India Inc Internationalization Model and Export Performance: An Integrated Structural Equation Modeling Approach

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Abstract:

Indian markets have changed dramatically during the last decade. The study investigates for the first time the relationship between India Inc internationalization and export performance in a comprehensive model. Drawing on the literature on internationalization as an incremental process and on export performance, we connect these important areas of research using a structural equations model that includes organizational international experience, international commitment, and level of internationalization, on the one hand, and a two-dimensional construct of export performance comprising a strategic and an economic dimension, on the other. The empirical findings provide support both for the interplay among the three India Inc internationalization constructs as well as for the influence of level of internationalization on export performance. The study also addresses several specific research gaps that have been identified in past research, most importantly by including a distinct construct of level of internationalization and paying particular attention to the reflective versus formative specification of the relationships between key constructs and their measures.

Introduction

The opening up of the India Inc to world's markets via new legislative, technological and management developments, has resulted in an increased focus on international trade and competitiveness. Considerable research attention has been given to the Indian firm internationalisation strategies of the larger MNCs. This study examines the market entry modes of a representative sample of Indian MNCs. It identifies several significant differences in their choice of market entry mode, and examines the possible explanations for export marketing strategies adopted by some of Indian well known MNCs. As evidenced in the rising of globalization across national boundaries, it becomes extremely vital for international marketers to understand the importance of the degree of standardization/adaptation of their international marketing strategy. Global market entry strategies involve decisions on the choice of a target market (country), entry mode, marketing plan and control system. The decision on which entry mode to use for a foreign market has a major impact on the success of entry and performance international operations. The diversity of uncertainties faced by

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firms in foreign markets necessitates the balancing of control and flexibility in market entry decisions. Internationalization of a firm is a process in which the firm gradually increases their international involvement, acquiring, integrating, and using the knowledge about foreign markets and operations. With globalization of markets and competition, foreign markets have become increasingly viable and natural opportunities for growth-oriented domestic firms.

However, despite this increased attention, theoretical and empirical knowledge in this area remains limited and offers few insights for practitioners concerned with Indian firms' international development, and with the antecedents of performance and its international dimensions, notably export performance. Three knowledge gaps that are highlighted in the literature are of interest in this paper:

(a) The incremental internationalization theory was articulated in the seminal work of the Uppsala school and, in particular, Johanson and Vahlne (1977), whose study remains one of the most cited. Yet the relationship among the main constructs in the Uppsala model has, surprisingly, received scarce empirical attention. Past studies have most often used indirect verification of empirical incremental or "stages" models, by comparing groups of firms at different stages of expansion, instead of directly testing the components and mechanism of the process.

(b) Until the mid-1990s, export performance was most often measured using single indicators. This did not account for the more recent understanding that the construct is multidimensional, and resulted in potentially missing out on important elements of its economic (financial) and strategic compone. Yet despite the current widespread acknowledgement of multidimensionality, a recent in-depth review by Hult et al. (2008, p. 1066) reported that fully 60.4% of 96 studies published between 1995 and 2005 in major journals used only one type of performance measurement. Therefore, a commonly accepted conceptualization and operationalization of the construct is still lacking. Most researchers appear to agree that export performance has an economic and a strategic dimension, but their potentially differential contribution has not been investigated adequately. Drawing from their seminal literature review, Katsikeas et al. (2000, p. 501) specifically argue that future research should not just utilize multidimensional conceptualizations and operationalizations of export performance but must also investigate interrelationships among them.

(c) The relationship between international expansion and overall corporate performance has been an important research question for a while but its potential link with export performance remains under-investigated. In particular, since, per (a) and (b) above, neither of the two sides in this potential link has been sufficiently explored, it is not surprising that the relationship between a complete model of internationalization and a

multidimensional construct of export performance has not yet been addressed. More generally, there has been a lack of systematic modelling of the relationships amongst performance and other constructs that have been researched extensively in various other contexts. This has led Ramaswamy (1995), for example, to note that a "clear understanding of the impact of international expansion on organizational performance still remains elusive".

As can be seen, the first two of the above research problems contribute to the third, or, stated differently, effectively addressing the third problem presupposes due attention to the first two. In this light, this paper aims to address the above research gaps with a principal focus on the third, namely, the link between internationalization and export performance. Specifically, we propose and empirically test a new structural model of internationalization connected to a two dimensional construct of export performance. The intended contribution of the study is reflected in three main objectives that correspond to the above gaps. First, the study advances and tests the relationships among the main constructs that articulate a model of incremental internationalization, including international experience, international commitment, and level of internationalization. This is a direct approach that contrasts with the more commonly used indirect stages models, noted in (a)above,which rely on inter-firm comparisons at various stages of expansion (Leonidou & Katsikeas, 1996). Furthermore, while our model is grounded on the conceptualization of the Uppsala model, as will be seen below it differs from it in certain key respects. Second, as part of the model, we propose, develop, and test a formative measure of export performance rooted in the prescriptions of some of the most seminal studies on the topic, and identify and quantify the relative contribution of its economic and strategic dimensions. Third and most important, we connect both areas of research by hypothesizing and testing a positive relationship between level of internationalization and export performance. To the best of our knowledge, this is the first time that the effect of a complete conceptualization of internationalization is tested on a multidimensional construct of export performance.

