



**INDIAN INSTITUTE OF MANAGEMENT CALCUTTA**

**WORKING PAPER SERIES**

**WPS No. 610/ June 2007**

**Do Emerging Economy Firms Need Ambidextrous Strategies for  
Internationalization?**

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## **ABSTRACT**

This paper explores the influence of generic competitive strategies on export performance for firms in an emerging economy context. Using longitudinal data over the period 1995-2005, the linkage between strategy and export performance for a panel of firms from the Indian pharmaceuticals industry has been examined. We find that apart from pure low cost strategy, hybrid strategies of low cost and technology driven differentiation strategy positively influence export performance. More significantly we also find that both marketing based and technology based differentiation strategies enhance export performance. The findings imply that internationalizing emerging economy firms need to be ambidextrous while being low cost producers, also have to develop other capabilities simultaneously to sustain competitive advantage in the long run.

### **Keywords:**

Emerging economy, internationalization, competitive strategy, export performance

## **Do Emerging Economy Firms Need Ambidextrous Strategies for Internationalization?**

Emerging economies (EE) differ from developed economies in terms of dynamic macroeconomic conditions, under developed institutional environment (Nachum, 2004), and unstable environment (Uhlenbruck, Meyer, & Hitt, 2003) all of which have significant influence on firm performance. In an era of globalization, faced with underdeveloped institutions and factor markets, firms from emerging economies that are internationalizing are required to develop strategies that are distinct from those of developed economy firms to sustain their competitive advantage. In such a scenario, what are the predominant strategies adopted by the EE firms in their internationalization efforts through exports and compete successfully in global markets?

While the literature is replete with studies examining internationalization strategies of (1) firms from one developed economy to other developed economies and (2) firms from developed economies to developing or emerging economies, there are few studies available that examine the impact of competitive strategies on export performance of emerging market firms (Hoskisson, Eden, Lau, & Wright, 2000). In one of the few papers on export strategies of EE firms, Aulakh, Kotabe, and Teegen (2000) provide some evidence with regard to the influence of generic competitive strategies on export performance in the context of the host country environment. However, their study is based on a cross-sectional survey and does not reflect the evolving nature of firm strategies in the dynamic context of emerging economy environment. Besides, their study is based on multiple industries and does not highlight the subtle nuances of the industry context on the export performance. Longitudinal studies provide a better understanding of firm strategies as compared to survey based cross-sectional studies as it is

possible to analyze the inter-temporal dynamics and the individuality of the entities being investigated (Hill & Hansen, 1991).

This paper examines the linkages between generic competitive strategies and export performance through a longitudinal study, using a balanced data set of 55 firms from the Indian pharmaceutical industry over a ten-year period from 1996 through 2005. We draw upon industrial organization (IO), resource based view (RBV) of firms, and internationalization literature to assess the effect of generic firm strategies on export performance and attempt to demonstrate the realignment of firm strategies to contend with the multiple pressures faced and the capricious nature of the environment. The study fills a critical gap in internationalization research by empirically examining the strategy-export performance linkage in the context of emerging economies through a large-sample longitudinal study. India being one of the biggest emerging economies of the world provides perfect setting for conducting this research.

We tested our hypothesis on Indian pharmaceutical industry for a number of reasons. Opening up of the Indian economy in the early 1990s had direct effect on the pharmaceutical industry by exposing the domestic players to global competition. The period of study that we have considered (1996-2005) coincides with the signing of World Trade Organization (WTO) agreement by India and the subsequent period of widespread industry level realignment in Indian pharmaceuticals industry to move from process patent regime to product patent regime.

International competition, globalization and focus beyond the domestic market compelled the Indian pharmaceutical firms to seek and develop marketing and distribution capabilities with a need to develop global brands besides gaining access to highly competitive markets. At the same

time domestic firms made substantial investments to develop technological capabilities to enable new product development while trying to maintain the competitive advantage.

The rest of the paper is organized as follows. The next section briefly reviews the extant literature on firm strategies and motives for internationalization, followed by development of our model in the form of number of testable hypothesis. The section on methodology describes the research setting, data, operationalization of the variables, model, followed by discussion of the empirical results. In the last section, the study's contributions, limitations and implications for practice and policy are highlighted.

## **THEORY AND HYPOTHESES**

Classic IO literature primarily views conduct or strategy influencing firm performance constrained by the industry structure. This literature tends to ignore the independent managerial action and attributes performance largely to the industry structure (Spanos et al., 2004). Firms are merely concerned with making choices that enable them to exploit the market opportunities gainfully. RBV literature provides a complementary explanation by highlighting firm capabilities and resources as the sources of firm heterogeneity and performance and the managerial actions to develop and sustain those resources that give competitive advantage (Barney, 1991). The recent developments in IO partly explain for the impact of industry structure on firm performance and also for the firm heterogeneity arising out of competitive positioning (Porter, 1985, 1991). As per the framework proposed by Porter, firms pursue generic strategies of cost leadership or differentiation to overcome the structural disadvantages or to change the structure of the industry itself (Miller, 1988). Cost leader creates value for the customers by providing a consumer surplus that is superior to those of its competitors. This is achieved by either offering a product with

