamy and Banerjee, 2005). The I-R framework has predominantly been focused on industry characteristics oriented towards external market conditions faced by firms engaged in cross-border business activities. According to this perspective, the strategic orientations of global integration and local responsiveness support demands arising from the internationalization process and as such underpin effective management of international business expansion. As a complement to the conventional market-based analyses, the resource-based view has been adapted to explain the sourcing aspects of multinational enterprise (Tallman and Li, 1996; Birkinshaw, Hood, and Jonsson, 1998; Peng, 2001; Foss and Pedersen, 2002, 2005). From this perspective, internationalization strategy builds on unique bundles of multinational resources as the driver of sustainable competitive advantage (Dhanaraj and Beamish, 2003).

It is argued that the I-R framework should incorporate organizational capabilities to appropriately operationalize the local and global pressures that circumscribe the I-R framework (Devinney, Midgley and Venaik, 2000; Venaik, Midgley, and Devinney, 2004). Hence, IB researchers should integrate these as complementary strategy perspectives to provide a better rationale for understanding alternative internationalization strategies. Accordingly, some researchers have combined market- and resource-based perspectives in their international management studies (Griffith and Harvey, 2001; Kedia, Nordtvedt and Perez, 2002).

#### Literature Review and Hypotheses Development

#### The I-R Framework

The explicit consideration of differentiation and integration was initially applied in analyses of organizational structure (Lawrence and Lorsch, 1967) and subsequently adopted in studies of multinational management (Prahalad, 1975; Doz, 1976; Prahalad and Doz, 1987; Bartlett and Ghoshal, 1989). Lawrence and Lorsch (1967) defined differentiation as segmentation of the organization into subsystems specialized toward particular environmental requirements and saw integration as the process of uniting these subsystems in fulfillment of the organizational purpose. Prahalad and Doz (1987) used a comparable distinction when they argued that effective multinational management must respond to specific market needs through differentiated market activities while integrating the diverse business activities to establish economic efficiencies. A pressure to satisfy special requirements in national markets would drive a need for local responsiveness while global cost pressures would enforce economic efficiencies and drive a need for operational integration and strategic coordination to gain scale and scope economies. The relative emphasis on local responsiveness and global integration orientations identified the four generic strategies commonly referred to as global, multidomestic (multinational), international, and transnational strategies (Bartlett and Ghoshal, 1989, 2000).

Global integration is motivated by scale economies associated with market demand for relatively homogeneous products in industries such as electronic equipment, consumer electronics, computer products, mobile phones, etc. (Levitt, 1981; Prahalad and Doz, 1987; Bartlett and Ghoshal, 1989, 2000). Conversely, in some industries the product and service characteristics may differ substantially between national markets thereby imposing pressures for local responsiveness particularly in markets for household goods like food, clothing, furniture, etc. (Doz and Prahalad, 1984; Roth and Morrison, 1990; Beamish, Morrison, Rosenzweig and Inkpen, 2000).

#### The strategic orientations

The premises of the integration and responsiveness dimensions are anchored in central elements of the multinational organizational structure and the associated strategic decision processes. A global integration orientation entails a centralized operational management structure where resource-committing decisions across national boundaries are coordinated through centralized planning efforts in pursuit of the overall corporate strategy (Prahalad and Doz, 1987). The global organization is a centralized structural configuration with complex interdependencies that impose intense coordination requirements on the corporation (Leong and Tan, 1993). Decisionmaking is centrally planned and globally scaled where the prime role of local business activities is to pursue headquarter strategies (Bartlett and Ghoshal, 1989, 2000; Harzing, 2000). A local responsiveness orientation entails a multinational organization that can respond to unique national market conditions through adaptive actions pursued within a decentralized decision structure (Prahalad and Doz, 1987). Locally responsive companies delegate authority and decision power to managers with regional market responsibilities and develop resources across national business entities (Leong and Tan, 1993). This organizational structure is characterized by loosely coupled and dispersed decision-making (Bartlett and Ghoshal, 1989, 2000; Harzing,

2000).

In the extant IB literature, much effort has been devoted to examine the validity of the strategy typologies circumscribed by the I-R framework (e.g., Roth and Morrison, 1990; Ghoshal and Nohria, 1993, Harzing, 2000). In their cross-sectional study of firms in global industries, Roth and Morrison (1990) concluded that the strategy typologies were broadly supported while Leong and Tan (1993) in a study dominated by firms in the electronics, computers, and chemical industries were unable to identify distinct clusters within the I-R framework. Other studies of multinational subsidiaries have found some conformity to the I-R typologies (e.g., Taggart, 1997, 1998; Harzing, 2000). These studies were pursued under the implicit assumption that the I-R typologies are associated with superior performance as the I-R typologies represent a "fit" between internationalization strategies and the specific environment in which the MNEs operate (Venaik, Midgley, and Devinney, 2004). Furthermore, it is assumed that this "fit" leads to superior performance since "the incessant search by MNCs for sustainable competitive advantage" is considered a key motivation (Taggart, 1998). However, only few studies have addressed the implied performance effects of the I-R framework (Porter, 1990; Kobrin, 1991; Birkinshaw, Morrison and Hulland, 1995) and even fewer have assessed these effects in specific industrial environments with Johnson (1995) being a notable exception.