One limitation of earlier research that needs to be dealt with from the outset concerns terminology. This is because, as will be seen below, some terms have been wrongly used interchangeably in some studies, while some others have not been carefully defined even though they involve nuanced meaning that affects their interpretation. To ensure consistent understanding of the key terms and constructs used in this study, we define them here. First, internationalization itself is often used interchangeably with level and/or stage of internationalization even though the meaning of each is distinct. In this study, internationalization refers to the overall process and, generally, to the international expansion of firms; level of internationalization is the degree to which the firm is connected to foreign markets in terms of export intensity, international development, and other factors — in other words, as the extent to which a firm is internationalized at any given point in time; and stage

of internationalization refers to the discreet point at which a firm may be classified in a stages model. Second, borrowing from Chetty, Eriksson, and Lindbergh (2006), we define international experience as the sum total of experiential knowledge gained by the firm from all its markets over time — that is, it is a function of both the time over which it has been accumulated and the scope or diversity of operations that have helped to create it. Third, this study uses the construct of international commitment, i.e., the total commitment of the firm related to all its foreign markets, rather than market commitment, which is used in the Uppsala school model and refers to a specific market. Finally, overall performance refers to the total outcomes from all of the firm's activities, including its domestic market, whereas the construct used in this study, export performance, refers to the outcome of a firm's activities in export markets (Katsikeas et al., 2000, p. 497, citing Shoham, 1996). Both performance constructs are commonly thought to consist of an economic dimension, which refers to financial indicators of performance, and a strategic dimension, or the extent to which the firm's objectives are achieved.

Model development and hypotheses

Against the above background, we propose the model illustrated in Fig. 1. The model is grounded in the Uppsala conceptualization and its theoretical underpinnings can be traced to the behavioural theories of the firm (Cyert & March, 1963) and the resource-based international growth model posited by Penrose (1959). Like the Uppsala model, this is a dynamic model in the sense that one cycle of events constitutes the input of the next (Johanson & Vahlne, 1977, p. 26). Indian firm International experience affects international commitment (the firm's total commitment in all foreign markets), this in turn influences level of internationalization, and the latter helps to enhance international experience while also influencing export performance. In a subsequent cycle, previous and new experiential knowledge, mainly created by the interaction of the firm with other actors in the market, influences international commitment at a different (usually incremental) magnitude. This again influences level of internationalization, and so on.

There are two main forces of change in this cycle. First, the interactions of the Indian firm with foreign markets (that is, its current business activities), which are more intense and diverse when the level of internationalization is higher. The latter is a sort of platform from which further international operations are developed and which in turn create new experiential knowledge. This logic builds on the understanding of the role of current business activities in creating experiential knowledge, in both the Uppsala model and subsequent research. The second force is commitment decisions, which are made in small steps except in the case of very large or experienced firms and/ or stable and homogeneous markets. This model, therefore, has a similar basic mechanism of internationalization as the Uppsala model, but it also (a) explicitly distinguishes between international commitment and level of

internationalization, and (b) connects the latter to international experience and export performance.

Based on this model, we introduce four hypotheses of which the first three concern the Indian firm internationalization side of the model (i.e., the cycle between international experience, international commitment, and level of internationalization), while the fourth posits the main link of interest in this study between level of internationalization and export performance. These hypotheses, along with the rationale used to develop them, are presented below.

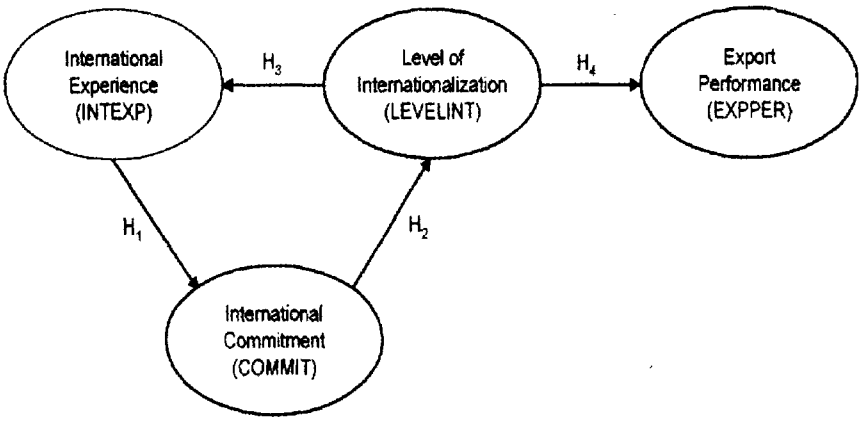

Fig. 1. Proposed model of Indian Inc Internalization and export performance.

As noted by Johanson and Vahlne (1977, p. 28), "There is a direct relationship between market knowledge and market commitment through the higher the firm's experiential knowledge about a market, the stronger its commitment to [it]." Following Penrose (1959), the researchers highlight the distinction between experiential knowledge, the critical kind that is gained only by operating in one or more foreign markets, and objective knowledge, which can be taught. In explaining the relationships between experiential learning, tacit market knowledge, perceived uncertainty, and incremental behaviour, Forsgren (2002) notes that the Uppsala model is primarily a model about how uncertainty is handled through learning(p. 273) and concludes that internationalization involves an increasing pace of investments made by the firm as its experience increases. This positive relationship between knowledge of foreign markets and the pace of committing resources to them is also supported by later research (e.g., Pedersen & Petersen, 1998). In light of the above, the first hypothesis is intended to capture the relationship between Indian firm international experience and international commitment.

H1. International experience has a positive effect on international commitment.

Commitment was first introduced as a critical concept in the social sciences during the early 1960s (Becker, 1960), and it has since been researched extensively in various other contexts in a number of diverse disciplines. However, it has rarely been included in studies focusing on export performance. Johanson and Vahlne (1977, p. 27) assume market commitment (market-specific) to be composed by the amount of resources committed and the degree of commitment, that is, the difficulty of finding an alternative use for the resources and transferring them to it. This captures both the amount of resources deployed and the degree of integration and specialization of these resources. We build on this by adopting the same two aspects for our construct of international commitment, which refers to the firm's total international activity. Additional commitment will be generally made in small steps, as indicated above (Johanson & Vahlne, 1990), and such changes will result in changes to the level of internationalization as posited in our model. Several other studies have also discussed how international commitment explains or impacts the firm's level of internationalization (e.g., Johanson & Vahlne, 2006; Rao & Naidu, 1992). Therefore, the second hypothesis states:

H2. International commitment has a positive effect on level of internationalization

As firms expand internationally they are exposed to new situations, opportunities, and problems. Their business interactions are the main producer of experiential knowledge that over time accumulates in the firm and individuals within it through learning. This is a basic assumption of the Johanson and Vahlne (1977, p. 23) model: the necessary knowledge (about foreign markets and operations) can be acquired mainly through operations abroad. Johanson and Vahlne (1990) later reaffirmed the same idea signalling that market knowledge is obtained primarily through experience from current business activities in the market. Therefore, the firm's links with its foreign markets, or its level of internationalization, is a key determinant of, and should be expected to help enhance, its international experiential knowledge. The rationale is embedded in the previously discussed assumption that the interactions of the firm with its foreign markets, that is, its current business activities, are more intense and diverse when the level of internationalization is higher, creating, in turn, greater international experience. This leads to the third hypothesis:

H3. Level of internationalization has a positive effect on international experience.