similar perceived benefit (benefit parity) as its rivals at a lower average cost of manufacture relative to its rivals by exploiting economies of scale or by offering a product with slightly lower perceived benefit (benefit proximity) but substantially lower costs to the consumer by employing innovative processes. Differentiator on the other hand creates competitive advantage by offering products with superior perceived benefits at the same cost (cost parity) or slightly higher cost (cost proximity) to the consumer as compared to their rivals (Besanko, Dranove, Shanley, & Schaefer, 2004). Cost leadership helps firms realize greater margins and above average returns than the industry while differentiation strategies aim at creating a unique position in the industry in terms of a brand image, distribution and sales network, customer service, technology or innovative products etc. (Porter, 1998).

The term differentiation implies *competitive* differentiation and not *segment* differentiation in the sense that firms use different competitive weapons (or the primary ways the organization applies its skills and resources to meet environmental needs) to sustain their competitive advantage (Chrisman, Hofer, & Boulton, 1988). According to Ward, Bickford, and Leong (1996) firms pursuing a differentiation strategy are characterized by quality or service, asset parsimony, narrow product-market scope (niche differentiation) or innovation and R&D (broad market differentiation). Niche differentiators avoid direct competition with large competitors in general where as broad differentiators strive to cater to a large market on the basis of quality or service as opposed to price. Broad differentiators also have to maintain flexible manufacturing processes and are likely to employ advanced manufacturing technologies that enable to reduce the cost of flexibility (Ward et al., 1996).

Firms have been known to pursue differentiation strategies on two broad platforms - technology orientation (innovating differentiators) and marketing orientation (marketing differentiators) (Dess & Davis, 1984; Miller, 1986). Technology facilitates product innovation and development of attractive products in terms of quality, efficiency, design innovations, or style (Miller, 1988) that either result in price premium by way of exclusivity or deliver superior value to the consumer. Marketing focuses on building brands, dominating markets, targeting niche customer segments, developing customer loyalty and value added customer services. While the focus of technological capabilities is on the product and the process of manufacturing the product, the focus of marketing capabilities is on positioning the product in the market so as to derive a competitive advantage.

Firm's decision to internationalize can be for a number of reasons ranging from resource acquisition (Ahuja & Katila, 2004; Makino, Lau, & Yeh, 2002), exploitation of firm capabilities and resources (Anand & Delios, 2002; Belderbos, 2003; Bernard & Jensen, 1999; Cadogan, Diamantopoulos, & Siguaw, 2002; Dhanaraj & Beamish, 2003; Knight & Cavusgil, 2004), favorable host market characteristics (Fuentelsaz, Gomez, & Polo, 2002; Hennart & Park, 1993; Karagozoglou & Lindell, 1998), and corporate or firm strategy (Aulakh et al., 2000; Belderbos, 2003; Bernard et al., 1999; Delios & Beamish, 1999). Firms from EE first expand into foreign countries through exporting before escalating commitments in the form of more investment-oriented entry modes (Aulakh et al., 2000). The international expansionary activities of these EE firms are fraught with many challenges. To begin with, they have to overcome the 'late mover' disadvantage. In addition, they hail from less munificent resource environments and have to acquire resources and capabilities to successfully compete with established players from the

developed economies (Guillen, 2000). In such a scenario, what are the predominant strategies adopted by the EE firms in their internationalization efforts through exports and compete successfully in global markets?

Internationalizing firms from emerging economy are expected to compete based on low cost strategies especially while targeting developed markets (Aulakh et al., 2000). Firms from developing markets enter developed markets to explore for technological know how particularly if the industry in which they operate tends to be sensitive to technological changes (Wright, Filatotchev, Hoskisson, & Peng, 2005). Lall (1983) and Wells (1983) argued that EE firms have the potential to develop some proprietary advantages such as low input costs, inexpensive labor, management and marketing skills adapted to third world conditions, which helped them expand predominantly into other, similar, less developed countries. EE firms typically export on price/cost leadership relying on low factor cost in response to demand conditions that are price-sensitive and value-conscious (Brouthers & Xu, 2002). EE firms benefit from economies of scale competing on the basis of low cost by serving other markets since the domestic markets are small to provide significant scale advantage (Nachum, 2004).

Accordingly we hypothesize,

*Hypothesis 1: For Internationalizing emerging economy firms, low cost strategies are positively related to export performance.*

Strong technological capabilities of firms enable them to offer international quality offerings and also to develop value added and innovative products, there by increase their export sales.

