Organizational Factors Influencing Internationalization of Indian Manufacturing Companies: An Empirical Analysis

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There are numerous factors, both external and internal, which influence international activities of firms. This study identified six organizational factors namely, leadership commitment, role of the board, team effectiveness, competitiveness, international acquisitions and organizational resources based on the extant literature and studied their influence on the degree of internationalization (DOI) of Indian manufacturing firms. The authors proposed a conceptual framework elucidating a hypothesized relationship among the six organizational factors as independent variables and DOI as the dependent variable. The results of the regression analysis performed between the independent variable and dependent variables supported the hypothesized relationships in the conceptual model.

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Introduction

The past two decades have seen most developing and emerging economies changing from a radical view of FDI and trade, towards a more friendly view, by using international expansion as strategies for positive spill overs and other inherent benefits, in their quest for development (Hennart, 1991). Many Indian manufacturing firms have also forayed into international markets through exports, overseas ventures, joint ventures and acquisitions. They have had different levels of success in their internationalization journeys and are looking at the possibilities of acquisition, production facilities and setting up of offices abroad. India as a nation has a huge opportunity in creating global Indian multinationals, but a vast majority of Indian companies are unable to make this significant leap.

There are many factors, both external and internal to the organization, which stimulate international activities of a firm. Andersson (2000) found that "the internal factors of an organization can be relatively easier to grasp and control than the external factors which are often very dynamic and hence hard for organizations and their chiefs to control the evolving circumstances." Motives for going international mainly depend on top management team, international resources and firm's specifics. However, there are no coherent frameworks that may help practitioners to gain a convergent understanding of the internationalization decisions of manufacturing companies. Although some scholars (Brouthers et al., 2000; Brouthers & Hennart, 2007) had developed the globalization model for manufacturing companies, those were not fully examined in the context of developing markets (Onafowora & Owoye, 2006). Additionally, it is hard to ignore the great differences between developed and developing economies; for example, many manufacturing companies in developed economies possess high technology and efficient processes, it is exactly the opposite case in many developing economies. However, as the forces of globalization drives firms to expand outside their home market, a primary issue of concern is in determining when and how to enter a foreign market. The research on international entry decision is important because setting the correct time and boundaries of the firm has significant performance implications (Brouthers et al., 2000). Although the literature on international markets is extensive, research studies related to international aspects of Indian companies are very limited (Rana et. al., 2018). Also, the actual approach taken by various Indian and emerging markets' companies in their multinational quest and the linkage between organizational factors and their impact on internationalization has not been studied adequately.

As the forces of globalization drives firms to expand outside their home market, a primary issue of concern is in determining when and how to enter a foreign market.

The main objective of this study is to identify the relevant organizational factors based on the extant literature and study their influence on the degree of internationalization of Indian manufacturing firms through an empirical analysis. To achieve this objective, 34 Indian manufacturing companies were selected through a sampling process and surveyed. The responses of the CEOs / CXOs of these companies were collected through a semi structured research instrument on the identified six organizational factors namely, leadership commitment, role of the board, team effectiveness, competitiveness, international acquisitions and organizational resources and further analyzed to see if the Indian manufacturing companies can leverage these organizational factors for success in their internationalization endeavors.

Review of Organizational Factors

There are numerous literatures on internationalization of firms where researchers have provided various perspectives on firms' internationalization. Most of them have studied the relationship between the firm's internationalization process or performance and its internal factors as well as external environments. We consider that the external environment is frequently dynamic, so it is hard for the companies to control the changing situation. However, some of the internal factors can be relatively easy to grasp and control. We listed the six relevant organizational factors namely leadership commitment, role of the board, team effectiveness, competitiveness, international acquisitions and organizational resources that have emerged from the literature reviewed. This was also validated through focus group discussions and expert opinion.

Leadership Commitment

Leadership commitment is defined as commitment to allocate resources and champion activities that lead to the development of new products, technologies, and processes consistent with marketplace opportunities (Cottam, Ensor & Band, 2001). Winsted and Patterson (1998) specifically pointed out that management commitment is an important motive to expand internationally. As stated by Cotae (2013) leadership is the primary factor capable of modifying different stages of internationalization, since it is responsible for allocating further resources or postponing further expansion. He concluded that a firm's leadership is seen as charged with enabling the existence of an organization that has access to information based on either internal reports and market related data, which in turn would provide meaningful information for an informed decision making process with regard to strategy formulation and the undertaking of any additional globalization efforts and therefore internationalization and leadership are seen as the key components resulting in increased or positive firm performance. Thus, the strategic choice related to entering a foreign market or doing business internationally is set by the leadership of an organization, as the top management team stands at the apex of the organizational structure and is ultimately responsible for achieving the firm's objectives as suggested by Hambrick and Mason (1984).