Based on an empirical study of firms in the US construction equipment industry, Johnson (1995) was able to identify clusters within the I-R framework but did not find significant differences in performance between firms when comparing these clusters. Birkinshaw, Morrison and Hulland (1995) suggested that structural characteristics of the industry such as scale economies, national comparative advantages, and converging customer demands could drive firms towards global integration or local responsiveness orientations. Other studies also focused

on industry structure as a driver of the strategic orientations arguing that industries, such as, food products, consumer goods, and metal fabrication would assume a local responsiveness orientation whereas semiconductors, computers, and automobiles would assume a global integration orientation (Porter, 1990; Yip, 2003). Computer products and consumer electronics industries face global standards and high cost pressures and, therefore, should adopt a global integration orientation (Figure 1). In contrast, food processing, clothing, and other household goods industries operating under pressure of specific national market conditions should assume a local responsiveness orientation (Beamish, Morrison, Rosenzweig and Inkpen, 2000).

#### Insert Figure 1 about here

#### *Hypotheses*

If the organization is influenced by structural drivers in the industry as suggested by many researchers (Houte, Porter and Rudden, 1982; Porter 1990; Vernon and Wells, 1991; Birkinshaw, Morrison and Hulland, 1995; Caves 1996; Yip, 2003), the performance implications of the strategic orientations under internationalization should be tested in representative industrial environments as opposed to cross-sectional samples (Roth and Morrison, 1990; Birkinshaw, Morrison and Hulland, 1995). In an analysis of intra-firm trade among affiliates of US-based MNEs and their headquarters, Kobrin (1991) argued that technology intensity drives global integration and found that communication equipment, electronic components, semiconductors, and computers were among the most globally integrated industries. Thus, firms operating in computer products and components industries are expected to pursue a strategic orientation of global integration and should be driven toward this orientation to avoid competitive

disadvantage when they internationalize (Porter, 1990). Hence, in these industries with rather standardized global products there should be substantial efficiencies associated with centralized operational integration and coordination of resource commitments through centralized planning efforts (Prahalad and Doz, 1987; Bartlett and Ghoshal, 1989, 2000). As computer products have become increasingly commoditized, the global cost pressures should increase and enforce the need for global integration. These arguments lead to the following hypothesis.

<u>Hypothesis 1.1</u>: *Firms in technology intensive businesses, such as computer products industries that pursue internationalization by adopting a strategic orientation of global integration are associated with superior performance.* 

We further bolster the I-R framework by incorporating a resource-based perspective in relation to the firm's multinational resource bundles (Devinney, Midley and Veniak, 2000; Kay, 2000, 2005). In this context, heterogeneity of productive resources available to the multinational enterprise constitutes a basis for developing new firm-specific knowledge-based competencies that extend the business opportunities for the corporation (Penrose, 1959, 1987). Hence, it is argued that *national* as well as *multinational* firms must possess scarce and unique resources consistent with the key attributes suggested by Barney (1991) in support of sustainable competitive advantage (Dunning, 2003).

It would seem that market insights from different national environments and access to diverse global competencies in the multinational enterprise can influence corporate performance in dynamic technology-driven industries (Kogut, 1985; Porter, 1990; Kogut and Kulatilaka, 1994). Under changing environmental conditions firms depend on the creation of new knowledge and capabilities while exploiting existing know-how in efficient routines (March, 1991; Eisenhardt and Martin, 2000). In this context firms with a multinational reach has access to local market insights and region-specific capabilities that may constitute complementary know-how and skills for the internationalizing firms (Hitt, Hoskisson and Kim, 1997; Dyer and Singh, 1998; Dusage, Garette and Mitchell, 2000). That is, while heterogeneous market conditions often are considered a source of incremental information processing and coordination cost (Hitt, Hoskisson and Ireland, 1996; Goerzen and Beamish, 2005) they also constitute a diverse multinational resource pool with potential incremental value (Foss and Pedersen, 2002, 2005). Hence, there is evidence of the increasing importance of global sourcing advantages not only in terms of physical input factor utilization but also in terms of extended access to knowledge-based resources (Mudambi, 2002; Ghemawat, 2003). Accordingly, the national markets from which the firm can acquire specialized resources may support the development of new business opportunities for firms operating in dynamic global technology intensive industries (Hedlund, 1986; Kogut and Zander, 1993; Kashlak and Joshi, 1994; Bartlett and Ghoshal, 2000; Andersen and Foss, 2005).