Technology based innovative capabilities of the firm can lower the production costs and improve product quality relative to competitors leading to competitive advantage by differentiating its

products (Kotabe, Srinivasan, & Aulakh, 2002). For firms from EE that are often considered to be ‘low cost producers of commodities’ (Brouthers et al., 2002), ability to differentiate their products in the international market on quality can fetch substantial premiums. Similarly, better distribution network, strong sales force, better customer relationship management, the abilities to identify and service market needs can also lead to competitive advantage for exporting firms. Export market oriented activities- defined as the generation and dissemination of market intelligence information pertinent to the firms exporting operations along with the design and implementation of export related responses- have been found to positively influence export performance (Cadogan et al., 2002) implying marketing oriented differentiation strategies matter. Hence, we hypothesize,

*Hypothesis 2: For internationalizing emerging economy firms, technology based differentiation strategies positively influence export performance.*

*Hypothesis 3: For internationalizing emerging economy firms, marketing based differentiation strategies positively influence export performance.*

Hill (1988) has argued that firms pursue hybrid strategies of low cost and differentiation when the firm’s ability to differentiate the product is high, consumer’ commitment to the products of rival firms is low, when market growth is high, when market structures is fragmented, when the production process is new and complex, when economies of scale are present, and when economies of scope exist. Although not entirely for the above reasons, Hill’s conjecture has been empirically supported in a dynamic context by Spanos et al. (2004) who reported that Greek manufacturing firms that pursued hybrid generic strategies delivered superior performance

compared to firms with pure generic strategies. Greek firms were required to restructure, modernize, and change their strategic profiles to deal with the changes ushered in by signing of Masstricht treaty in 1990 and the subsequent accession to Economic Monetary Unit in 2001. Facing twin competitive pressures of technologically advanced and branded products from established competitors in European Union and low cost products from emerging countries, Greek firms turned to hybrid strategies of low cost and differentiation.

Given that the Indian market was opened for foreign direct investment in many of the sectors post economic liberalization in the early nineties, the comparative advantages enjoyed by many of the domestic firms is equally available to the multinational companies (MNC) operating from India. Even before economic liberalization, MNC firms had a significant presence in the Indian pharmaceutical industry who employed process and product technologies developed elsewhere to produce products for the domestic market using the same factor market as the local firms (Ramani, 2002). For domestic firms to compete successfully at a global level, they had to supplement their low cost positions with differentiation strategies particularly in a technology intensive industry such as pharmaceuticals where global players with superior capabilities dominate. Hence, we hypothesize,

*Hypothesis 4: Hybrid strategies of low cost and technology based differentiation lead to positive export performance for EE firms.*

*Hypothesis 5: Hybrid strategies of low cost and marketing based differentiation lead to positive export performance for EE firms.*

Firms pursuing hybrid differentiation strategies under turbulent environment context are likely to perform better on account of diversified abilities to cope with changes and strategic flexibility (Song, Droge, Hanvanich, & Calantone, 2005; Ward et al., 1996). Pharmaceutical industry is characterized by a dynamic environment fraught with risks of rapid changes in technology and product failure. The protracted process of testing a drug and the subsequent approval from regulatory bodies such as USFDA require close coordination between the R&D and marketing and therefore developing both these capabilities matter. Literature suggests interactions exist between technological capabilities, marketing capabilities and export growth (Fiegenbaum, Shaver, & Yeung, 1997; Morck & Yeung, 1991) and hence the need for hybrid differentiation strategies combining the technology and marketing based differentiation is more in the context of internationalization. Based on the above, we hypothesize,

*Hypothesis 6: Hybrid differentiation strategies based on both marketing capabilities and technological capabilities lead to positive export performance for EE firms.*

## **METHODS**

Our research is set on the Indian pharmaceutical industry over the period 1996-2005 against the backdrop of the institutional changes ushered in as a consequence of the economic liberalization policies of the early 1990s and adoption of WTO charter in 1995. Hoskisson et al.(2000) detailed the several difficulties posed by emerging economies in data collection. The secondary data from *Prowess* from the Centre for Monitoring Indian Economy (CMIE) has been increasingly used by researchers (Chacar & Vissa, 2005; Khanna & Palepu, 2000; Khanna & Rivkin, 2001) for large sample studies on India, which formed the source for our study. *Prowess* contains detailed financial data on over 9,300 Indian firms comprising all companies traded on India's major stock exchanges and several others including the central public sector enterprises.

The database covers most of the organized industrial activity in India and the companies covered in *Prowess* account for 75 per cent of all corporate taxes and over 95 per cent of excise duty collected by the Government of India. There were totally 337 firms available in the Prowess database under the industry classification (four-digit) of Drugs and Pharmaceuticals. We considered the yearly data for the decade beginning FY1996, which marked the onset of major reform in the Indian pharmaceutical sector. After eliminating all subsidiaries of multinationals, we further restricted our analysis to a panel of firms that reflected consistently in the database over all the years of the observation period and reported total assets of more than 1 million Indian Rupees and net sales in excess of 1 million Indian Rupees. After these eliminations, we were left with *55 firms with ten years of data*, which constituted our sample.

### **Model Specification:**

We tested our hypotheses using random-effects generalized least squares panel estimation accounting for time effects and firm effects over the entire ten year data modeling export performance as a function of explanatory variables and their interactions effects as given below.