Early seminal studies on internationalization (Bilkey & Tesar, 1977; Johanson & Wiedersheim-Paul, 1975) examined the stages of firms' international expansion, and their relationship with such other constructs as the mode of entry used as expansion evolves. Later, the firm's performance in each stage started to attract research attention. More recently, some relevant findings include that there is a non-monotonic relationship between degree of internationalization and return on assets (Riahi-Belkaoui, 1998); there is a nonlinear relationship

between multinationality and performance (Gomes & Ramaswamy, 1999); a more systematic internationalization process improves performance (Yip, Gomez Biscarri, & Monti, 2000); and the relationship between degree of internationalization and firm-level performance is, in general, U-shaped (Hsu & Boggs, 2003). However, most of these studies examine overall rather than export performance, they consider very large firms mostly in relation to foreign direct investment (FDI), and their findings often conflict. On the other hand, most of the studies that focus on exports argue that the relationship is linear. For instance, in a study on the determinants and performance consequences of export market orientation, the percentage of total sales derived from exports was found to be directly related to firm's overall export performance (Cadogan, Diamantopoulos, & Siguaw, 2002). Therefore, given the focus of this study, we suggest that the higher the degree of internationalization, the higher the export performance. This leads to the final hypothesis:

H4. Level of internationalization has a positive effect on export performance.

Method

Sample and Data Collection

Data were collected through questionnaire technique and in-depth personal interviews with export marketing managers who were involved directly in the particular ventures under study. They also ensured that (1) the managers chosen were those who were directly involved in the export ventures studied, (2) the managers fully understood the purpose of the study and the exact measures solicited by the interviewers, and (3) a particular interview was focused on an individual product- market export venture, excluding other export ventures of the same company. Given the need to collect data at the export venture level and the complexity of the individual ventures studied, it was believed that the data collected through in-depth personal interviews were more comprehensive, accurate, and reliable than what would have been possible through a mail survey. The data for analytical purpose come from a mail survey of Indian MNCs, actively exporting, for at least two years prior to the survey. A comprehensive questionnaire was developed and pilot tested before being mailed to a list of 647 firms, which constitute the majority of manufacturing firms actively exporting to above countries from India. The list of companies with export marketing operations, which constituted the study population, was compiled first from state export promotion agencies and from several trade associations.

At the completion of data collection, information pertaining to 647 export venture cases from 85 firms across 20 industries was obtained. Of these 202 cases, about 47.5% were related to consumer products, 42.6% to industrial products, and 9.8% to products that could not be classified clearly. All respondents were from manufacturing firms, with average annual sales of $200 million and average number of full-time employees of approximately

greater than 100-2000. Most of the sampled export ventures had a history of between 5 and 12 years, allowing for a long-term measure of export performance. Given the fact that we investigated export market performance, one might expect that only successful exporters would be willing to participate in the interviews. This was not the case, however. In fact, nearly 30% of the respondents perceived their ventures to be unsuccessful; about 20% of the ventures reported negative growth or no growth in export sales; and about 25% of the ventures were unprofitable.

Questionnaire and field research

The data were collected using a structured questionnaire that included sections on the firm's and manager's characteristics, their expansion strategy and international operations, the firm's foreign entry modes, and the economic and strategic dimensions of its export performance. To ensure that the questionnaire content and design would be easily and unambiguously understood by the respondents, it was pretested using a two-phase process. First, an initial draft was reviewed by six experts (four academic researchers in marketing and two business consultants engaged as industry tutors in a formal program of the country's foreign trade institute). Second, after slight modifications to address comments by this group, the revised draft was administered by in-person interviews to five firms outside the initial sample. This field test resulted in deleting a few questions to shorten the completion time, which respondents felt might negatively impact the response rate, and in refining some items (e.g., the list of potential international objectives that were part of the operationalization of the strategic performance construct). The final questionnaire was also administered by in-person interviews, to enable, therefore, ensure face validity.

Non-response bias

To determine whether non-response bias was a serious problem for the study, two comparison were made, using chi-squared test of independence. The firms represented by respondents were compared with firms represented by non-respondents (in terms of firm size) to determine whether respondents were systematically different in some important way from non-respondents. The firms that responded early were also compared with those that responded late using entry mode choice as a comparison criterion. Again, the comparison found no significant difference in the distribution of entry mode choice between early respondents and late respondents. Thus evidence from the two chi-squared analysis, suggest that there may not be any serious problems with no-response bias for the firms in our sample.

Operationalization

The constructs were operationalized systematically with reference to relevant parts from previous studies, to try to avoid the methodological limitations that have characterized past research, as discussed in the introduction. We posit a formative second-order

conceptualization of international experience and a formative first- and second-order operationalization of export performance. On the other hand, we consider the first-order constructs capturing international experience, as well as level of internationalization and international commitment, as constructs with reflective indicators—that is, they are assumed to cause variation in their indicators, which are expected to correlate. A summary of the indicators used, together with their scales and labels, is provided in Table 2.