In competitive business environments there is a need for flexible, organic, and decentralized structures to improve the information processing capacity and increase organizational responsiveness (Burns and Stalker, 1961; Galbraith, 1977, 1994; Morgan, 1986). Hence, building new knowledge from internal and external sources across diverse international market environments requires a certain degree of decision autonomy within a decentralized structure among the national corporate entities in the MNE (Aghion and Tirole, 1997; Foss and Pedersen, 2002). However, dynamic changes across a complex multinational organization raise simultaneous needs for internal control and coordination to effectively integrate the dispersed business activities (Lawrence and Lorsch, 1967; Prahalad and Doz, 1987; Hitt, Hoskisson and Ireland, 1996). Incidentally, the centralized planning processes can also furnish exchange of

existing knowledge and enhance scale and scope economic advantages (Lord and Ranft, 2000). Hence, dispersion of decision power to regional business entities requires coordination and integration of multinational activities and suggests that a decentralized decision structure should be accompanied by centralized planning to achieve superior performance (Langfred, 2000; Baum and Wally, 2003; Andersen, 2004).

Thus, firms operating in dynamic knowledge-based industrial environments while pursuing a corporate internationalization strategy are likely to emphasize a local responsiveness orientation to improve their ability to renew essential technological know-how deriving from diverse product adaptations and technology developments. All the while, the multinational enterprise must gain economic efficiencies through a global integration orientation. Hence, dynamic capabilities derived from access to diverse global resources can recognize unique resource features in specific country environments while providing economic coherence to the organization (Teece, Shuen and Pisano, 1997; Eisenhardt and Martin, 2000; Griffith and Harvey, 2001). These arguments lead to the following hypothesis.

<u>Hypothesis 1.2</u>: Firms in technology intensive businesses, such as computer products industries that pursue internationalization by adopting a strategic orientation of global integration combined with a local responsiveness orientation are associated with superior performance.

It has been argued that, e.g., food, clothing, and household furniture represent common goods for basic consumption among all members of the community and, therefore, are affected by traditions, habits, and institutional settings embedded in the national culture (Beamish, Morrison, Rosenzweig and Inkpen, 2000). Besides culture, the intervening role of government in fostering and protecting local firms in these industries also suggest that a local responsiveness orientation would be beneficial. Accordingly, it has been suggested that a local responsiveness orientation is appropriate when firms internationalize business activities in food processing and clothing industries (Prahalad and Doz, 1987). Furthermore, the complexity associated with diverse national market requirements increases the information processing requirements of internationalizing firms (Leong and Tan, 1993) and favors a more decentralized decision structure where coordination can be achieved through mutual adjustment processes (Thompson, 1966; Galbraith, 1977, 1994; Morgan, 1986). These rationales lead to the following hypothesis.

<u>Hypothesis 2.1</u>: *Firms in common goods businesses, such as food processing, clothing, and household furniture industries that pursue internationalization by adopting a strategic orientation of local responsiveness are associated with superior performance.* 

Whereas firms in household and common goods industries may operate in national markets influenced by regional cultures, national economic infrastructures, and local habits many of these firms may increasingly pursue standardization of their global products centered around recognized brands. Hence, incremental efficiencies have been associated with the creation and promotion of global brand recognition particularly as standardized common goods provide the basis for scale and scope economic advantages when they are pushed across a larger multinational market reach (Aaker and Joachimsthaler, 1999; Sciulli and Taiani, 2001). These arguments lead to the following hypothesis.

<u>Hypothesis 2.2</u>: Firms in common goods businesses, such as food processing, clothing, and household furniture industries that pursue internationalization by adopting a strategic orientation of global integration are associated with superior performance.

In the subsequent sections we describe an empirical study performed to test these partially competing hypotheses.

#### Methodology

#### Data Collection and Sampling

Compustat provided access to archival data from firms operating in the distinct business settings of technology intensive products and culturally sensitive common goods. This sample selection allows us to investigate the hypotheses across industries characterized by varying degrees of dynamic competition. Environmental dynamism was assessed by instability indices calculated on the basis of aggregate annual sales data over a ten-year period for all manufacturing firms identified within two-digit SIC code industries. The instability indices were calculated as the standard error of the regression slope coefficient on the ten-year sales figures divided by average sales in the industry (Dess and Beard, 1984; Keats and Hitt, 1988). As expected, this analysis found considerably higher index values in computer products industries compared to household goods industries. Thus, the sampling was drawn from these industry groupings consistent with organizational studies adopting computer products as representative of dynamic market conditions and complex technology intensive processes (Eisenhardt, 1989; Eisenhardt and Schoonhoven, 1996; Martin and Salomon, 2003).

Hence, our study is based on a sample of North American manufacturing firms classified by their four-digit SIC codes and extracted from the Compustat database. Firms in computer products industries comprise electronic computers and storage devises (SIC: 3571-3573) and computer terminals and accessories (SIC: 3575-3578). Firms in the common goods sectors comprise food processing (SIC: 2011-2015, 2040-2046, 2060-2063, 2082-2089), clothing (SIC: 2300-2329 and 2331-2341), and household furniture (SIC: 2511-2514). These industry groupings were chosen for access to firms operating in business environments representing different levels of dynamic competition and with structural drivers prescribing strategic orientations of global integration and local responsiveness in the conventional I-R framework. Only corporations with business activities in the identified industries over a previous five-year period were considered in the final samples to avoid confluence of strategic change processes. Furthermore, since the sampled North American manufacturing firms operate in a home region of significant size, the decision to internationalize and diversify geographically is expected to constitute a significant even critical strategic choice.