Fully specified model to evaluate export performance is,

$$\begin{aligned} \text{Exp\_Int}_{it} = & c + \beta_1 \times \text{Log\_TA}_{it} + \beta_2 \times \text{NPM}_{it-1} + \beta_3 \times \text{Age}_{it} + \beta_4 \times \text{Timeclock} + \beta_5 \times \text{VarCost\_Int}_{it} + \\ & \beta_6 \times \text{Rd\_Int}_{it} + \beta_7 \times \text{Adv\_Int}_{it} + \beta_8 \times (\text{VarCost\_Int}_{it} \times \text{Adv\_Int}_{it}) + \beta_9 \times (\text{VarCost\_Int}_{it} \times \\ & \text{RD\_Int}_{it}) + \beta_{10} \times (\text{Rd\_Int}_{it} \times \text{Adv\_Int}_{it}) + \varepsilon_{it} \end{aligned} \quad (1)$$

Where,

$\text{Exp\_Int}_{it}$  = Ratio of export sales to net sales for firm *i* in year *t*

$\text{Log\_TA}_{it}$  = Log-transform of book value of total assets for firm *i* in year *t*

$\text{NPM}_{it-1}$  = Net profit margin lagged by one year for firm *i* in year *t*

$\text{Age}_{it}$  = Age of the firm *i* in year *t*

Timeclock = Dummy variable

VarCost\_Int<sub>it</sub> = Ratio of variable cost (netsales-fixed costs-profits) to net sales for firm i in year t

Adv\_Int<sub>it</sub> = Ratio of advertising expenses to net sales for firm i in year t

Rd\_Int<sub>it</sub> = Ratio of R&D expenses to net sales for firm i in year t

### **Variables:**

***Dependent Variable:*** Export performance was measured using export sales to net sales (export intensity) as a proxy following Verwaal and Donkers (2002). We chose the ratio of export sales to total sales over other possible measures such as growth in exports or export profitability, as it is consistent with prior research on the determinants of export performance and thus facilitates direct comparability.

***Independent variables:*** We operationalized cost leadership strategy using the ratio of variable cost to net sales (VarCost\_Int) as a proxy for cost efficiency. Lower the variable cost of manufacture, higher is the expected firm performance. Differentiation strategies were captured using standard measures such as R & D expenses to net sales (RD\_Int) and advertising expenses to net sales (Adv\_Int) (Delios et al., 1999; Spanos et al., 2004). RD\_Int has been used in literature to account for technological strength of a firm and therefore suggests differentiation strategies of superior product, process and innovation. Adv\_Int has been used as a proxy for the marketing strength of a firm reflecting upon firm strategies geared towards market position, branding, target customers etc.

We control for firm size using log transformation of total book value of assets (Log\_TA) as firm size matters to influence firm performance. Firm size is an indicator of financial and managerial

resources available with the firm (Penrose, 1959). Firm performance in a given year may be influenced by the firm performance of the previous year and is controlled using a one year lagged net performance margin (Lag1\_NPM). Firm age was controlled by introducing a variable that used year of incorporation of the firm as a base value. To capture the dynamic effects over the post-liberalization ten-year period considered in our study, we created a timeclock dummy variable (Amburgey, Kelly and Barnett 1993). We introduced dummy variable Timeclock taking values of 0 for the first 5 years of the study and 1 thereafter to control for the inter-temporal dynamics if any.

## **RESULTS**

### **Tests of Hypotheses**

Means, standard deviations, and zero-order correlations of all study variables are reported in Table 1 below. The use of interaction terms in our research is likely to compound issues of multicollinearity and therefore we computed the variance inflation factors (VIF) to address such issues. All values of VIF ( $<2.05$ ) are within acceptable limit of 10 (Kale, Singh, & Perlmutter, 2000) ruling out substantial multicollinearity amongst the variables. The adjusted R square value for the fully specified model is 27.89% indicating a fairly good fit of the model for the observations with significant test of ANOVA ( $p < 0.05$ ).

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Insert Tables 1 about here  
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Hypotheses 1, 2,3,4,5 and 6 related to model 1 dealing with internationalization performance are tested and reported in Table 2. We have hypothesized that emerging economy firms pursuing internationalization are expected to benefit from generic strategies of low cost or differentiation that is technology or marketing based in hypothesis 1, 2, and 3 respectively. Coefficient of variable cost intensity in model 1 is negative and highly significant ( $p < 0.01$ ) implying that low cost strategy matters. Lower the variable cost higher the export performance. Thus hypothesis 1 is supported. Coefficients of R&D intensity (positive) and advertising intensity (negative) are not significant implying that in the context of internationalization performance pure differentiation strategies do not result in competitive advantage for firms from emerging economies. Therefore hypothesis 2 and 3 are not supported.

Hypotheses 4, 5, and 6 conjecture different combinations of hybrid generic strategies that are likely to influence export performance. We hypothesized that hybrid generic strategies of low cost and differentiation based on technology will lead to positive export performance (hypothesis 4). Hypothesis 4 is supported (negative coefficient and significant,  $p < 0.1$ ). Hypothesis 5 states that hybrid generic strategies of low cost and differentiation based on marketing will lead to positive export performance. Coefficient of interaction between variable cost intensity and advertising intensity is not significant and therefore Hypothesis 5 was not supported. Hypothesis 6 conjectured a positive association between technology and marketing based differentiation and export performance and is strongly supported (positive  $Adv\_Int \times RD\_Int$  coefficient and significant,  $p < 0.01$ ) implying that both R&D and marketing capabilities matter. Superior export performance on account of higher spends in R&D and marketing related activities for firms from India offers new evidence about the intended strategies of pharmaceutical firms.

