Impact of internationalization on SME Performance: A study of Indian software firms

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Abstract

The emergence of multinational firms has been a distinct feature of globalization in the developing countries. Many of the emerging multinational firms are small and medium enterprises (SME). The Indian software SMEs, in particular, have been at the forefront of making outward investment. The paper empirically studies the impact of internationalization on the performance of SMEs, which have invested overseas. The paper also explores the effect of marketing, firm size, and managerial orientation on firm performance. Based on panel data for 29 software SMEs in India for the period 2002 to 2008, the paper finds a positive correlation between internationalization and firm performance. With its theoretical foundations in Resource based view (RBV) and Knowledge based view (KBV), the paper discovers that marketing has weak predictive power of the firm performance. The size and age of the firm are not found adequate predictors of firm performance.

Introduction

Small and Medium Enterprises (SMEs) are increasingly operating in international markets. Trade liberalization and the concomitant international competition exert twin pressures on firms. They need to maintain a sustainable competitive advantage owing to the complexities of international trade. New ways are required to compete, as the earlier competitive strategy of differentiation based on price, product or technology, is losing value (Lloyd-Reason, 2003).

Home country markets have opened to foreign companies. Small and medium enterprises face the competitive pressure of both domestic and overseas rivals. SMEs respond by entering foreign markets, motivated by both push and pull factors (Lloyd-Reason, 2003). The present paper studies the impact of internationalization on SME performance. The paper is divided into three sections. Section I is a general discussion on motivation for study and identification of SMEs. Section II reviews the extant literature on SME internationalization and its various aspects. Section III is about research objective, proposition formulation, data analysis and results. It is followed by study limitations, managerial implications and concluding remarks.

Motivation for study

Small and medium enterprises are critical for a country's economic welfare and social development. The plethora of government policies and programmes for the encouragement of SMEs underline their significance for national development. SMEs also play a major role in sustaining home country businesses in the face of pressure from the foreign firms entering the home market (Pollard, 2001). In the Indian context, small and medium enterprise sector has made a phenomenal contribution to the Indian economy. It comprises around 13million units, employing about 41million people, having an approximate share of 45% of manufacturing output and 40% of exports and contributing almost 8-9% of GDP (MSME Overview, 2007).

The study of SMEs in general has received the attention of academicians but their role in emerging economies has yet to be actively explored. Moreover, the internationalization process of SMEs demands more empirical evidence as they continue to expand overseas since the commencement of transformation process (Glas, 1999).

IT/ITES industry's share in India's GDP has increased from 1.2% in financial year 1998 to 5.2% in financial year 2007. It contributes almost 36% of the exports. The direct employment has grown at the CAGR of 26%. It is the largest employer in the organized private sector. The sector has meaningfully contributed to the social development through initiatives in human resource development, education, health, women empowerment etc. (NASSCOM report, 2008). The software firms in the SME segment have strong fundamentals and core value propositions. They have been able to turn the recent economic slowdown into business opportunity through alignment of product offering with the domestic and overseas market demands (NASSCOM report, 2008).

Literature review

The existing papers study the theories and the practical aspects of SME internationalization. Among the theories, the resource based view and the knowledge based view are the most significant to explain international entry of SMEs. The practical aspects include the concept and the process of internationalization, its approaches, motives, barriers, and it's various dimensions. These issues are discussed as follows:

Theoretical framework of internationalization

As per Resource based view (RBV), the firm is considered as a bundle of linked resources (Rumelt, 1984). Various resources like technological, financial, human, physical and organizational are acknowledged in the literature. The RBV is applicable for the growth of small firms and also for their internationalization activities.

Wernerfelt (1984) observes that a firm's growth emerges from the balance between exploitation of existing resources and development of new resources. Wernerfelt (1984) opined that international market diversification had a role in new resource building. Outward FDI in subsidiaries and offices is a way of diversifying markets internationally.

The RBV considers firm's resources as determinants of internationalization activity. This view has been widely studied. However internationalization can itself emerge as a firm resource for superior performance. The present study is an attempt to study the latter aspect which deserves more attention in the context of emerging economies.