The search identified 242 firms operating in the focal industries. Questionnaires were mailed to the executives with global sales and marketing responsibility as market positioning is considered a key component of internationalization strategy (Mintzberg, 1994; Porter, 1996). Members of the corporate top management teams are generally considered to be reliable informants. Initial letters sent to the executives were followed up by direct soliciting phone calls and a second mailing of the questionnaire. The questionnaires referred to conditions over prior years and were collected in late 1997 to capture a period of technological innovation and continued expansion of international business activities. Useable questionnaires were received from 112 of the identified 242 firms, which corresponds to a response rate of 46.3%. This response compares favorably to other executive-based studies (Hambrick, Geletkanycz and Fredrickson, 1993). Of the 112 firms, 60 datasets belonged to firms operating in computer products industries and 52 to firms in common goods industries. The data were tested for non-response biases and no significant differences were found.

#### Measures

#### Strategic Orientations

Previous studies have primarily considered the structural and organizational characteristics of firms clustered around the strategy typologies outlined within the I-R framework (e.g., Harzing, 2000). However, in line with the original work by Prahalad and Doz (1987), this paper defines the strategic orientations of local responsiveness and global integration on the basis of adherence to the corresponding strategy formation processes within the multinational enterprise. The strategic orientation variables are measured on continuous scales thus allowing us to assess their performance relationships within the specific industry environments, rather than just looking at above and below median values of the strategic orientations as criteria for clustering around the four generic strategies.

The strategic orientations are determined by the decision structures that frame strategic resource commitments in the corporations and thereby shape their internationalization processes. Operational integration and strategic coordination that characterizes the global integration orientation is achieved through centralized planning activities conducted at headquarters and the local responsiveness orientation is achieved through dispersion of decision making to relatively autonomous business entities (e.g., Lawrence and Lorsch, 1967; Prahalad and Doz, 1987; Bartlett and Ghoshal, 1989). Hence, the global integration orientation was measured by the emphasis the MNEs puts on the core elements of centralized planning (Andrews, 1971; Cohen and Cyert, 1973; Schendel and Hofer, 1979) using items developed and tested by Boyd and Reuning-Elliott (1998). The local responsiveness orientation was indicated as dispersion of decision power across business entities that allow lower level managers to take actions in their local market spheres without approval from MNE headquarters. This measure used dimensions developed by Aiken and Hage indicating the distribution of decision authority in the corporation (Price, 1972). To ensure relevance for the concern about internationalization strategy, the items

considered decisions, such as, new market activities, product developments, and changes in practices and policies (Miller, 1987). All items were assessed on five-point Likert scales with measures based on simple aggregation of scale items.

#### Internationalization

Internationalization reflects overseas sales as the share of total corporate turnover and a standardized self-reported indicator of the degree of the MNE's overseas presence thereby adhering to the call for multiple items to measure international engagement (Kogut and Singh, 1988; Sullivan, 1994; Annavarjula and Beldona, 2000). Whereas both industrial environments are exposed to international competition and hence are subject to underlying structural drivers in the global markets, the internationalization measure indicates the degree to which the firms are actively pursuing multinational business activities. The local responsiveness and global integration orientations may also apply to a domestic context where firms are exposed to international competition particularly in large open economies, such as the USA. However, when firms based in the United States expand internationally, the importance of the I-R framework intensifies as corporate activities face increasing complexities of diverse national settings and dynamic changes across global markets.

#### **Performance**

We used two distinct performance measures, profitability and expansion. Profitability was assessed in terms of return on assets and expansion as growth in net sales measured by selfassessed indicators of the firm's profitability and annual sales growth compared to its close competitors (Dess and Robinson, 1984). The self-assessed performance measures depict outcomes relative to close corporate competitors and hence by design eliminate effects from industry specific characteristics including munificence, product differentiability, and capital, advertising and R&D intensity. Hence, performance was assessed on comparable scales in both industry groups to avoid distorting influences from systematic differences in industry structures (Porter, 1980; Rumelt, 1991). The Appendix provides details of the performance measures. The measures were validated by comparing the self-reported indicators of profitability and expansion with archival performance data showing correlation coefficients of 0.42 and 0.49 respectively, which is comparable to previous studies (Dess and Robinson, 1984).

The internal consistency of the proposed constructs was assessed by exposing all item responses to factor analysis, which confirmed the presence of two distinct strategic orientations of global integration, depicting a centralized planning approach, and local responsiveness, reflecting dispersed decision making at the business unit level (Prahalad and Doz, 1987). The alphas of the two measures were calculated as 0.84 and 0.71 respectively, which is deemed satisfactory (Nunnally and Bernstein, 1994).

#### **Control Variables**

We used two control variables in our analyses, firm size and degree of internationalization. Organizational size is a common control for differences attributable to accumulation of slack resources (Aldrich and Auster, 1986; Aldrich, 1999). The natural logarithm of total sales was included as control variable to adjust for skewness towards size in the database.