Table 2: Operationalization of constructs

Constructs		Indicators	Scale	Label
Second order	First order			
International experience				INTEXP
	Longitudinal experience			LONGEXP
		Years regularly exporting	Number	REGEXP
		Years since first export	Number	FIRSTEXP
	Cross experience			CROSSEXP
		Countries entered	Number	COUNTR
		Diversity of entry modes	Number	MODEDIV
	International Commitment			COMMIT
		Employees in international activities	Number	INTEMPL
		Entry modes commitment (entry without or with direct investment in facilities)	1 or 2	MODECOMM
		Languages spoken	Number	LANGUAGE
	Level of Internationalization			LEVELINT
		Stage of internationalization	1 to 5	STAGE
		Exports/total sales (%)	0 to 100	EXPINTEN
Export performance				EXPPER
	Strategic performance			STRATPER
		Gain a foothold in the export market	100 to 500	SP1
		Increase the awareness of our products/company	100 to 500	SP2
		Respond to competitive pressure	100 to 500	SP3
		Improve our company's market share position	100 to 500	SP4
		Expand strategically into foreign markets	100 to 500	SP5
		Increase the profitability of the company	100 to 500	SP6
		Diversify customers	100 to 500	SP7
		Increase the product portfolio offered	100 to 500	SP8
	Economic performance			ECONPER
		Export sales	Million Euro	EXSALES
		Perceived export profitability	1 to 4	EXPROFIT

International experience

As reflected in our definition of this construct, there is an established distinction in the literature between the longitudinal and cross-sectional dimensions of international experience. Indian firm Exporting to other markets on a regular basis over time increases general knowledge about how to do business abroad, and so does managing a variety of situations, operations, and market conditions in different countries. In other words, both time and/or variety of activities and operations in different markets can lead to gains in international business know-how. For example, Luo (1999) suggests that time-based experience constitutes a critical driving force (p. 524) of international ventures, and Luo and Peng (1999) stress

that performance benefits from both intensity- and diversity-driven experience. Using the decision rules by Jarvis et al. (2003, p. 203), longitudinal and cross experience (the two first-order constructs) must be specified as formative dimensions since it is necessary to have both to say that a firm has international experience in terms of time abroad, markets served, and modes of operation used. Both are defining characteristics of the second-order international experience construct, and so causality goes to it from the measures (the first-order constructs). Furthermore, longitudinal and cross experience do not have to covary, do not have the same content, and are not interchangeable—some firms will show high values of one but low of the other. Finally, the nomological net of the first-order constructs is expected to differ — longitudinal experience is dependent on time, while cross experience is dependent on the variety of activities, and if either were dropped this would affect the definition of the second-order construct.

International commitment

Indicators used to assess commitment have varied widely in the literature, and the use of measures that are not always appropriate for their constructs is a rather common situation. For example, Shoham (1998, p. 67) measures commitment as the ratio of export to total sales, which could be questioned since this measure is commonly seen as a gauge of export intensity and internationalization rather than commitment. As defined earlier, international commitment refers to the degree to which managerial and organizational resources are allocated to activities abroad. Firms with greater levels of international commitment assign more resources to their foreign activities. As also indicated previously, the Johanson and Vahlne (1977) definition of commitment captures both the size and the degree of integration and specialization of the resources deployed internationally. This construct was, therefore, measured by means of three indicators commonly used in the literature: entry modes commitment, i.e., entry with or without direct investment in facilities, number of employees committed to international activities, and number of languages spoken by those committed to international activities (integration and specialization of the resources).

Level of internationalization

Even though level of internationalization is an important issue in international business research, the complexity of the construct has evidently discouraged the acceptance of measures developed for it. One must be particularly careful, therefore, concerning what a study really captures when using the term internationalization — over and above the definitional issue we touched on earlier. For example, Hsu and Boggs (2003) measured it in terms of export intensity and number of export countries served, while Riahi-Belkaoui (1998) used only export intensity and Yip et al. (2000) focused on the benefits of systematic expansion rather than on internationalization as such. In our study, operationalization of this construct is based on two indicators. One is the exports-to-total sales ratio, which has been used extensively before (e.g., Bausch & Krist, 2007).

The analysis indicated five clusters as the most optimal solution. Nevertheless, all other solutions between three and 10 clusters were also examined, using the interclass-to-total inertia rate, indicators of intra-class inertia, and the dendrogram. This also confirmed the five-cluster solution as best. As well, this is consistent with the number of stages used in a great number of studies that discuss stages models, which lends further theoretical support to this solution. As a result, the firms were grouped into five clusters: passive exports, regular limited exports, regular major exports, broader international operations, and globalization. Once the clusters were obtained, the specific firms in each of the five groups were identified and a new variable, reflecting the empirically determined stage of development, was added to the database and was then employed as one of the two indicators for level of internationalization.

Export performance

Our conceptualization of export performance is connected to three of the knowledge gaps identified earlier in this paper, namely, the lack of integration of findings in Indian Inc export performance measures, the distinction between economic and strategic performance, and the suggestions of Styles (1998) and Diamantopoulos (1999) concerning the nature of the constructs' indicators as formative or reflective. Our definition, provided at the start of the literature review, refers to all outcomes of international activity and specifically includes the achievement of both strategic objectives and economic (financial) results. This construct was operationalized following mainly the Matthyssens and Pauwels (1996) framework, which uses the following three criteria:

(a) Type of assessment and frame of reference. In line with suggestions by Matthyssens and Pauwels (1996) and the practice of recent studies (e.g., Diamantopoulos & Kakkos, 2007), both subjective and objective measures were used. Subjective questions were asked with regards to perceived profitability and degree of achievement of the objectives pursued for the international activity. An objective assessment was used for data dealing with export sales. The frame of reference was the firm's own performance.

(b) Unit (level) of analysis. In past research, many studies have tried to measure export performance at the level of the firm (e.g., Shoham, 1998), while others have focused on export ventures by a division or strategic unit within it (e.g., Lages & Lages, 2004). Overall, in their review of the empirical literature Zou and Stan (1998) found that in most studies the unit of analysis was the firm, an observation later confirmed by Katsikeas et al. (2000) and Sousa (2004). These researchers consider firm-level analysis particularly appropriate in studies with smaller firms, which most often have only one or a few product lines and comprise the bulk of research on internationalization. As well, Matthyssens and Pauwels (1996) point out that a focus only on a sub-unit of a firm does not bring insight on its export performance overall. For these reasons, we used the firm as the unit of analysis in this study.