Role of the Board

The board of directors, with their competence, experience and industry knowledge can provide valuable advice and counselling during the decision-making processes (Bezemer et al., 2007); thus, giving support to better internationalization decisions. Hence, the board of directors, may be considered as a bundle of strategic resources to be used by the company. Indeed, they can provide timely advice and counsel to the owner, the CEO and the management in areas where internal firm knowledge is limited or lacking. They can be a valuable source of competitive advantage through their professional and personal qualifications. The resource-based view considers the board as a firm-internal resource of competi-

tive advantage as stated by Barney and Jay (1991). The board is seen as a strategic resource which enables a firm to craft and implement strategies thus improving its efficiency and effectiveness and exploiting opportunities or neutralizing threats in the competitive environment. Previous studies have also provided evidence that boards may help, by acquiring critical resources, to reduce uncertainty as a source of information (Huse, 2007). As stated by Gallo and Sveen (1991), the board advisory tasks can contribute to the internationalization strategy of the firm. Calabro et al. (2009) also suggest that the board is an important strategic resource contributing to their international expansion. Huse (2007) states that the boards of directors have received little attention and even less in relation to the internationalization of firms. Studies about the internationalization of firms have mostly used the management, senior managers, and top management teams, as main independent variables (Fernandez & Nieto, 2005). The impact of the board and its members as strategic resources in relation to internationalization of an organization, needs to be investigated.

Competitiveness

Globalization has made available to any company the same competitive resources. Rendering the sources of advantage difficult to imitate. Cereceres (2007) notes that companies for their lack of competitiveness face very adverse scenarios in their internationalization. Olguin and Lerma (2014) agree that competitiveness is a major problem and

Firms were required to have international operations to remain competitive in the market as it allows access to international expertise, technologies and innovations.

a major challenge for their internationalization processes. Bloodgood et. al. (1996) found that firms were required to have international operations to remain competitive in the market as it allows access to international expertise, technologies and innovations. Hooley et al. (2000) pointed out that competition intensity has important influence on the performance of multinational companies, which have influenced the internationalization process of enterprises to some extent. As stated by Segura et al. (2016), competitive advantage can be given by several factors, both endogenous and exogenous, or a combination of both. Among the endogenous or specific advantages can be found in the technology control, management skills, marketing management, as distinctive elements that give the organization an advantage over other companies and, thus, it can exploit its output to it. Bugador (2015) states that the analysis of the competitive advantages of emerging multinational economies (EMNEs) remain to be an interesting topic in the international business literature. This is important because the competitiveness of EMNEs influence the performance and international transactions of different firms across borders. Today's Indian business system is impacted by rapid internationalization and the accelerating competitive environment in the economy. Thus, all types of busi-

nesses are getting affected and facing competition on a global scale (Sousa & Lages, 2011). Indian firms are today more international than ever before (Seshabalaya, 2005). According to Rana et al. (2018) international intentions characterize the organizational efficiency of a number of leading Indian firms and this orientation is an indicator of the growing competitiveness of manufacturing firms; services or resources such as capital and technology are becoming more and more international.

Team Effectiveness

Team effectiveness, also referred to as team performance, is a team's capacity to achieve its goals and objectives which leads to improved outcomes for the team members (e.g., team member satisfaction and willingness to remain together) as well as outcomes produced or influenced by the team (Kozlowski & Ilgen, 2006; Salas et al., 2009). The performance of organizations depends on team members' knowledge, skills and abilities (Hirschfeld et al., 2006). Organizations use teams for improving efficiency of their business. Identification of high potential employees for international assignments or global leadership positions should focus on potential returns to the organization (McNulty & Tharenou, 2004). Team execution is a multilevel procedure emerging as team members perform both their individual responsibility execution procedures and individual and group level course of teamwork (Salas et al., 2007). Accordingly, teamwork is a part of group execution in the sense that group execution is a mix of both individual execution and collaboration processes. Thus, the performance of the team in as a whole is really more important, than the aggregate of its parts.