The Knowledge based view (KBV) of the firm has emerged as an extension to RBV. According to Kuivalainen (2003), KBV accepts much of the contention of RBV and also emphasizes the process of evolution of specific capabilities. The idea of the evolution of resources, capabilities and knowledge emerges from evolutionary economics (Nelson and Winter, 1982; Foss and Eriksen, 1995), in which learning is central to superior performance (Teece et al., 1997).

Kuivalainen (2003) views firms as repositories of knowledge, and Miller and Shamsie (1996) observe that, in increasingly unstable environment, knowledge-based resources contribute most to firms' performance. Kuivalainen (2003), Kuivalainen and Bell (2004) also view that the entrepreneur(s) is the catalyst for new resources, capabilities and knowledge. KBV does not focus on resources per se but on the evolving internationally acquired routines and capabilities (Kuivalainen, 2003; Kuivalainen and Bell, 2004). However, as this approach is relatively new, and there is little empirical support in existence, the present study seeks to further investigate these issues by focusing on capabilities of SME management/CEO and their impact on firm performance.

Practical aspects of internationalization

On the practical side of SME internationalization, Beamish (1990) defines internationalization as 'a process by which firms both increase their awareness of the direct and indirect influence of international transactions on their future, and establish and conduct transactions with other countries. This definition outlines that internationalization has both economic and behavioural component and it is a process and not an event (Pollard, 2001). Luostarinen and Welch (Gibb, 1993) define internationalization as 'the process of increasing involvement in international operations'. It is 'the change in the level of international orientation and/or activity over time' (Gibb, 1993). "The process of internationalization is strategic, gradual, and incremental."(Lloyd-Reason, 2003). Internationalization... can be termed as a process of adaptation (cf. Calof and Beamish, 1995).

For SMEs, with their limited financial resources, home country focus and small geographic base, international activity is a significant step (Lu and Beamish, 2001). Most of them lack the resources required for engaging in

overseas activity (Kirby and Kaiser, 2003). However globalization, technology, information availability and changed organizational structure have enabled SMEs to venture overseas. SMEs have been engaged in export/import, alliances, mergers and acquisitions (OECD 2005).

Traditionally, internationalization was understood as a sequential process moving in four discrete stages of (a)intermittent exports; (b)exports via agents; (c)overseas sales via knowledge agreements (licensing or franchising); (d)foreign direct investment (Johanson and Widersheim-Paul, 1975). However new research indicates that firms do not necessarily follow this sequential pattern (Benito' and Welch, 1993). As per the "New Venture Internationalization Theory" entrepreneurial vision and the initial resource endowment, influence early internationalization decisions (Autio and Sapienza, 2000). This is particularly true for knowledge-intensive industries (McDougall and Oviatt, 1996) like in case of software SMEs.

SMEs are actively involved in international markets, but they face problems in entering these markets (Reynolds, 1997). These problems are due to lack of knowledge about exports, marketing etc.

SMEs internationalize through different ways which include networking with foreign firms, accessing foreign countries through trade fairs, exporters and publications. Other mechanisms for internationalization include entering into joint ventures, licensing arrangements and subcontracting (Pollard, 2001).

Covellio and McAuley (1999) have identified three schools of thought for internationalization of firms. They are Foreign Direct Investment (FDI) school, stage model and network view.

FDI school is an economics based view related to industrial trade and neo-classical thought incorporating the absorption of activities within the firm while expanding overseas. In the stage model, also known as Uppsala model, firms internationalize in incremental stages (Johanson and Vahlne, 1977) based on increasing experience of the markets and commitment of the management. Internationalization begins with exports, moving to joint ventures and licensing and then to wholly–owned subsidiaries-in the increasing order of management knowledge and investment (Pollard, 2001). The network view suggests that firms internationalize by building

relationships with other firms, government, people, suppliers, customers (Pollard, 2001). Coviello and McAuley (1999) discovered that elements of all three schools are present in SME internationalization process. Stage model is used the most, then networks and FDI.

Approaches to SME internationalization

SMEs adopt various approaches to internationalization, which are as follows:

• Import/export.

• Strategic alliances/joint ventures.

• Foreign direct investment (FDI).