(c) Time frame. Most of the empirical research that has included temporal references to performance has used a five-year time horizon (e.g., Cavusgil & Zou, 1994; Styles, 1998). However, we had intuitively suspected, and the fieldwork pretest confirmed, that asking for historical information over such a relatively lengthy period may be taxing for most respondents. Most managers in fact had considerable difficulty providing information for more than three years prior to the interview. This may be due to the lack of easily accessible historical data, the lack of time or the respondent's unwillingness to search for older data, and, importantly, the respondent's length of tenure with the sampled firm and/or in his or her present position (managers often rotate among positions or firms, thus reducing their level of historical knowledge related to their current work). Therefore, a three-year time frame was chosen for this study (e.g., Cadogan et al., 2002). In addition to encouraging a higher response rate, this also increases confidence in the quality and reliability of the data provided by the respondents.

With the above framework as a base, we used inputs from the previously noted scholars and various other studies to select variables for measuring the construct and its dimensions.

Economic performance: The literature points to a conception of economic performance as an index of efficiency and effectiveness (Diamantopoulos, 1999). Therefore, we measured it as formative by means of two indicators: perceived profitability of export sales (economic efficiency, using a 4-point scale from not very to very profitable) plus export sales (economic effectiveness).

Strategic performance: The screening question (noted when discussing the sampling approach) was used to retain from the full sample only those firms that have strategic objectives for their international activity. In this case, managers who do not have strategic objectives may well be inclined to choose some from the list based on what might appear suitable rather than because it reflects reality. This logic is clearly supported by our screening question, where 27% of the sample said they do not use strategic objectives in the first place.

Data analysis

Since the information on all variables was collected using the same questionnaire and the same respondents, there is a risk of common method variance bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). However, we took several measures to reduce this risk, including the use of in-person interviews (which enabled us to clarify the meaning of questions for respondents where necessary), separating like questions and indicators through different parts of the questionnaire, and using different scales and response formats for various related concepts. In addition, we carried out a Harman's one-factor test as a post-hoc statistical procedure to detect this potential problem. The basic assumption of this test is that if an important quantity of common method bias is present, either a single factor will emerge from the analysis or a general factor will account for the covariance in the independent and criterion variables (Podsakoff & Organ, 1986). The multidimensionality of the 19 indicators

used in the six first-order constructs (see Table 2) was evidenced by the exploratory factor analysis (EFA). We found eight factors with eigen values greater than 1 that accounted for between 20.7% and 5.4% of the variance (in total, 19 factors accounted for all the variance in the indicators). We expect that our data, therefore, is free of this potential limitation.

The model was estimated by the partial least squares (PLS) technique (Wold, 1982), a variance-based structural equation modelling (SEM) method. We followed the two-stage approach considering the presence of higher-order constructs. PLS was deemed as the most appropriate technique in view of the research objectives, the sample size, the non-normal distribution of the indicators and, especially, the use of first- and second-order formative constructs in the model, which precluded the use of covariance-based SEM such as LISREL (Chin & Newsted, 1999). PLS ensures against improper solutions, that is, those outside the admissible parameter space, and factor indeterminacy. In addition, it has been used successfully in models containing a cycle of events, like the one here. Finally, PLS is recommended for sample sizes from between 30 and 100 (Chin & Newsted, 1999), which our sample of 140 firms easily exceeds.

Results

The results from the estimation of the model are described in this section, starting with the measurement model and continuing with the hypothesized structural relationships. As shown in Table 3, regarding item reliability, all indicators are over the suggested .70 threshold except languages spoken(.66). We decided to retain this variable, since it offers a more reliable operationalization than a two-item solution for several reasons. First, it is acceptable to retain indicators with loadings below .70 in some situations, such as the initial steps in developing a scale (Chin, 1998). Second, it had a significant associated t-value (6.604), at the 99% confidence level, and satisfactory construct reliability and average variance extracted (AVE). Third, results for the structural relationships were similar with or without this indicator.

Construct reliability, ranging between .939 and .774 in terms of composite reliability, was also over the suggested acceptance threshold, indicating that each of the four sets of indicators consistently measures its construct (see column 3 of Table 3). Finally, AVE values (Fornell & Larcker, 1981), or constructs' variance due to their indicators, were all above the .5 rejection boundary implying that the constructs with reflective indicators obtain much more variance from them than from the measurement error. We can conclude, therefore, that our constructs with reflective indicators are reliable measurement instruments and possess convergent validity.

Turning to the constructs with formative indicators, the weights of all the indicators were positive (see Table 5) and show their different contributions to their measures. As previously advanced, constructs with formative indicators do not necessarily have to correlate. We tested multicollinearity as a customary precaution when using constructs with formative indicators, since its presence could bias and affect the stability of the estimations. Both tolerance and the variance inflation factor (VIF) clearly provided consistent support for the

absence of multicollinearity in the indicators (see columns 3 and 4 of Table 4). The significant weights suggest that longitudinal experience (.629, t = 6.126 p < .001) and cross experience (.618, t = 6.288 p < .001) have a very balanced contribution to the international experience construct. In other words, a roughly equal combination of longitudinal and cross experience provides the firm with the international experience it needs to expand its activities. Likewise, export sales (.656, t = 4.236 p < .001) and export profitability (.677, t = 5.110 p < .001) have a very balanced contribution to economic performance, meaning that managers consider both of these factors when evaluating the financial component of their foreign activities. In contrast, it seems that three strategic objectives are the most important when measuring strategic performance — increase the product portfolio offered, respond to competitive pressure, and improve our company's market share position.

Concerning export performance, it is formed by an economic and a strategic dimension. This result has two important implications — the findings lend further support to existing empirical studies on the dimensionality of export performance, but sharply differ from them in terms of causality (formative versus reflective). Economic performance has a stronger contribution to export performance (.747, t = 6.755 p < .001) than does strategic performance (.495, t = 3.023 p < .01), which means that the managerial perception of international success is formed more on the basis of financial factors than of the degree of success in meeting strategic objectives. This is in line with common perceptions of how managers think and will be discussed in the next section.