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Insert Tables 2 about here  
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### **Post Hoc Analyses**

We conducted a post hoc analysis by splitting the data in to two time periods (1996-2000 and 2001-2005) and running the regression on two sub samples independently to assess if there has been any change over time. The results are reported under model 2 and 3 for the first time period and the second time period respectively. The coefficients of R&D intensity is negative and significant ( $p < 0.1$ ) in the first half and not significant in the second half while the interaction of R&D intensity with advertising intensity is negative and significant ( $p < 0.05$ ) in the first half and significant ( $p < 0.01$ ) and positive in the second half. This point towards the fact that investments in capabilities of R&D and marketing made in the earlier time periods took effect only in the later time periods to positively enhance export performance.

### **DISCUSSION**

The objectives of this paper was to assess what generic strategies lead to export competitive advantage for firms from emerging economy operating in an industry such as pharmaceuticals that is dynamic, technology intensive, and uncertain. The results reported provide several interesting insights.

First of all we found that low cost leadership strategies have a positive relationship with firm performance. This result is on expected lines given that India has traditionally enjoyed comparative advantage of being a low cost producer of goods. Before India adopted the charter

of WTO in 1995, the pharmaceutical firms were constrained by a process patent regime rather than a product patent regime that prevailed in the rest of the world. Indian pharmaceutical companies developed skills and expertise to ‘reverse engineer’ patented products using processes and ingredients that significantly reduced the overall cost of the product. Indian domestic pharmaceutical market until 1997 was heavily controlled by the government in terms of the maximum price that could be charged for critical drugs. Indian firms were able to increase the margins on product by reducing the overall cost of manufacture by adopting innovative processes. In the last five years alone the industry has recorded a compounded annual growth rate of 20 per cent in exports (source: Confederation of Indian Industry) bulk of which is to developed countries.

Second, no support was found for strategies of differentiation based on either technology or marketing capabilities. This implies that Indian pharmaceutical firms continue to export predominantly as low cost producers of drugs. We had hypothesized that EE firms that are able to differentiate their product in the international market are likely to benefit from substantial premium. It is likely that the markets serviced by Indian pharmaceutical firms do not as yet recognize or acknowledge technology and marketing capabilities of Indian firms. Limited evidence is available in the form of a negative correlation between R&D investment and export performance in the first half of the time period (refer model 2) implying that Indian firms indeed made investments at a cost to ramp up their capabilities the effects of which are yet to be realized. Further analysis comparing inter firm performance may provide concrete evidence.

Third, we found support for hybrid strategies of low cost and differentiation based on technology implying that the nature of industry indeed matters even in the context of an emerging economy. This finding provides a contrasting perspective to those of Aulakh et al (2000), who hypothesized a negative relationship between mixed strategies and export performance in the context of other emerging economies, and found non significant results. On the other hand we hypothesized a positive relationship and find statistically significant support. In high technology areas such as pharmaceutical industry, R&D capabilities enable firms to enhance relative absorptive capacities (Lane & Lubatkin, 1998) to learn from other firms. Technology also enables firms to find more efficient processes for manufacturing products there by enhancing the profitability. India pursued a strategy of self-reliance and import-substitution policy from the 1960s until early 1990s when the economy was liberalized and opened up for foreign investment (Feinberg & Majumdar, 2001). All along several multinational companies dominated the Indian market in the pharmaceutical Industry although the drug price control order of 1970 severely undermined the profitability of the industry (Ramani, 2002). Whatsoever R&D spillover occurred between the MNCs as a group and did not benefit the domestic firms (Feinberg et al., 2001) forcing them to seek R&D capabilities directly from other markets or develop in house. At the same time these firms had to compete with entrenched MNC brands on both price and quality. The liberties provided by process patent policy allowed these firms to substitute a number of patented products by developing alternate but cheaper manufacturing processes and compete on low cost. While developing these alternate manufacturing processes Indian firms made modest investments in R&D resulting in an enhancement of their technical capabilities (Ramani, 2002).

Finally, we find strong support for firms to pursue broad differentiation strategies on twin platforms of technological strengths and marketing strengths while striving for competitive advantage in the global markets. This finding finds further credence when we conducted the post hoc analysis comparing data from two time periods-first half and the second half. Post hoc analysis reveals that Indian pharmaceuticals firms initially started exporting as low cost producers of drugs while making investments in R&D and marketing capabilities at a cost to export performance to enhance their capabilities. These investments began to bear fruit in terms of positively enhancing export performance in the later period of the study. In a similar study on exporting firms conducted in China (Brouthers et al., 2002), authors report that performance satisfaction was found to increase when Chinese exporters employed branding product strategy and targeted less developed countries. Our study does not differentiate between the host market characteristics; instead it is focused on the industry level phenomena of a developing economy firm. While the Chinese study points towards the aspirations of exporting firms from emerging economy, our study provides evidence as to how these aspirations are being realized. Clearly, emerging economy firms facing twin pressures of having to contend with other low cost producers as well as the established global brands from developed countries are pursuing ambidextrous strategies to sustain competitive advantage.