Exporting	Alliances	FDI
Benefits 1.Relatively easy, fast 2. Low investment in cost/commitment 3. Flexible 4. Lower risk	1. Requires limited resources and market knowledge	1.Increase in competitiveness & growth 2.Locational advantage 3.Development of new knowledge and capabilities 4.Minimise transaction related risks
Challenges 1. Possible lack of alignment with foreign sales agents 2.Tariff and non tariff trade Barriers 3. Cost of transportation	1. Identifying the right joint venture partners is critical 2.Structuring effective partnerships can be tricky	1.Complex,time consuming 2.High investment 3.High risk 4.Least flexible

(Lu and Beamish, 2001)

Exports

Exporting is the most convenient and usually the first stage for internationalization. Many SMEs begin exporting in response to intermittent demands from overseas clients (European Commission, 2004). Many firms export reactively rather than proactively, based on the needs of existing customers. Through exports the firm widens its consumer base and attains a higher sales volume which leads to a higher production volume and expansion of production capacity (Lu and Beamish 2001). Other benefits of exports include relatively fast and easy way to enter foreign markets with low commitment and low risk, quick response to market changes by reducing or expanding activities, relative ease of implementation than other internationalization approaches, such as creating alliances or establishing subsidiaries, which are more complex to structure. The disadvantages of exporting include exposure to trade barriers and the possible lack of alignment between foreign sales agents and the SME (Lu and Beamish, 2001). A study of the internationalization process by Lloyd-Reason *et al. (2004)* showed that the first recipient country selected for export is often due to "previous contacts".

Strategic alliances

Another way for SMEs to internationalize is through strategic alliances. Its advantages comprise access to financial resources, combined research efforts, product development and wider distribution channels. Alliances have become important due to stress on specialization and outsourcing by large firms, in the face of international competition (OECD, 2005).

Alliances enable SMEs with limited resources and market knowledge to enter international markets. Alliances take many forms like joint R&D, marketing, distribution. However, Kirby and Kaiser (2003) opine that alliances are not without their problems. The choice of the alliance partner is critical to success and conclude that, given the limited resources of SMEs, they need assistance to enable them for selecting a suitable alliance partner.

Clusters and networks

SMEs often lack resources, experience, skills and knowledge required for doing business internationally. They can acquire these resources by co-

operating with other small firms. (Nummela, 2002). By co-operating with other internationalising SMEs, the partners can use their scant resources more efficiently, divide risks and costs of entry in foreign markets, share and obtain new information and learn new skills. Clusters and networks help in developing overseas alliances which possibly leads to increase in productivity, innovative capacity and performance of home country SMEs. These networks can be vertical supply-chain relationships or horizontal clustering. The benefits include the transfer of skills, technology and quality, bring firms in the formal sector, opening of markets, improved ability of SMEs to get financing (UNDP, 2004).

Exports and FDI have often been considered as alternative strategies. Firms can either produce at home and export, or produce abroad .Therefore there are concerns that FDI may lead to loss of investment, and employment in the home country. However newer research suggests that FDI is beneficial to the domestic economy by enabling firms to expand into new markets and to gain access to new technologies. Horizontal FDI secures decently paid jobs in the home economy and vertical FDI facilitates restructuring of industry in the home economy up the value-added chain (OECD, 1998)

Foreign Direct Investment (FDI)

In many countries, although only a small proportion of their SMEs set up subsidiaries and branches overseas yet outward FDI is a better method for firm growth (OECD, 2005). SMEs invest abroad either in greenfield projects or through mergers and acquisitions. Through the latter route, firms gain immediate market access, established market presence, knowledgeable management team/technical expertise, wide customer base and location based advantages. These benefits outweigh the costs which pertain to integration issues and resource limitations (Wilson, 2007).

Amongst the three schools of SME internationalization-stage model, network view, and FDI school-stage model has been the most used followed by network school and then FDI (Coviello and McAuley, 1999). There has been a relative absence of an FDI approach to study firm internationalization (Pollard, 2001). Although SMEs generally invest with partners in home and /or host country in order to mitigate the risks and costs associated with FDI, wholly owned subsidiary/branches is the most acceptable route of foreign entry (Fujita, 1995).

Based on aforesaid practical and conceptual factors the outward FDI approach of internationalization has been considered for the purpose of this paper.

Motives for internationalization

Internationalization is primarily driven by firm growth. Maximization of returns, minimization of costs and access to international technology, labour and capital are factors for internationalization (ENSR, 2003).