International Acquisitions

A firm's growth and development can be achieved through either acquisitions or innovations as suggested by Burgelman (1986). International acquisitions serve as an attractive alternative to investment in R&D because they offer immediate entrance to a new market and/or a larger share of a market served currently by the firm (Shelton, 1988). Acquired organizations give quick access to a much-prepared work drive, existing clients, and contacts of previous providers, a settled system of conveyance and a good source of additional income (Doole & Lowe, 2008). In this way, the acquisition system turns into an enormous advantage for organizations when they intend to go into the global market. Keeping in mind the end goal to execute the economies of scale in the process of internationalization, various multinational firms are progressively picking-up the method of acquisition (Shimizu et al., 2004). This implies that acquisitions are being actively pursued for extending outside the original business sectors (Slangen, 2006). Cross-border acquisitions have been expanding quickly in recent years. Afsharipour (2010) in his study focuses on several Indian multinationals that are making a name in the merger and acquisition circles in the USA. Since 2003, the Indian investment policy reforms have amplified the acquisition exercises by Indian MNEs as stud-

ied by Buckley et al. (2009). This is one of the main choices picked by a number of Indian firms to travel to another country. Since India is a vibrant country with its changing institutional environment, the country's current situation is an interesting field to check and determine the influence of certain variables on the international decisions made by the MNC's. Very limited information is known about the strategies adopted by the Indian MNC's as compared to the MNC's from developed economies as studied by Buckley et al. (2009) and Kumar (2008). Hence, this becomes an important area of research and will add to the body of knowledge.

Organizational Resources

Organizational resources enable the firm to conceive and implement strategies that improve its efficiency and effectiveness (Daft, 1983). In the language of traditional strategic analysis, firm resources are strengths that firms can use to conceive of and implement their strategies (Learned et al., 1969; Barney & Jay, 1991). Ismail et al. (2012), empirically examined the importance of and emphasis placed on organizational resources, capabilities and systems in their relationships with competitive advantage. The overall findings indicated significant, positive effects of organizational resources, capabilities and systems collectively on competitive advantage, providing support and corroboration to the resource-based view (RBV). Thus, organizational resources are important for attaining and sustaining competitive advantage. The RBV of the firm predicts that certain types of resources owned and controlled by firms have the potential and promise to generate competitive advantage, which eventually leads to superior organizational performance (Wernerfelt, 1984; 1995; Ainuddin et al., 2007).

Organizational resources are important for attaining and sustaining competitive advantage.

Degree of Internationalization (DOI)

Internationalization refers to a firm's engagement in FDI and development of foreign business units. As such the firms are committed to foreign markets to varying degrees, depending on their particular stage of internationalization and according to individual strategic plans. In spite of this complexity, researchers need a credible means to quantify the degree of internationalization (DOI). Many measures to arrive at the degree of internationalization of a firm have been studied over the years for calculating DOI. As stated by Ietto-Gillies (1998), "depending on the purpose of research, simple individual measures as well as composite indices consisting of multiple measures of internationalization can be applied." Jankowska (2011) states that "internationalization usually does not cover all elements of an enterprise simultaneously and to the same extent and therefore to measure the degree of internationalization it is necessary to construct detailed, analytical measures and determine ways of their interpretation in order to be able

to measure equally all areas in which an enterprise may internationalize its activities". The first attempts to quantify internationalization used a single-variable approach, based on foreign sales. Despite ease of calculation, single-item scale usually underperforms multi-item scales in terms of predictive ability (Ramsey et al., 2013). Multi-item scales reduce measurement errors, resulting in increased reliability and construct validity. Moreover, single-item scales ignore the multidimensional nature of a firm's international presence, which extends beyond a mere financial perspective (Churchill & Gilbert, 1979).

Hassel et al. (2003) argued that "there are only three developed models, up to date, that can be regarded as some of the most prominent methods consisting of composite measures to calculate the degree of internationalization of a firm namely, transnationality index (UNCTAD, 1995), transnational activities spread index (Ietto-Gillies, 1998) and degree of internationalization." These indices are derived from the different individual measures of internationalization that include: structural, performance and attitudinal attributes (Sullivan, 1994; Dörrenbächer, 2000). Structural indicators usually present a static picture of an aspect of firm's activity from the internationalization degree perspective (e.g. a number of foreign subsidiaries or countries of operation). Performance indicators show the effects of firm's internationalization in a certain field (e.g. total income from foreign subsidiaries), while attitudinal indicators represent the attitudes and behaviors of managers in the context of international activities (e.g. international experience of the top managers measured in years of working abroad).

Sullivan's model, as well as TNI and TSI, have been criticized for combining measures of different levels, i.e. structural and attitudinal as well as a performance-related indicators of internationalization (Ramaswamy, 1996.). According to him, components of the different levels were not a substitute as conveyed by the index, being the sum of all components. A high value of one parameter could not simply be replaced by a high value of another variable, regarding the different outcomes on the part of the dependent variable. However, Sullivan (1996) maintains the usefulness of a multi-item index, given that it adequately addresses issues of construct validity and item validity. Multi-item indices allow for the inclusion of non-performance variables when assessing internationalization.