Table 3: First-order constructs with reflective indicators statistics: reliability and convergent validity.

Construct/indicator	Item reliability Loading	Construct reliability Composite reliability	Convergent validity Average variance extracted (AVE)
Longitudinal experience		.939	.886
Years regularly exporting	.957		
Years since first export	.925		
Cross experience		.774	.631
Countries entered	.795		
Diversity of entry modes	.794		
International commitment		.791	.561
Employees in international activities	.854		
Entry modes commitment	.715		
Languages spoken	.658		
Level of internationalization		.936	.879
Stage of internationalization	.958		
Exports/total sales (%)	.917		

Discriminant validity was tested for the constructs in the structural model (see Table 4). Since the square root of the variance shared between the constructs with reflective indicators and their measures (AVE) was larger than the correlations between the constructs, we can conclude that the constructs are different from each other, that is, that the measurement model also possesses the discriminant validity property.

Table 4: Discriminant validity: correlations and square root of average variances extracted

Construct	Mean	SD	LONGEXP	CROSSEXP	COMMIT	LEVELINT	STRATPER	ECONPER
LONGEXP	17.14	11.78	**.841**					
CROSSEXP	8.15	7.47	.287	**.794**				
COMMIT	2.16	1.45	.297	.576	**.749**			
LEVELINT	19.81	14.06	.610	.370	.304	**.937**		
STRATPER	1.45	.24	.204	.140	.067	.302	**n.a.**	
ECONPER	7.04	18.92	.285	.186	.216	.382	.265	**n.a.**

Table 5: Item weights and multicollinearity tests for constructs with formative indicators.

Construct/indicator	Weight	Tolerance	IVF
International experience			
Longitudinal experience	.629	.789	1.268
Cross experience	.618	.858	1.165
Export performance			
Strategic performance	.495	.908	1.101
Economic performance	.747	.866	1.155
Strategic performance			
Gain a foothold in the export market	.142	.874	1.144
Increase the awareness of our products/company	.120	.906	1.104
Respond to competitive pressure	.492	.848	1.180
Improve our company's market share position	.484	.839	1.192
Expand strategically into foreign markets	.146	.806	1.240
Increase the profitability of the company	.323	.764	1.309
Diversify customers	.156	.814	1.228
Increase the product portfolio offered	.922	.816	1.225
Economic performance			
Export sales	.656	.876	1.142
Perceived export profitability	.577	.810	1.234

Diagonal values in bold are the square root of the variance shared between the constructs with reflective indicators and their measures. In order to achieve discriminant validity diagonal elements must be larger than those off-diagonal. n.a.: not applicable to constructs with formative indicators.

Table 6: Endogenous variables: effects, variances explained and Stone–Geisser Q2 tests.

Effects on endogenous variables	Effect	t value (bootstrap)	Variance explained	Stone–Geisser Q^2
Effects on international commitment				
International experience	.539***	5.521	.291	.186
Effects on level of internationalization				
International commitment	.304***	5.070	.092	-.309
Effects on international experience				
Level of internationalization	.611***	12.003	.373	n.a.
Effects on export performance				
Level of internationalization	.435***	6.763	.190	n.a.

n.a.: not applicable to constructs with formative indicators.

*** $p < .001$ (based on a Student t(499) distribution with one tail).

The structural model paths (b) and variances explained (R2) of the endogenous constructs are presented in Table 6 and Fig. 2. The bootstrap re-sampling technique, performed on 500 sub-samples (the bootstrapping procedure used by PLS generates a requested number of

random samples from an original dataset by sampling with replacement), indicated that all the hypothesized relationships are significant at the 99.9% confidence level. In other words, the internationalization part of the model is empirically supported and externally validated by means of the interrelationships among its constructs and its relationship with export performance. International experience has a significant positive influence (.539) on international commitment as expected, providing empirical support for our first hypothesis (H1). International commitment also affects level of internationalization positively and significantly (.304), as hypothesized (H2). A higher level of internationalization has a significant positive impact (.611) on international experience (H3). And level of internationalization has the expected significant positive (.435) effect on export performance (H4).

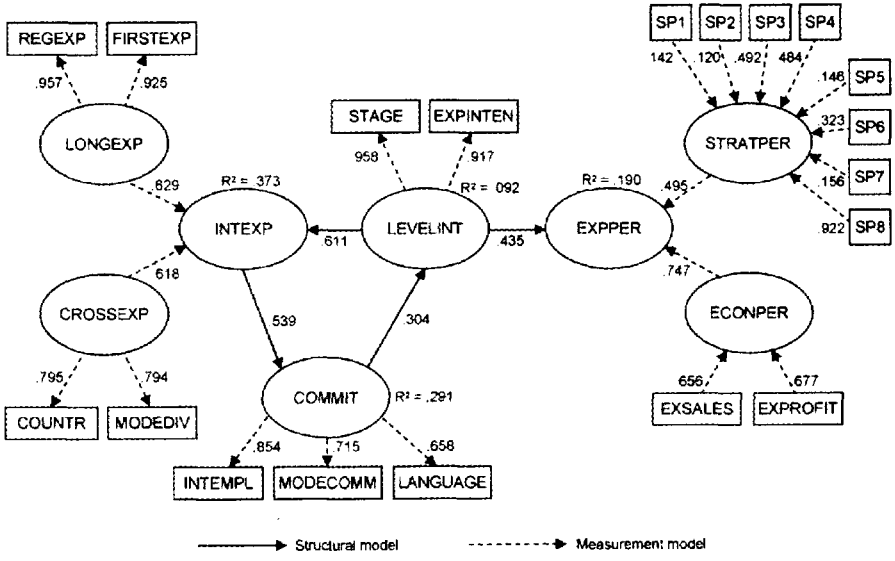

Fig. 2. Path values (b), variance explained (R2) and measurement model estimates

Furthermore, the variance explained (R2) of the dependent constructs is .291, .092, .373 and .190 for, respectively, international commitment, level of internationalization, international experience, and export performance. These values show a satisfactory explanatory power of the model in general. The Stone–Geisser Q2 statistic for the endogenous constructs with reflective indicators (Geisser, 1975; Stone, 1974) confirms the predictive relevance of the model for international commitment. This statistic was estimated using a blindfolding technique with omission distance fixed at nine observations. This technique assesses the validity of the