#### Analytical method

The hypotheses were tested in multiple regression analyses on the two industry samples using

the performance measures as dependent variables and the strategic orientations of *global integration* and *local responsiveness* as independent variables together with their interaction terms with *internationalization* (Aiken and West, 1991; Kleinbaum, Kupper, Muller and Nizam, 1998). All variables, interaction terms, and controls were tested for multicollinearity and displayed variance inflation factors well below the threshold value of 9.5 (Lomax, 1992).

#### Results

Descriptive statistics and correlation analysis for the two industry samples are shown in Tables 1 and 2. The correlation analysis on the computer products sample indicates significant positive relationships between local responsiveness and the two performance measures whereas global integration only shows a positive relationship to profitability (Table 1). The correlation analysis on the common goods sample only indicates a significant positive relationship between global integration and profitability (Table 2).

#### Insert Table 1 about here

Insert Table 2 about here

To test for significant differences in industry characteristics, we performed one-way ANOVA analysis testing for differences between the mean-values of the key variables across the two corporate industry groups. On average the common goods firms seem to be larger than the computer products firms whereas the degree of internationalization appears to be somewhat higher among computer products firms compared to common goods firms (Table 3). However, the analysis only confirms statistically significant differences in the average size among the two groups while the other variables appear quite comparable.

#### Insert Table 3 about here

Furthermore, we plotted the relative emphasis on the two strategic orientations against each other across all the firms included in the two industry sub-samples to see if this would reveal a clear trend among firms towards a particular strategy typology within each of the two industrial environments. However, this exercise was not able to discern any such systematic patterns (Figure 2).

#### Insert Figure 2 about here

The results from hierarchical regression analyses performed on the full cross-sectional sample are shown in Table 4. The analyses uncover some interesting relationships. First, it indicates that a global integration orientation is positively associated with profitability across industries but is particularly important among computer products firms. However, a local responsiveness orientation also shows a significant positive association to expansion among firms in the computer products industries particularly as they engage in internationalization strategy. There are indications that the interaction between global integration and local responsiveness orientations has a positive relationship to profitability. While a local responsiveness orientation in conjunction with internationalization generally shows a negative performance association, a local responsiveness orientation among internationalizing computer products firms is positively related to both profitability and expansion.

#### Insert Table 4 about here

To test the hypotheses, we performed comparable regression analyses on each of the two industry sub-samples. The results of the hierarchical regression on the computer products firms are shown in Table 5. The global integration orientation has a positive and statistically significant relationship to both performance measures. Thus, there is general support for hypothesis 1.1 based on arguments around the I-R framework although the interaction term between global integration and internationalization fails to indicate that this effect is enforced when firms internationalize. Interestingly though, the local responsiveness orientation also shows a significant positive relationship to expansion (one of the two performance measures), which contradicts the notion of sole adherence to a global integration orientation in these industries to achieve the competitive advantage route. Furthermore, the three-way interaction term between global integration, local responsiveness and internationalization has significant positive relations to both performance measures indicating that dual adherence to both strategic orientations enhances performance when the firms internationalize. The outcome of these analyses provides support for hypothesis 1.2.

Insert Table 5 about here

The results from the regression analysis performed on firms in the common goods industries are shown in Table 6. The local responsiveness orientation has negative regression coefficients on both performance measures. Furthermore, the interaction terms between local responsiveness and internationalization have significant negative relationships to both performance measures indicating that this adverse effect is enforced when firms internationalize. These results fail to support hypothesis 2.1. In fact, they contradict the hypothesis, i.e., a strategic orientation towards local responsiveness seems detrimental to the performance of internationalizing firms engaged in common goods businesses. Thus, in the case of the common goods industries, support for the conventional deduction within the I-R framework is not obtained in our dataset. Rather, the global integration orientation has a positive and statistically significant relationship to the performance measures and provides equivocal support for the competing hypothesis 2.2.

A possible explanation for these results might be attributed to increasing cost pressures associated with international competition that enforce the need for economic efficiencies from a global integration orientation also in the common goods industries. That is, pursuing local responsiveness in household goods businesses may become too costly. The negative and significant interaction effect of local responsiveness and the degree of internationalization on performance seems to suggest that a higher degree of internationalization reflect that firms in the common goods industries reduce their focus on local responsiveness.

Insert Table 6 about here

Given that dynamic competition (as assessed by the instability indices for the industries)

is considerably higher in the computer products sample compared to the common goods sample, we would expect the performance relationship of both strategic orientations to be strong in the computer products industries. As expected the three-way interaction term between global integration, local responsiveness, and internationalization shows a significant positive relationship to both performance measures, i.e., dual emphasis on the two strategic orientations is important for internationalizing firms in the highly dynamic and technology intensive computer products industries. The significance of these results are also illustrated in a two-bytwo matrix (Figure 3), which clearly indicates that firms with dual emphasis on the two strategy orientations have a higher average score on the two performance measures compared to first that only emphasize one of the two strategic orientations or none of them. Furthermore, we see that firms in the common goods industries generally perform better than their peers when they adhere to a global integration orientation.