In conclusion, one can say that internationalization is a multi-dimensional concept and can be operationalized using multiple measures. Consequently, in developing measures for the degree of internationalization, scholars have utilized ratios that capture the percentage of foreign-initiated or oriented activities to the total activities of the firm, including the ratio of foreign sales to total sales and foreign assets to total assets. The key dimensions identified in the literature include structural, attitudinal, and performance. Given that multi-item measures allow for a fine-grained assessment of internationalization, we agree with

Dorrenbacher (2000) that Sullivan's measure is one of the few that combines the main dimensions of internationalization into one measure.

Hypotheses Development

Building on the insights from the literature review as discussed above, the following null and alternate hypotheses have been derived to test the association between each of the six organizational factors and the degree of internationalization (DOI) of Indian manufacturing companies. The null hypotheses will be disproved in order to prove and accept the alternate hypotheses.

Hypothesis related to association of leadership commitment with degree of internationalization:

Ho1: Leadership commitment is not positively associated with degree of internationalization of Indian manufacturing companies

Ha1: Leadership commitment is positively associated with degree of internationalization of Indian manufacturing companies

Hypothesis related to association of role of board with degree of internationalization

Ho2: Role of board is not positively associated with degree of internationalization of Indian manufacturing companies

Ha2: Role of board is positively associated with degree of internationalization of Indian manufacturing companies.

Hypothesis related to association of competitiveness with degree of internationalization

Ho3: Competitiveness is not positively associated with degree of internationalization of Indian manufacturing companies

Ha3: Competitiveness is positively associated with degree of internationalization of Indian manufacturing companies.

Hypothesis related to association of international acquisitions with degree of internationalization

Ho4: International acquisitions is not positively associated with degree of internationalization of Indian manufacturing companies

Ha4: International acquisitions is positively associated with degree of internationalization of Indian manufacturing companies.

Hypothesis related to association of team effectiveness with degree of internationalization

Ho5: Team effectiveness is not positively associated with degree of internationalization of Indian manufacturing companies

Ha5: Team effectiveness is positively associated with degree of internationalization of Indian manufacturing companies.

Hypothesis related to association of organizational resources with degree of internationalization

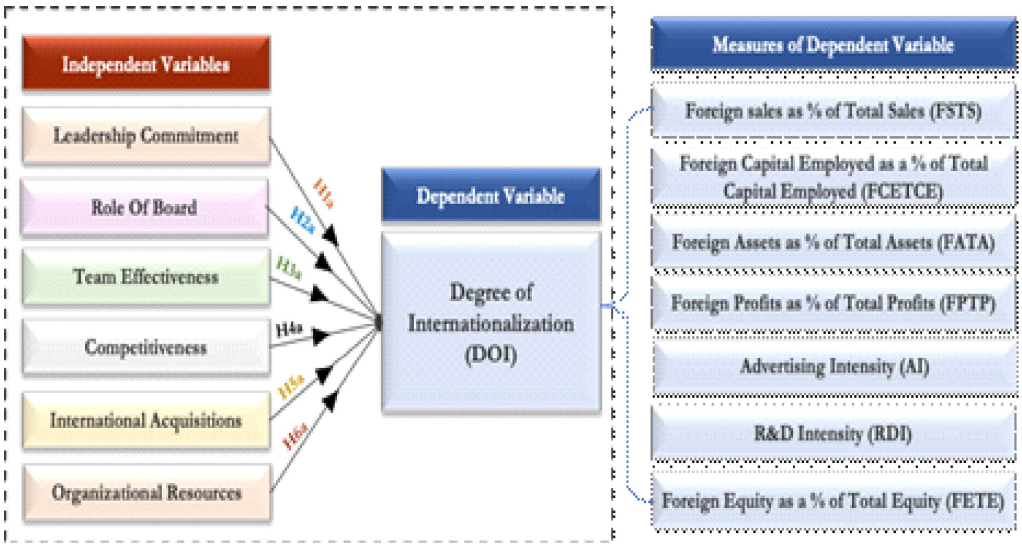
Ho6: Organizational resources are not positively associated with degree of internationalization of Indian manufacturing companies

Ha6: Organizational resources are positively associated with degree of internationalization of Indian manufacturing companies.

Research Model

The research model emerging from the hypotheses is presented in Fig 1. The framework suggests that the independent variables namely, leadership commitment, role of board, team effectiveness, competitiveness, international acquisition, organizational resources can influence the dependent variable i.e., degree of internationalization (DOI) of the Indian manufacturing firm. For measuring the DOI, seven measures namely foreign sales as a percentage of total sales (FSTS), foreign capital employed as a percentage of total capital employed (FCETCE), foreign assets as a percentage of total assets (FATA), foreign profits as a percentage of total profit (FPTP), foreign equity as a percentage of total equity (FETE), advertising intensity (AI) and research and development intensity (RDI) were used. These seven measures were arrived through an analysis performed on the twelve measures identified initially based on literature reviewed and by considering the responses to the business activities of Indian manufacturing companies operating overseas which were collected using a semi-structured questionnaire. The evaluation criteria for arriving at these seven measures has been explained in the subsequent section.