paths by repetitively estimating the model parameters with random data points omitted (hold-out samples). A negative cross-validated redundancy for level of internationalization, however, suggests that other variables that were not included would be necessary if the model were to be used to predict the level of internationalization. Finally, the overall quality of the model, taking together the measurement and structural components, is satisfactory according to the goodness of fit statistic(Chatelin, & Lauro, 2005). This statistic is estimated as the geometric mean of the average communality and the average R2, with a range of between 0 and 1 (the higher the better), and our model produces a .371 value implying a reasonable overall quality.1

Discussion and conclusions

In this section we highlight the study's main contributions, comment on the research insights from the findings and on their implications, and discuss the study's limitations along with suggested directions for future research.

Research insights and managerial implications

This study aimed to advance understanding of Indian Inc internationalization and export performance, and its contribution lies in addressing the knowledge gaps that were identified in the introduction. This includes, first, the development and validation of a model which provides a direct empirical test of some of the components and mechanisms embedded in the incremental internationalization models. Second, we connect two streams of research by studying the relationship between a complete model of internationalization and a multidimensional construct of export performance. Third, we propose an alternative formative multidimensional conceptualization and operationalization of export performance.

Three main conclusions stand out from the findings. First, on the internationalization side, the relationships between the three main constructs articulating our model get full empirical support. This validates the view of internationalization as an incremental and cyclical international development process. International experience leads to greater international commitment, the latter helps to carry the firm to a higher level of internationalization, and this in turn builds more international experience and leads to subsequent cycle of development, with all three playing the hypothesized role in this process. Importantly, the model also supports a reflective/formative specification of international experience and empirically confirms its longitudinal and cross experience dimensions. As well, international commitment reveals itself as a very important variable in influencing a distinctive construct of level of internationalization. The latter suggests that managers' decisions to allocate more resources in serving customers and building more solid ties in their markets result in increased levels of internationalization.

Instead, our findings suggest that both managers and policymakers can benefit by considering more than just the economic dimension. Our model indicates that, in spite of not having a

practical tool to measure strategic performance, most managers do consider the importance and degree of achievement of their strategic objectives when they assess performance. This is consistent with Mintzberg and Waters (1985, p. 257), who stress that deliberate and emergent strategies may be conceived as two ends of a continuum along which real-world strategies lie. Firms that employ strategic thinking, whether emerged or planned, set strategic objectives, and their achievement affects performance. An additional main implication for public policy makers is that promoting higher levels of internationalization amongst firms in their regions does indeed result in higher performance in foreign markets. A practical way to stimulate international expansion is by designing programs aimed at increasing the firms' international experiential knowledge and commitment.

Limitations and suggestions for future research

The internationalization process of firms and the conceptualization, operationalization, and specification of export performance and its antecedents open up a number of research opportunities, which we discuss after first outlining certain limitations of the study. These are part and parcel of research in this field and suggest the need to interpret the findings with caution. One is that the data came from a single geographical area; according to Yang, Wang and Su (2006), this is a traditional and common limitation in most empirical research in international business (61%) and international marketing (73%). A second, even more common limitation (except where secondary data are used) is the lack of a longitudinal perspective, which may raise questions about the temporal stability of the findings. Third, customary fieldwork constraints (e.g., limited time of respondents) meant that we were limited in the number of indicators we could use to measure each of the study's several constructs, in order to avoid an excessively lengthy questionnaire that would limit the response rate.

Against this background, at least six potential directions for future studies can be identified. First is the possibility of validating the results internationally by replicating the model using samples elsewhere. A second direction may involve longitudinal research, which can contribute materially to the theoretical development of both fields by examining the causality of the relationships and the temporal stability of findings. Third, it could be highly valuable to study the role of psychic distance and examine whether or not our model behaves as expected if this construct is added. According to the incremental school, the larger the psychic distance between different markets, the higher the perceived uncertainty about them. This acts as a barrier to considering psychically distant markets, and may dictate the order of markets entered by the firm. Therefore, consideration of the role of psychic distance could add light to the path of internationalization followed by firms and contribute to our understanding of the relationship between it and their pattern of international expansion. Fourth, further research may attempt to include more measurement indicators for each construct, which may be possible in studies focusing on fewer constructs and/or on specifically on scale development.

Fifth, it seems appropriate to support the call by Katsikeas et al. (2000) for a central base of information in performance studies, which would enable better international coordination of research efforts and the development of better and more broadly agreed measures of the antecedents and components of export performance (Robertson & Chetty, 2000).

References:

Bausch, A., & Krist, M. (2007). The effect of context-related moderators on the internationalization–performance relationship: Evidence from meta-analysis. Management International Review, 47(3), 319–347.

Becker, H. S. (1960). Notes on the concept of commitment. American Journal of Sociology, 66(1), 32–40.

Bilkey, W. J., & Tesar, G. (1977). The export behaviour of smaller-sized Wisconsin manufacturing firms. Journal of International Business Studies, 8(1), 93–98.

Cadogan, J. W., Diamantopoulos, A., & Siguaw, J. A. (2002). Export market-oriented activities: Their antecedents, performance consequences, and moderating influences. Journal of International Business Studies, 33(3), 615–626.

Cavusgil, S. T., & Zou, S. (1994). Marketing strategy–performance relationship: An investigation of the empirical link in export market ventures. Journal of Marketing, 58(1), 1–21.

Chetty, S., Eriksson, K., & Lindbergh, J. (2006). The effect of specificity of experience on a firm's perceived importance of institutional knowledge in an ongoing business. Journal of International Business Studies, 37, 699–712.