## **CONCLUSION**

Through a longitudinal panel analysis of 55 Indian pharmaceutical firms during the period 1996-2005, we find that apart from pure low cost strategy, hybrid strategies of low cost and technology driven differentiation strategy positively influence export performance. More significantly, we also find that both marketing based and technology based differentiation strategies enhance export performance. The findings imply that internationalizing emerging economy firms need to

be ambidextrous; while being low cost producers, they also have to develop other capabilities simultaneously to sustain competitive advantage in the long run. The paper makes two theoretical contributions. It is probably the first, other than the study by Aulakh et al. (2000), to rigorously examine the linkages between competitive strategies and export performance and tests some important theoretical ideas in the emerging economy context. Second, the paper provides evidence of duality in the nature of firm strategies to contend with the changing environment.

Main stream strategy literature recognizes the importance of simultaneously balancing seemingly contradictory tensions and managing the duality of exploration and exploitation (March, 1991). It is argued that successful organizations in a dynamic environment align and adapt to enhance their long term competitiveness sometimes making tradeoffs between the demands of today and the requirements for the future and sometimes attending to both the demands simultaneously (Gibson & Birkinshaw, 2004). It has also been observed that the need for adopting ambidextrous strategy and building ambidextrous organization is more pronounced in a fast changing highly uncertain and complex environment punctuated by discontinuities (Tushman and O'Rielly, 1996). Internationalizing firms in a globalized era are likely to face such environment characterized by high uncertainty, complexity and discontinuity more frequently. Clearly, our research suggests that emerging economy firms facing twin pressures of having to contend with other low cost producers as well as the established global brands from developed countries need to pursue hybrid / ambidextrous strategies, build multiple layers of competitive advantage for sustaining export performance. However, more research is needed to explore how internationalizing firms in the face of inherent contradictions avoid committing to a single

generic strategy, follow hybrid strategies and build ambidextrous organizations for sustained success.

As our research setting is limited to a single industry context, we recognize that the conclusions drawn are only suggestive and by no means definitive and shall desist from making sweeping generalizations. However, we believe that an important beginning has been made in researching a topic that goes to the very root of globalization and liberalization of emerging market economies. More such large sample studies in multiple industries and in different geographical and institutional contexts may be attempted to refine and validate our hypotheses and formulate new ones. Such studies may go a long way in throwing further light on the important linkages between competitive strategies and internationalization performance.

## REFERENCES

- Ahuja, G. & Katila, R. 2004. Where do resources come from? The role of idiosyncratic situations. *Strategic Management Journal*, 25(89): 887-907.
- Amburgey, T.L., Kelly, D., Barnett, W.P. 1993. Resetting the clock: the dynamics of organizational change and failure. *Administrative Science Quarterly*, 38(1) 51-73.
- Anand, J. & Delios, A. 2002. Absolute and relative resources as determinants of international acquisitions. *Strategic Management Journal*, 23(2): 119-134.
- Aulakh, P. S., Kotabe, M., & Teegen, H. 2000. Export strategies and performance of firms from emerging economies: Evidence from brazil, chile, and mexico. *Academy of Management Journal*, 43(3): 342-361.
- Barney, J. B. 1991. Firm resources and sustained competitive advantage. *Journal of Management*, 17(1): 99-120.
- Belderbos, R. 2003. Entry mode, organizational learning, and r & d in foreign affiliates: Evidence from japanese firms. *Strategic Management Journal*, 24(3): 235-259.
- Bernard, A. B. & Jensen, J. B. 1999. Exceptional exporter performance: Cause, effect, or both? *Journal of International Economics*, 47(1): 1-25.
- Besanko, D., Dranove, D., Shanley, M., & Schaefer, S. 2004. *Economics of strategy* (Third ed.). Singapore: Wiley
- Brouthers, L. E. & Xu, K. 2002. Product stereotypes, strategy and performance satisfaction: The case of chinese exporters. *Journal of International Business Studies*, 33(4): 657-678.
- Cadogan, J. W., Diamantopoulos, A., & Siguaw, J. A. 2002. Export market-oriented activities: Their antecedents and performance consequences. *Journal of International Business Studies*, 33(3): 615-627.
- Chacar, A. & Vissa, B. 2005. Are emerging economies less efficient?: Performance persistence and the impact of business group affiliation. *STRATEGIC MANAGEMENT JOURNAL*, 26(10): 933.
- Chrisman, J. J., Hofer, C. W., & Boulton, W. R. 1988. Toward a system for classifying business strategies. *The Academy of Management Review*, 13(3): 413-428.
- Delios, A. & Beamish, P. W. 1999. Geographic scope, product diversification, and the corporate performance of japanese firms. *Strategic Management Journal*, 20(8): 711-727.