Fig. 1 Research Model



Source: Own analysis

Data Collection & Sample Size

The secondary analysis was based on the financial data of BSE 500 (Bombay Stock Exchange) companies as available from Bloomberg database and company's annual reports for three financial years 2013, 2014 and 2015. The data for these three years was considered as the world had seen a severe global economic meltdown, bank collapses, financial crisis, protectionism etc. during 2008-10 after which the global economy stabilized relatively in 2010-11. Many Indian multinational corporations were also impacted during this crisis. The reason for taking three years data and averaging it for each measure, was to ensure that the data was smoothened for any windfall business or any adverse impact in any particular year. This also helped to control for changes in exchange rates, accounting standards, one-time events etc. The data for certain measures such as FMTM, NNIE, PDIO, TMIE were taken as applicable for 2014-15 for reasons of recency and data availability.

The primary data for the study was collected through two semi-structured questionnaires. The questionnaires were validated and accepted by four industry experts and were also pretested with nine practitioners who were CEOs/CXOs of firms. Recommendations from experts were processed after effecting necessary modifications and then, the final version was accepted. The first questionnaire consisted of 58 subfactors that have been used in the current study effectively for collecting data from the CEOs / CXOs of the Indian manufacturing companies to gain their insights on the six organizational factors which were identified through the literature. Some standard tools such as the MLQ5x, TEAM, boundary management, PE scale and Likert scale were used for measuring the six organizational factors. The second questionnaire consisted of questions relating to information on the company's internationalization, nature of business, the form of ownership, geographical presence, international acquisitions, expenditure relating to R&D and advertising, top management international experience, number of foreign employees, foreign revenues, return on capital employed, foreign assets and certain other organization related details relevant to the study. In the context of Indian manufacturing companies, certain measures namely, research and development intensity (RDI), advertising intensity (AI) and some financial measures such as foreign capital employed to total capital employed (FCETCE), foreign equity to total equity (FETE) and foreign profit to total profit (FPTP) seemed to be more relevant statistically in contributing to DOI, as many Indian manufacturing companies are still in relatively early stages of their internationalization journey. So the companies have made the financial investments in terms of capital employed, equity contribution, overseas R&D and overseas advertising efforts and hence these measures are important for measuring the DOI of Indian manufacturing companies. The respondents to the two questionnaires were CEOs / CXOs of 34 Indian manufacturing companies shortlisted through a sampling process.

The method used for selection of the firms was nonprobability purposive sampling. Indian manufacturing firms with special emphasis on engineering-oriented industries involved with contribution of 4% or greater foreign sales to their total sales were filtered from a list of BSE 500 companies. 60 target companies were arrived at fulfilling the sample inclusion criteria. Out of the 60 shortlisted manufacturing companies, some were not willing to participate in the study for reasons of confidentiality or other priorities. Thus, the final sample arrived at, consisted of 34 Indian MNCs which provided adequate diversity in terms of type and nature of industry, size, years in international markets, focus on acquisitions, etc. and belonged to the GICS (Global Industry Classification Standard) structure, a four-tiered, hierarchical industry classification system developed by MSCI and Standard & Poor's (S&P). Other sectors like – pharma, textiles, IT, ITES, BPO, financial services, banking and consultancy services were not included in this study as the diverse variables affecting the degree of internationalization are not common across all sectors and needs to be studied separately.

Independent Variables (IV)

The independent variables consist of the six organizational factors namely, leadership commitment, role of the board, competitiveness, team effectiveness, international acquisitions and organizational resources and have emerged from the literature review. For all the six independent variables included in the model, the unit of analysis was the firm. All the variables are measured based on a 10-point Likert-type scale. The six organizational factors and their respective subfactors were evaluated for their reliability.

Dependent variables (DV):

Based on the literature reviewed and the responses to the business activities of Indian manufacturing companies operating overseas which were collected using a research instrument, the below twelve measures encompassing the three attributes namely, performance, structure and attitude were initially identified and were evaluated for their reliability and internal consistency.