Chin, W. W. (1998). The partial least squares approach to structural equation modelling. In G. A. Marcoulides (Ed.), Modern methods for business research (pp. 295– 336). Mahwah, NJ: Lawrence Erlbaum Associates.

Chin, W. W., & Newsted, P. R. (1999). Structural equation modeling analysis with small samples using partial least squares. In Statistical strategies for small sample research (pp. 307–341). Sage Publications.

Cyert, R. D., & March, J. G. (1963). A behavioral theory of the firm. Englewood Cliffs, NJ: Prentice-Hall.

Diamantopoulos, A. (1999). Viewpoint: Export performance measurement: Reflective versus formative indicators. International Marketing Review, 16(6), 444–457.

Diamantopoulos, A., & Kakkos, N. (2007). Managerial assessments of export performance: Conceptual framework and empirical illustration. Journal of International Marketing, 15(3), 1–31.

Fornell, C., & Larcker, D. (1981). Evaluating structural equationmodelswith unobservable variables andmeasurement error. Journal ofMarketing Research, 18, 39–50.

Forsgren, M. (2002). The concept of learning in the Uppsala internationalization process model: A critical review. International Business Review, 11, 257–277.

Geisser, S. (1975). The predictive sample reuse method with applications. Journal of the American Statistical Association, 70, 320–328.

Gomes, L., & Ramaswamy, K. (1999). An empirical examination of the form of the relationship between multinationality and performance. Journal of International Business Studies, 30(1), 173–198.

Hsu, C. C., & Boggs, D. J. (2003). Internationalization and performance: Traditional measures and their decomposition. Multinational Business Review, 11(3), 23–50.

Hult, G. T. M., Ketchen, D. J., Jr., Griffith, D. A., Chabowski, B. R., Hamman, M. K., Johnson Dykes, B., et al. (2008). An assessment of the measurement of performance in international business research. Journal of International Business Studies, 39, 1064–1080.

Jarvis, C. B., Mackenziev, S. B., & Podsakoff, P. M. (2003). A critical review of construct indicators and measurement model misspecification in marketing and consumer research. Journal of Consumer Research, 30(2), 199–219.

Johanson, J., & Vahlne, J.-E. (1977). The internationalization process of the firm: A model of knowledge development and increasing foreign market commitments. Journal of International Business Studies, 8(Spring/Summer), 23–32.

Johanson, J., & Vahlne, J.-E. (1990). The mechanism of internationalisation. International Marketing Review, 7(4), 11–24.

Johanson, J., & Vahlne, J.-E. (2006). Commitment and opportunity development – a note on the internationalization process (IP) model. Management International Review, 46(2), 165–178.

Johanson, J., & Wiedersheim-Paul, F. (1975). The internationalisation of the firm – four Swedish case studies. Journal of Management Studies, 12(3), 305–322.

Katsikeas, C. S., Leonidou, L. C., & Morgan, N. A. (2000). Firm-level export performance assessment: Review evaluation and development. Journal of the Academy of Marketing Science, 28(4), 493–511.

Lages, L. F., & Lages, C. R. (2004). The STEP scale: A measure of short-term export performance improvement. Journal of International Marketing, 12(1), 36–56.

Leonidou, L. C., & Katsikeas, C. S. (1996). The export development process: An integrative review of empirical models. Journal of International Business Studies, 27(3), 517–551.

Luo, Y. (1999). Time-based experience and international expansion: The case of an emerging economy. Journal of Management Studies, 36(4), 505–534.

Luo, Y., & Peng, M. W. (1999). Learning to compete in a transition economy: Experience, environment, and performance. Journal of International Business Studies, 30(2), 269–295.

Matthyssens, P., & Pauwels, P. (1996). Assessing export performance measurement. In Cavusgil, S. T., & Axinn, C. (Eds.), Advances in international marketing. Vol. 8 (pp.85–114). Greenwich, CT: JAI Press.

Mintzberg, H., & Waters, J. A. (1985). Of strategies, deliberate and emergent. Strategic Management Journal, 6(3), 257–272.

Pedersen, T., & Petersen, B. (1998). Explaining gradually increasing resource commitment to a foreign market. International Business Review, 7, 483–501.

Penrose, E. (1959). The theory of the growth of the firm. London: Basil Blackwell.

Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. Journal of Management, 12, 69–82.

Ramaswamy, K. (1995). Multinationality, configuration and performance: A study of MNEs in the U.S. drugs and pharmaceutical industry. Journal of International Management, 1, 231–253.

Riahi-Belkaoui, A. (1998). The effects of the degree of internationalization on firm performance. International Business Review, 7, 315–321.

Robertson, C., & Chetty, S. K. (2000). A contingency-based approach to understanding export performance. International Business Review, 9(2), 211–235.

Shoham, A. (1996). Marketing-mix standardisation: Determinants of export performance. Journal of Global Marketing, 10(2), 53–73.

Shoham, A. (1998). Export performance: A conceptualization and empirical assessment. Journal of International Marketing, 6(3), 59–81.

Sousa, C. M. P. (2004). Export performance measurement: An evaluation of the empirical research in the literature. Academy of Marketing Science Review, 9, 1–22.

Stone, M. (1974). Cross-validatory choice and assessment of statistical predictions. Journal of the Royal Statistical Society, Series B, 36(2), 111–147.

Styles, C. (1998). Export performance measures in Australia and the United Kingdom. Journal of International Marketing, 6(3), 12–36.

Wold, H. (1982). Soft modeling. The basic design and some extensions. In K. G. Jo¨reskog & H. Wold (Eds.), Systems under indirect observation. Amsterdam: North Holland.

Yang, Z., Wang, X., & Su, C. (2006). A review of research methodologies in international business. International Business Review, 15(6), 601–617.

Yip, G. S., Gomez Biscarri, J., & Monti, J. A. (2000). The role of the internationalization process in the performance of newly internationalizing firms. Journal of International Marketing, 8(3), 10–35.

Zou, S., & Stan, S. (1998). The determinants of export performance: A review of the empirical literature between 1987 and 1997. International Marketing Review, 15(5), 333–356.