Insert Figure 3 about here

#### Discussion

We set out to investigate the performance effects of corporate internationalization strategies based on the strategic orientations underpinning the conventional I-R framework and extensions of this within two distinct industrial environments. We find partial support for the I-R framework but also recognize that dynamic changes in technology intensive environments like the computer products industries require that firms differentiate activities through a local adaptation orientation to improve capability updating from diverse national markets while gaining efficiencies through integration of global activities. We also observe negative relationships between the local responsiveness orientation and performance in the less dynamic common goods industries in contrast to the proposed positive performance relationship proposed by the current international business literature. Hence, these results challenge the conventional strategy analyses as they are currently promoted within the I-R framework.

Global integration achieved through centralized planning activities that coordinate the firm's strategic actions at corporate headquarters appears to be positively related to performance in the computer products industries as well as the common goods industries. Hence, global cost pressures seem to be of significant importance across industries thus indicating a move towards increasingly competitive global market contexts as suggested by Levitt (1983). The reduction in international trade barriers has been an important factor in extending global competition across industries including those that previously operated within the confines of rather protected national markets (Yip, 2003).

Firms operating in the computer products industries are faced with dynamic competition and technological complexities that were not readily observed by Kobrin (1991) when he used data covering the period between 1982 and 1986. The increasing use of new communication and information technologies has made it economically viable to pursue automation and product adaptation at the same time through flexible manufacturing and mass customization techniques (Pine, Victor and Boynton, 1993; Spina, Bartezzaghi, Bert and Cagliano, 1996). This ability to include complementary services provides additional opportunities to incorporate adaptive features while reaping significant scope economies (Riel, Lemmink and Ouwersloot, 2001). This suggests that while it still pays to maintain a global integration orientation in the computer products industries, it has also become more economical to pursue a local responsiveness orientation (Spina, 1998; Sambharya et al., 2005). This move towards a transnational strategy typology is consistent with predictions in turbulent and IT enhanced environments (Bartlett and Ghoshal, 19989, 2000; Sambharya, Kumaraswamy and Banerjee, 2005). However, we also observe that firms in the less dynamic common goods industries are faced with substantial cost pressures from product development, market promotion, and distribution that drive firms toward the scale and scope advantages of a global integration orientation (Bartlett and Ghoshal, 2000).

#### Insert Figure 4 about here

Our results indicate that managers choose between the strategic orientations to cope with complexity and dynamic competition in international markets and, therefore, the I-R framework developed on the basis of structural factors in yesteryears' industrial environments may no longer provide a match. Hence, we observe a move from the global strategy typology towards a transnational strategy emphasizing both strategic orientations as the most beneficial internationalization strategy in the highly dynamic computer products industries. At the same time, we see a move from the multidomestic local responsiveness orientation towards a global integrative strategy orientation as the most beneficial internationalization strategy in the less dynamic common goods industries. While firms in less dynamic industries feel the global pressure for efficiencies, firms in complex hypercompetitive markets also depend on access to diverse knowledge-based competencies to remain competitive (Ghemawat, 2003).

Consequently, firm in dynamic technology intensive environments must pursue a local responsiveness orientation, implying a certain degree of autonomy to the local business entities, to update competencies and gain new market insights across multinational entities (Foss and Pedersen, 2002; Mudambi, 2003). Hence, a dynamic capabilities perspective suggests that firms

operating in technology intensive industries are driven towards a dual emphasis on global integration and local responsiveness orientations. Conditions of dynamic competition in global market environments require ongoing updating of technological competencies, product market insights, and other knowledge-based resources in the firm. Accordingly, there is general recognition that access to diverse resources including broader market insights and specialized technological know-how and product applications constitutes an essential driver of multinational performance (Kogut and Zander, 1993; Inkpen and Dinur, 1998; Foss and Pedersen, 2005).

#### Limitations

As is the case with most research designs, the present study has limitations that should be noted. First, the strategic orientations in this study are operationalized based on an assessment of the structure and organization of strategic decision-making processes in the MNE conforming to the original work underpinning the I-R framework (Prahalad and Doz, 1987). Whereas this is consistent with the literature, the study could have benefited from measures of actual resource allocation decisions in the multinational organization. We did not have access to this kind of detailed observations on the internal resource allocation and capital budgeting processes and, therefore, had to discard this possibility. While we consider this as a potential shortcoming of the study, we also feel that the strong internal validity of the measures mitigate this limitation. Second, both larger sample sizes as well as more samples across industrial environments with different degrees of dynamic competition would help make the findings more conclusive.

The study was focused on two environmental settings supposedly capturing two representative typologies within the conventional I-R framework and, therefore, sampled firms from computer products and common goods industries. Since this sampling approach limits the study to specific business environments, we cannot claim that we have developed universal findings. Furthermore, the study is based on firms based in North America, which means that we must impose a reservation that organizations headquartered in other national contexts could display different performance relationships. Finally, the study is based on observations reflecting conditions during the latter half of the 1990s, a period characterized by increased use of information technology and multinational expansion. While this clearly updates the environmental context captured in datasets used to inform previous studies of the I-R framework (e.g., Leong and Tan, 1993; Prahalad and Doz, 1987; Roth and Morrison, 1990), conditions may have changed in subsequent years that require further updating. Hence, there is a need for confirmatory studies to test the results reported in the paper.