Performance

1. FSTS = Ratio of foreign sales to total sales
2. RDI = Ratio of research & development expenses to sales revenue
3. AI = Ratio of advertising expenditure to sales revenue
4. FCETCE = Ratio of foreign capital employed to total capital employed
5. FETE = Ratio of foreign equity to total equity
6. ESTS = Ratio of sales from exports to total sales
7. FPTP = Ratio of foreign profits to total profits

Structure

1. FATA = Ratio of foreign assets to total assets

2. FMTM = Ratio of foreign manpower (employees) to total manpower (employees) in the company
3. TMIE = Ratio of total years of work experience and number of years of involvement in internationalization activities in the entire career of top ten leaders / managers to their total work experience

Attitude

1. PDIO = Geographic dispersion of the overseas subsidiaries of a firm among the ten psychic zones of the world.
2. NNIE = Total number of nationalities of international employees

Organizational Factors & Sub-factors

The reliability of the six organizational factors and their respective sub-factors were evaluated by using Cronbach's alpha coefficient (Sullivan, 1994). Cronbach's alpha calculated for the six organizational factors and its subfactors demonstrated a high inter-item reliability (i.e. an alpha of greater than .70) (Table1 and Table 2)

Table 1 Reliability Statistics of Organizational Factors

Cronbach's alpha	N of items
0.928	6

Source: Own data analysis

Table 2 Reliability Test Results for Sub-factors under each Organizational Factor

Organizational factor	Number of sub-factors under each organizational factor	Cronbach's alpha (sub-factors)
Leadership commitment	13	0.968
Role of board	5	0.935
Competitiveness	7	0.838
International acquisition	5	0.916
Team effectiveness	23	0.976
Organizational resources	5	0.950

Source: Own data analysis

Measures of DOI

To determine reliability of the measures of DOI, factor analysis was conducted using SPSS 25 version on the twelve measures identified initially by performing principal component analysis (PCA) technique to examine the degree of internal consistency of a set of items in a measure and determine whether the observed measures should be retained or discarded. PCA is recommended for data reduction as it summarizes the variance of the original variables into a minimum number of factors (Hair, 1998). Another decision to make when performing factor analysis was the number of factors to be extracted. One common criterion is to select those factors which have an eigen value greater than one, also known as Kaiser's criterion (Hair et al., 2006). In this way, factors which explain less variance than one single variable are excluded (Bryman & Cramer, 1999). In short, for this study factor analysis was considered an appropriate tool for iden-

tifying factors among multiple items as it provided preliminary insights for validating measures by offering information on whether the items load on the appropriate factors and whether the factors are distinct and potentially represent separate concepts by not having cross- loadings.

The Kaiser – Meyer – Ohlin test shows a high value of 0.802 (>0.70 is adequate) supporting the adequacy of the sample for performing factor analysis. KMO rate must be above 0.50. Higher is the value, better is the data set for factor analysis (Kalaycý, 2005). Further, the Bartlett's test of sphericity was significant (X2: 482.941, df: 66, Sig.: 0.000), indicating that the correlation matrix was not an identity matrix and therefore the data was suitable for factor analysis. Factor analysis resulted in seven measures namely FSTS, RDI, FATA, FCETCE, AI, FETE and FATA out of the initial twelve measures which demonstrated a high inter-item reliability (Cronbach's alpha of .97) which was higher than the reliability of degree of internationalization scale index DOIINTS developed by Sullivan (1994). Further, the seven measures loaded on one factor with a high eigenvalue (6.07) and high-explained variance (86.70). The Cronbach's alpha of remaining five research variables namely, NNIE, TMIE, FMTM, ESTS and PDIO were found to be unacceptable (i.e., $\alpha < 0.7$) and so these measures were dropped.

The next step was to examine the degree of correlation between these seven measures intended to measure the DOI of Indian manufacturing companies. The correlation was calculated by the Pearson correlation coefficient (r) and all results were found to be statistically significant when tested at 0.05 per cent of significance. Amongst the seven measures, the strongest correlation was found between FSTS and RDI (0.992) while a comparatively weak correlation was found between RDI and FPTP (0.688).

Based on the results of evaluation of the measures, it can be concluded that the resulting seven variables namely, FSTS, FATA, RDI, FCETCE, AI, FETE and FPTP demonstrated as proper selection measures for calculating the DOI of Indian manufacturing companies, as their validity assessments were consistent with Sullivan (1994) and these measures will provide more realistic information regarding various forms of outward internationalization, e.g. extent of research and development intensity, exports, mergers and acquisitions, capital employed

DOI of Indian Manufacturing Firms

To calculate the DOI of Indian manufacturing firms the average of the seven measures for each of the selected 34 Indian manufacturing companies for three financial years (2012-13, 2013-14 and 2014-15) was taken and aggregated to get more realistic results and remove any event related anomalies. This measure termed as "Simple DOI" is shown in equation below:

Simple DOI = FSTS + FATA + FCETCE + FPTP + FETE + AI + RDI

Sullivan (1994) used representative sample of 74 American manufacturing MNCs. He identified five "good" indicators out of nine by verifying the intercorrelation and Cronbach alpha coefficient. Cronbach's alpha, factor, and frequency analysis revealed a linear combination of five items with a reliability coefficient of .79 as a unidimensional measure of the DOI of a firm. We agree with Dorrenbacher (2000) that Sullivan's composite scale is one of the few that combines the main dimensions of internationalization into one measure and that this measure is a very useful indicator of the DOI, since it relies on secondary data. These companies were then ranked and classified as high or low based on their Simple DOI scores as compared to the basic descriptive statistics of the DOI. The median value for the entire sample was 2.47, with the standard deviation equal to 1.81 and the range 5.89. The company having a Simple DOI score greater than or equal to the median value was considered as "high" on DOI and less than or equal to the median value was considered as "low" on DOI. The resulting classification has been presented in Table 4. It was found that 17 companies were "high" on DOI, while 17 companies were "low" on DOI.

It was found that 17 companies were "high" on DOI, while 17 companies were "low" on DOI.

Table 3 High / Low Classification and Ranking Based on Simple DOI

Company name (masked)	Simple DOI score (dependent variable)	Rank based on simple DOI score	High / Low classification based on simple DOI score
D	6.13	1	High
W	5.70	2	High
V	5.38	3	High
AC	5.00	4	High
AF	4.98	5	High
L	4.79	6	High
F	4.76	7	High
N	4.44	8	High
M	4.12	9	High
AE	4.10	10	High
B	3.98	11	High
S	3.76	12	High
Z	3.66	13	High
R	3.58	14	High
J	3.14	15	High
AD	2.96	16	High
T	2.71	17	High
A	2.23	18	Low
O	2.21	19	Low
X	2.05	20	Low
AG	2.05	21	Low

U	1.72	22	Low
AI	1.65	23	Low
Y	1.26	24	Low
AB	1.03	25	Low
AH	1.03	26	Low
C	0.93	27	Low
G	0.69	28	Low
P	0.60	29	Low
K	0.59	30	Low
AA	0.37	31	Low
I	0.32	32	Low
E	0.30	33	Low
Q	0.24	34	Low

Source: Authors' data analysis

Hypotheses Testing

In order to test the hypotheses whether the organizational factors have any influence on the DOI of Indian manufacturing companies, regression analysis was conducted between each of the six organizational factors namely, leadership commitment, role of board, competitiveness, team effectiveness, international acquisition and organizational resources as the independent variable and DOI as the dependent variable. Before performing a linear regression, it was necessary to check whether there is a correlation between the variables to find the measure of the strength and direction of the linear relationship between the two variables.

Correlation between Variables

The correlation was calculated by the Pearson correlation coefficient (r) and all results were found to be statistically significant when tested at 0.05 percent level of significance. All the six organizational factors (independent variables) were found to have a moderate and positive relationship with the DOI (i.e. r >0.3 but <0.7). Out of the six independent variables, organizational resources had the highest correlation ($r = 0.591$) with DOI (dependent variable) and international acquisition had the least correlation ($r = 0.538$) with DOI. Further, from the results it was also observed that the independent variables have a strong and positive correlation between themselves (i.e. r >0.7). Therefore, the data was tested for multicollinearity.

Multicollinearity

The multicollinearity was measured by performing collinearity diagnostics test in SPSS and the values obtained for variance inflation factor (VIF) and tolerance were observed. If VIF value exceeds 5.0, or by tolerance less than 0.2 then there is a problem with multicollinearity (Hair et al., 2010).

From the collinearity statistics results presented in Table 4, it was found that three out of six independent variables namely, leadership commitment, team effectiveness and organizational resources had a VIF above tolerance level

(i.e. > 5). The VIF values for remaining three independent variables namely role of the board, competitiveness and international acquisitions were below 5 and acceptable. Further, the tolerance statistic values for leadership commitment, team effectiveness and organizational resources were below the tolerance level of 0.2 which is unacceptable. However, the tolerance statistics values for remaining three independent variables namely role of the board, competitiveness and international acquisitions were above 0.2 and acceptable.

Table 4 Collinearity Co-efficients[a] Statistics

Model		Collinearity Statistics	
		Tolerance	VIF
1	Leadership commitment	.169	5.902
	Role of board	.321	3.111
	Competitiveness	.388	2.580
	Team effectiveness	.174	5.763
	International acquisitions	.276	3.621
	Organizational resources	.166	6.017

a. Dependent Variable: DOI
Source: Own data analysis

Thus, the results of collinearity diagnostics indicate that multicollinearity exists and there is a possibility that the regression model estimates of the coefficients may become unstable and the standard errors for the coefficients can get inflated. Therefore, simple linear regression analysis was performed instead of multiple regression and the relationship of DOI (dependent variable) was studied individually with each of the six organizational factors (independent variable), as there is a possibility of multicollinearity undermining the statistical significance of the independent variables in the study.