- Dess, G. G. & Davis, P. S. 1984. Porter's (1980) generic strategies as determinants of strategic group membership and organizational performance. *The Academy of Management Journal*, 27(3): 467-488.
- Dhanaraj, C. & Beamish, P. W. 2003. A resource-based approach to the study of export performance. *Journal of Small Business Management*, 41(3): 242-261.
- Feinberg, S. E. & Majumdar, S. K. 2001. Technology spillovers from foreign direct investment in the indian pharmaceutical industry. *Journal of International Business Studies*, 32(3).
- Fiegenbaum, A., Shaver, J. M., & Yeung, B. 1997. Which firms expand to the middle east: The experience of u. S. Multinationals. *Strategic Management Journal*, 18(2): 141-148.
- Fuentelsaz, L., Gomez, J., & Polo, Y. 2002. Followers' entry timing: Evidence from the spanish banking sector after deregulation. *Strategic Management Journal*, 23(3): 245-264.
- Gibson, C. B. & Birkinshaw, J. 2004. The antecedents, consequences, and mediating role of organizational ambidexterity. *Academy of Management Journal*, 47(2): 209-226.
- Guillen, M. F. 2000. Business groups in emerging economies: A resource-based view. *The Academy of Management Journal*, 43(3): 362-380.
- Hennart, J. F. & Park, Y. R. 1993. Greenfield vs. Acquisition: The strategy of japanese investors in the united states. *Management Science*, 39(9): 1054-1070.
- Hill, C. W. L. 1988. Differentiation versus low cost or differentiation and low cost: A contingency framework. *The Academy of Management Review*, 13(3): 401-412.
- Hill, C. W. L. & Hansen, G. S. 1991. A longitudinal study of the cause and consequences of changes in diversification in the us pharmaceutical industry 1977-1986. *Strategic Management Journal*, 12(3): 187-199.
- Hoskisson, R. E., Eden, L., Lau, C. M., & Wright, M. 2000. Strategy in emerging economies. *The Academy of Management Journal*, 43(3): 249-267.
- Kale, P., Singh, H., & Perlmutter, H. 2000. Learning and protection of proprietary assets in strategic alliances: Building relational capital. *Strategic Management Journal*, 21(3): 217-237.
- Karagozoglu, N. & Lindell, M. 1998. Internationalization of small and medium-sized technology-based firms: An exploratory study. *Journal of Small Business Management*, 36(1).
- Khanna, T. & Palepu, K. 2000. Is group affiliation profitable in emerging markets? An analysis of diversified indian business groups. *The Journal of Finance*, 55(2): 867-891.
- Khanna, T. & Rivkin, J. W. 2001. Estimating the performance effects of business groups in emerging markets. *Strategic Management Journal*, 22(1): 45-74.

- Knight, G. A. & Cavusgil, S. T. 2004. Innovation, organizational capabilities, and the born-global firm. *Journal of International Business Studies*, 35(2): 124-141.
- Kotabe, M., Srinivasan, S. S., & Aulakh, P. S. 2002. Multinationality and firm performance: The moderating role of r&d and marketing capabilities. *Journal of International Business Studies*, 33(1): 79-97.
- Lall, S. 1983. *The new multinationals: The spread of third world enterprises*. Chichester: Wiley.
- Lane, P. J. & Lubatkin, M. 1998. Relative absorptive capacity and interorganizational learning. *Strategic Management Journal*, 19(5): 461.
- Makino, S., Lau, C. M., & Yeh, R. S. 2002. Asset-exploitation versus asset-seeking: Implications for location choice of foreign direct investment from newly industrialized economies. *Journal of International Business Studies*, 33(3): 403-422.
- March, J. G. 1991. *Exploration and exploitation in organizational learning*. *Organization Science*, 2: 71-86.
- Miller, D. 1986. Configurations of strategy and structure: Towards a synthesis. *Strategic Management Journal*, 7(3): 233-249.
- Miller, D. 1988. Relating porter's business strategies to environment and structure: Analysis and performance implications. *The Academy of Management Journal*, 31(2): 280-308.
- Morck, R. & Yeung, B. 1991. Why investors value multinationality. *The Journal of Business*, 64(2): 165-187.
- Nachum, L. 2004. Geographic and industrial diversification of developing country firms. *Journal of Management Studies*, 41(2): 273-294.
- Penrose, E. 1959. *The theory of the growth of the firm*. New York: Wiley.
- Porter, M. E. 1985. *Competitive advantage*. New York: Free Press
- Porter, M. E. 1991. Towards a dynamic theory of strategy. *Strategic Management Journal*, 12(WINTER): 95-117.
- Porter, M. E. 1998. *Competitive strategy: Techniques for analyzing industries and competitors: With a new introduction*. New York: The Free Press.
- Ramani, S. V. 2002. Who is interested in biotech? R&d strategies, knowledge base and market sales of indian biopharmaceutical firms. *Research Policy*, 31(3): 381-398.