#### Conclusions

Not withstanding the potential limitations of the study, the reported findings contribute to the international strategy literature in material ways. This is one of the few studies that has actually tested the implied performance effects of the I-R framework and doing so on a dataset that reflects more contemporary competitive conditions. As such, the study provides interesting findings that appear contradictory to conventional interpretations of the I-R framework. Hence, we complement the conventional market-based I-R framework by incorporating resource-based and dynamic capabilities perspectives into the analysis of internationalization strategies.

In industries exposed to dynamic competition, cost pressures retain the need for a global integration orientation while a local responsiveness orientation is needed to develop a diverse multinational resource-base. Hence, while some researchers in strategy and organization theory focus explicitly on the effects of turbulence in high velocity environments, we introduce the

same context in a comparative study of internationalizing firms in two distinct industrial environments. The results resonate with the increasing realization that diverse multinational resources may constitute the essential drivers of multinational performance and, therefore, the study also contributes to the development of this research stream.

By analyzing firms operating in two distinct business environments, this study demonstrates that the premises of adhering to specific strategic orientations of global integration and local responsiveness are changing. As a consequence, the adoption of strategic orientations should be considered in the context of the dynamic changes that characterize distinct business environments rather than pursuing generic strategy typologies based on data analyses performed during the 1970s and 1980s.

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### APPENDIX

#### Items used to measure the strategic orientation constructs and performance indicators:

#### Global integration orientation (centralized planning)

The emphasis executives at the MNE head office;

(1) puts on the development of a corporate mission

(2) puts on long-term corporate plans

(3) puts on annual corporate goals

(4) puts on short-term action plans

(5) puts on on-going evaluations of corporate objectives

#### Chronbach's Alpha: 0.84

Local responsiveness orientation (dispersed decision making)

Regional managers reporting to the MNE head office;

(1) can start important market activities without top management approving the decision

(2) can market to new major customer segments without approval from top management

(3) can initiate new product and service developments before top management approves it

(4) can introduce new practices without approval from top management

(5) can develop new competencies before top management approves it

#### Chronbach's Alpha: 0.71

#### Performance

Profitability

The corporate position compared to close competitors in the industry over the past five years; (1) return on assets

#### Expansion

The corporate position compared to close competitors in the industry over the past five years;

(1) growth in net sales

Figure 1. Strategic Orientations and Generic Strategies in Specific Industrial Environments







#### Figure 3. Economic Performance Across Implied Strategy Typologies<sup>\*</sup>



<sup>\*</sup> Economic performance is obtained by adding the two indicators of profitability and expansion.

<sup>&</sup>lt;sup>\*</sup> The numbers indicate average performance among firms in the four groups determined by above and below median scores on the two strategic orientation measures.





(n=60)	Mean	S.D.	1	2	3	4	5
1 Organizational size	3.80	1.89	-	-	-	-	-
2 Internationalization	12.65	18.52	.489**	-	-	-	-
<b>3</b> Global integration orientation	17.49	4.36	087	.025	-	-	-
4 Local responsiveness orientation	<b>h</b> 13.83	4.31	.407**	.134	.201	-	-
<b>5 Expansion</b> (annual sales growth)	3.57	1.48	.118	139	.435**	.457**	-
6 Profitability (return on assets)	3.57	1.35	.242+	.018	.429**	.344**	.766**

## Table 1. Descriptive Statistics and Correlation Analysis – Computer Products Sample

 $^+$  p < 0.10; \* p < 0.05; \*\* p < 0.01

## Table 2. Factor Analysis of Item Responses – Common Goods Sample

(n=52)	Mean	S.D.	1	2	3	4	5
1 Organizational size	5.40	2.01	-	-	-	-	-
2 Internationalization	6.07	18.52	062	-	-	-	-
<b>3</b> Global integration orientation	17.23	5.43	.322*	057	-	-	-
4 Local responsiveness orientation	13.29	4.26	.213	.021	.112	-	-
<b>5 Expansion</b> (annual sales growth)	3.87	1.19	053	199	.221	.019	-
6 Profitability (return on assets)	3.81	1.28	.339*	035	.375**	072	.381**

 $^+$  p < 0.10; \* p < 0.05; \*\* p < 0.01

	Computer Products		Commo	n Goods	- ANOV	- ANOVA -		
	Mean	S.D.	Mean	S.D.	<b>F-value</b>	Sig.		
1 Organizational size	3.80	1.89	5.40	2.01	14.36	0.00		
2 Internationalization	12.65	18.52	6.07	18.52	2.01	0.16		
<b>3</b> Global integration orientation	17.49	4.36	17.23	5.43	0.08	0.78		
4 Local responsiveness orientation	13.83	4.31	13.29	4.26	0.45	0.51		
<b>5 Expansion</b> (annual sales growth)	3.57	1.48	3.87	1.19	1.36	0.25		
6 Profitability (return on assets)	3.57	1.35	3.81	1.28	0.93	0.34		