Simple Linear Regression Analysis

The results of simple linear regression in the case of each organizational factor has been summarized and presented in Table 5. It was found that the regression coefficient (R) for each organizational factor namely leadership commitment, role of the board, competitiveness, team effectiveness, international acquisitions and organizational resources was statistically significant (i.e. p value <= 0.05) when tested individually with simple DOI score. This concludes our testing of all hypotheses leading to the affirmations that the objectives set out at the beginning of the research have been achieved. Therefore, all the alternate hypotheses Ha1, Ha2, Ha3, Ha4, Ha5 and Ha6 are accepted and the null hypotheses Ho1, Ho2, Ho3, Ho4, Ho5 and Ho6 are rejected.

From the results of hypotheses testing, it could be concluded that each of the six organizational factors namely leadership commitment, role of the board,

Table 5 Hypothesis Testing Using Simple Linear Regression

Dependent variable	Independent variable	R	R squared	*p* value	Hypothesis testing result (if $p <= 0.05$, reject Ho and accept Ha, if >= 0.05, reject Ha and accept Ho
DOI	Leadership commitment	.634a	0.401	.000	Reject Ho1Accept Ha1
DOI	Role of board	.589a	0.347	.000	Reject Ho2Accept Ha2
DOI	Competitiveness	.570a	0.325	.000	Reject Ho3Accept Ha3
DOI	Team effectiveness	.549a	0.301	.001	Reject Ho4Accept Ha4
DOI	International acquisitions	.595a	0.354	.000	Reject Ho5Accept Ha5
DOI	Organizational resources	.624a	0.389	.000	Reject Ho6Accept Ha6

Note: a Predictors: (Constant), Leadership Commitment, Role of Board, Competitiveness, Team Effectiveness, International Acquisitions, Organizational Resources
Source: Own data analysis

team effectiveness, competitiveness, international acquisitions and organizational resources is positively associated with the degree of internationalization (DOI) of Indian manufacturing companies.

Conclusion

This study endeavored to collect and analyze data at firm level with the perspective of CEOs / CXOs on internationalization. An empirical framework was created to assess the relationship between six organizational factors and degree of internationalization of Indian manufacturing companies. The results were found to be consistent with the previous studies reviewed under the six organizational factors. Therefore, this study augments the current research on internationalization thereby providing an interesting addition to the existing body of knowledge by explaining the strategic importance of the six organizational factors and how Indian manufacturing companies can leverage their organizational factors to make better strategic and tactical judgments with regard to their internationalization strategies. It will provide a direction to Indian organizations in the manufacturing sector to examine their internationalization journey and bring about certain improvements in their preparedness and approach.

Another contribution of this study is the measurement of the degree of internationalization of Indian manufacturing companies, which was designed to cover various forms of outward internationalization, e.g., extent of research and development intensity, exports, mergers and acquisitions and so it will provide more realistic information regarding different aspects of internationalization of Indian manufacturing companies.

The third contribution of this study is the development of the semi-structured questionnaires (data collection tool) which were otherwise unavailable in the context of Indian manufacturing companies and have been put together for future reference and usage in data collection. The tool so developed were thoroughly tested and validated making it suit-

able for further studies in similar context from emerging markets.

Limitations of the Study

The findings rely on the CEO / CXO responses to the data collection tool at a certain point in time and are hence cross-sectional data rather than longitudinal data. This may not completely reflect any changing situations and outcomes in internationalization and organizational factors over time. The data may also be affected by the respondent's predisposition or biases at the time of responding to the questionnaire. A wider sampling of the Indian manufacturing companies may provide a possible differing effect of the impact of the six organizational factors on degree of internationalization of Indian manufacturing companies. We had to limit the data collection due to constraints in obtaining participation from companies and non-availability of responses at CEO / CXO level from companies in the sample. This study has not covered certain uncontrollable factors such as role of government, impact of free trade agreements, impact of economic upheavals, volatility in the commodity prices or foreign exchange rates, protectionism, changes in political regimes, industry specific international or domestic developments etc. which can also impact the performance of a company on its internationalization path. It is likely that many of these uncontrollable factors would have had some impact on most of the companies involved in the study to varying degrees. Finally, the study has not explored adequately the implications of companies that would have started their internationalization journey at different points in time.

Scope for Future Research

The current study focused on six organizational factors and seven measures of the DOI. Further studies may be built on the results of this study and strive to reduce model complexity by using lesser number of variables ('model parsimony'). In this context, future research could improve the measurement approach of the core constructs. Future research can also include other sectors like – pharma, textiles, IT, ITES, BPO, financial services, banking and consultancy services. Primary reason for not including these sectors in this study was that the diverse variables affecting the degree of internationalization are not common across all sectors and needs to be studied separately.

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