Song, M., Droge, C., Hanvanich, S., & Calantone, R. 2005. Marketing and technology resource complementarity: An analysis of their interaction effect in two environmental contexts. *Strategic Management Journal*, 26(3): 259-276.

Spanos, Y. E., Zaralis, G., & Lioukas, S. 2004. Strategy and industry effects on profitability: Evidence from greece. *Strategic Management Journal*, 25(2): 139-165.

Tushman, M. L., & O'Reilly, C. A. 1996. *Ambidextrous organizations: Managing evolutionary and revolutionary change*. *California Management Review*, 38(4): 8-30.

Uhlenbruck, K., Meyer, K. E., & Hitt, M. A. 2003. Organizational transformation in transition economies: Resource-based and organizational learning perspectives. *Journal of Management Studies*, 40(2): 257-282.

Verwaal, E. & Donkers, B. 2002. Firm size and export intensity: Solving an empirical puzzle. *Journal of International Business Studies*, 33(3): 603-614.

Wan, W. P. 2005. Country resource environments, firm capabilities, and corporate diversification strategies. *Journal of Management Studies*, 42(1): 161-182.

Ward, P. T., Bickford, D. J., & Leong, G. K. 1996. Configurations of manufacturing strategy, business strategy, environment and structure. *Journal of Management*, 22(4): 597.

Wells, L. T. 1983. *Third world multinationals*. Cambridge, MA: MIT Press Cambridge.

Wright, M., Filatotchev, I., Hoskisson, R. E., & Peng, M. W. 2005. Strategy research in emerging economies: Challenging the conventional wisdom. *Journal of Management Studies*, 42(1): 1-33.

**Table 1****Descriptive Statistics and Correlations**

|             | Mean  | Std.<br>Deviation | Exp_Int | Lag1_NPM | Age  | Log_TA | Timeclock | Adv_Int | RD_Int |
|-------------|-------|-------------------|---------|----------|------|--------|-----------|---------|--------|
| Exp_Int     | 0.23  | 0.23              | 1.00    |          |      |        |           |         |        |
| Lag1_NPM    | 0.07  | 0.11              | 0.16    |          |      |        |           |         |        |
| Age         | 32.45 | 21.69             | -0.33   | 0.13     |      |        |           |         |        |
| Log_TA      | 4.94  | 1.26              | 0.24    | 0.31     | 0.28 |        |           |         |        |
| Timeclock   | 0.56  | 0.50              | 0.16    | 0.07     | 0.10 | 0.23   |           |         |        |
| Adv_Int     | 0.01  | 0.03              | -0.24   | 0.09     | 0.50 | 0.02   | 0.01      |         |        |
| RD_Int      | 0.02  | 0.03              | 0.21    | 0.33     | 0.01 | 0.42   | 0.19      | 0.05    |        |
| VarCost_Int | 0.81  | 0.11              | -0.21   | -0.46    | -    | -0.27  | -0.11     | -0.08   | -0.30  |

N=550

Table 2

| Results of Regression Analysis <sup>a</sup> |                                     |                                     |                                     |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| Variable                                    | Model 1 <sup>b</sup><br>(1996-2005) | Model 2 <sup>b</sup><br>(1996-2000) | Model 3 <sup>b</sup><br>(2001-2005) |
| VarCost_Int                                 | -0.286***<br>(0.069)                | -0.156*<br>(0.085)                  | -0.244**<br>(0.103)                 |
| RD_Int                                      | 0.096<br>(0.249)                    | -0.545†<br>(0.406)                  | -0.028<br>(0.338)                   |
| Adv_Int                                     | -0.238<br>(0.308)                   | -0.077<br>(0.434)                   | -0.423<br>(0.393)                   |
| VarCost_IntxAdv_Int                         | 0.009<br>(0.01)                     | -0.008<br>(0.014)                   | 0.018<br>(0.014)                    |
| VarCost_IntxRD_Int                          | -0.008†<br>(0.006)                  | -0.01<br>(0.009)                    | -0.01<br>(0.008)                    |
| Adv_IntxRD_Int                              | 0.015***<br>(0.005)                 | -0.014*<br>(0.008)                  | 0.019**<br>(0.006)                  |
| Lag1_NPM                                    | 0.179***<br>(0.055)                 | -0.028<br>(0.055)                   | 0.312***<br>(0.102)                 |
| Age   | -0.008***<br>(0.006)                | -0.003**<br>(0.001)                 | -0.004***<br>(0.001)                |
| Log_TA                                      | 0.05***<br>(0.01)                   | 0.063***<br>(0.017)                 | 0.054***<br>(0.015)                 |
| Timeclock                                   | 0.048***<br>(0.01)                  |                                     |                                     |
| Intercept                                   | 0.29***<br>(0.087)                  | 0.14<br>(0.109)                     | 0.307**<br>(0.129)                  |
| Wald $\chi^2$                               | 183.13                              | 34.04                               | 77.53***                            |

a. Unstandardized regression coefficients are shown. Figures in parenthesis are standard errors.

b. Dependent Variable: Exp\_Int

† p < .10

\* p < .05

\*\* p < .01

\*\*\* p < .001