## Table 3. Comparative Analysis of Industry Sub-Samples (ANOVA)

(n=112)	<b>Profitability</b> (return on assets)						<b>Expansion</b> (annual sales growth)				
Organizational size	.319**	.288**	.303**	.252*	.248*		.127	.038	.034	032	034
Environmental dynamism	.121	.010	009	042	058		$.177^{+}$	.041	.022	.009	002
Internationalization	075	079	096	083	073		205*	215*	246*	260*	253*
Computer products (dummy)	021	.006	.026	.006	.059		110	103	108	110	070
Global integration orientation	-	.210+	$.228^{+}$	.314*	.343*		-	.120	.142	.188	.211
Local responsiveness orientation	-	<b>-</b> .140	122	149	156		-	.008	.011	.016	.010
Computer products by global integration	-	$.206^{+}$	$.212^{+}$	.174	.096		-	$.218^{+}$	$.209^{+}$	.192	.132
Computer products by local responsiveness	-	.204	.173	.172	.201		-	.281*	.267+	.246+	.269+
<b>Global integration by local responsiveness</b> .022		-	-	.199+	.185+	.198+		-	-	.028	.011
Computers by integration by responsiveness	-	-	063	045	140		-	-	076	067	139
Global integration by internationalization	-	-	-	.079	159		-	-	-	016	.050
Local responsiveness by internationalization	-	-	-	329+	315		-	-	-	.256	242
Computers by integration by internationalization	-	-	-	066	172		-	-	-	.003	080
Computer by responsiveness by internationalization	-	-	-	.317+	206		-	-	-	.384*	.298
Integration by responsiveness by internationalization	-	-	-	-	.096		-	-	-	-	.079
Computers by integration by responsiveness by internationalization	-	-	-	-	.197		-	-	-	-	.145
Multiple R <sup>2</sup>	.109	.270	.296	.332	.368		.091	.278	.298	.344	.365
Adjusted R <sup>2</sup>	.075	.213	.226	.235	.261		.057	.222	.234	.249	.258
F-significance	.014	.000	.001	.000	.000		.036	.000	.000	.000	.000

## Table 4. Regression Analyses – Cross-Sectional Sample [Standardized Regression Coefficients]

 $\overline{p < 0.10; p < 0.05; p < 0.05; p < 0.01}$ 

(n=60)	<b>Profitability</b> (return on assets)							Expansion (annual sales growth)			
Organizational size	.308*	.285*	.300*	.271+	.254+		.305*	.201	.179	.160	.118
Internationalization	<b>-</b> .153	160	152	174	107		328*	313**	325**	338**	332**
Global integration orientation	-	.426**	.439**	.439**	.362**		-	.393**	.372**	.428**	.335**
Local responsiveness orientation	-	.152	.129	.131	.147		-	.319*	.353**	.265*	.343**
<b>Global integration by local responsiveness</b> 205		-	-	.061	-	056		-	-	093	-
Global integration by internationalization	-	-	-	.019	102		-	-	-	.016	014
Local responsiveness by internationalization	-	-	-	.092	055		-	-	-	.222+	.129
Integration by responsiveness by internationalization	-	-	-	-	.332*		-	-	-	-	.233+
Multiple R <sup>2</sup>	.079	.309	.312	.316	.380		.117	.413	.421	.454	.496
Adjusted R <sup>2</sup>	.047	.258	.248	.238	.283		.086	.371	.367	.392	.417
F-significance	.096	.000	.001	.002	.001		.029	.000	.000	.000	.000

## Table 5. Regression Analyses – Computer Products Industries [Standardized Regression Coefficients]

 $\overline{p < 0.10; p < 0.05; p < 0.05; p < 0.01}$ 

(n=52)	<b>Profitability</b> (return on assets)							] (annu	E <b>xpansio</b> ial sales g	<b>n</b> growth)	
Organizational size	.328*	.261+	.257+	.183	.181		041	126	127	207	212
Internationalization	<b>-</b> .024	005	049	.109	.079		201	190	201	124	078
Global integration orientation	-	.308*	.336*	.469**	.490**		-	.248	.255+	.388*	.383*
Local responsiveness orientation	-	<b>-</b> .160	146	241	232		-	.021	.024	042	048
<b>Global integration by local responsiveness</b> .013		-	-	.218	-	.205		-	-	.054	-
Global integration by internationalization	-	-	-	.298	.320		-	-	-	.215	.177
Local responsiveness by internationalization	-	-	-	504*	502+		-	-	-	493*	551
Integration by responsiveness by internationalization	-	-	-	-	.003		-	-	-	-	123
Multiple R <sup>2</sup>	.109	.213	.257	.315	.354		.041	.097	.100	.218	.221
Adjusted R <sup>2</sup>	.072	.146	.177	.224	.234		.002	.021	.002	.114	.076
<b>F-significance</b>	.059	.022	.015	.007	.010		.355	.296	.416	.073	.178

## Table 6. Regression Analyses – Common Goods Industries [Standardized Regression Coefficients]

 $\overline{p < 0.10; p < 0.05; p < 0.05; p < 0.01}$ 

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