Three factors namely push factors, pull factors and interactive factors, interplay to impact the internationalization of SMEs (Etemad, 2004).

The pull forces are factors external to the firm in the environment, which attract the firm to invest in the overseas market. These include liberalization in the overseas market (Acs, Morck, Shaver, & Young, 1997), advancement in the technologies of information, communication, transportation (McNaughton & Bell, 2000), partners' attractiveness and serving the international requirements of existing buyers' and suppliers' (Etemad, 2004).

The push factors are internal to the firm and induce it from inside for internationalization. These include orientation of the management team (Madsen & Servais,1997),operational economies (Coviello & McAuley, 1999), competitive and strategic factors like avoiding intense competition at home (Mathew,2003), economies in R&D and innovation (Coviello & McAuley,1999), features in products and markets (Rasmussen et al.,2001), resource constraint (Etemad,2004).

The interactive factors emerge as a result of interaction between the push and the pull forces and impact the firm's course of action to internationalize (Etemad, 2004).

SMEs internationalise on account of product market factor, management factors and networking factors (Hutchinson et al., 2005). In product market factors, firms specialize in narrow market niches, in order to face competition (Doyle and Broadbridge, 1999). Management factors such as

managerial commitment, vision, and orientation determine internationalization (Fillis, 2001). The networking factors or interaction with other firms facilitate international expansion for SMEs (Rundh, 2001).

Further, SMEs internationalize due to few growth opportunities at home (Muniz-Martinez, 1998). They also expand abroad due to proactive factors like taking advantage of external opportunities (Moen, 1999).

Barriers to SME internationalization

There are many barriers to SMEs' internationalisation.These barriers are both external and internal to the firm. External factors include national and international administrative rules and regulations and formal and informal trade barriers. Internal barriers for SMEs include cultural differences, lack of information or skills, insufficient networks, language barriers and lack of access to finance.

The European Commission's European Network for SME Research (ENSR) survey conducted in 2003 identified the most frequently cited barrier by SMEs as the high cost of the internationalization process (European Commission, 2004). Such costs include costs linked with doing market analysis abroad, paying for legal consulting services, translation of documents, adaptation of products to foreign markets, and travel expenses, and higher business and financial risk incurred.

Many barriers to SME internationalization originate in the national economy, institutions, and general infrastructure - related to issues of competition policy, legislative and regulatory frameworks, research and education policy (OECD, 2005). Other challenges include standards and international compatibility issues, intellectual property protection, political risks, corruption and rule of law issues. Other perceived and real challenges include heightened international competition from foreign firms. Many internal challenges also create barriers. According to the 2003 ENSR study, a major problem is the lack of a clear strategy in the initial stages of the business formation. Other issues mentioned in the ENSR study included the lack of knowledge regarding international operations, identification of partners and assessment of market potential.

Elements of SME internationalization

SME internationalization has various elements (Wright, M., 2007), as follows:

- Modes of international entry.

- Sustaining international venture.

- The entrepreneur and/or the firm.

- Effect of internal factors on internationalization.

- Effect of external factors on internationalization.

- Time of international entry.

- Effect of internationalization on SME performance.

These dimensions are discussed below:

- Modes of international entry

  The mode of international entry influences its market position, its access to market information and its acquisition of resources (Holmund and Kock, 1998). Firms can internationalize through a various modes (O'Farrell et al., 1998), with varying degrees of risk, control and costs. Various modes include exports, alliances, FDI through greenfield or acquisition. Studies on new technology-based firms like the software firms, suggest that they focus on joint venture through networks to enter the foreign market (Dana and Wright, 2004). SMEs, irrespective of industrial activity, can enter foreign markets through FDI (EIM, 2005). However, this mode is more applicable to the internationalization of knowledge and technology-based SMEs.

  The modes of foreign entry differ based on resource commitment, risk potential, the possibility of returns and managerial control/autonomy (Wright et al., 2007). Zahra et al. (2000) found

important linkages between the international mode of entry and learning intensity in new high-technology ventures. They discovered that high control modes of entry (acquisition) enable facilitate faster and deeper learning than lower control modes (exports). Westhead et al. (2002) found that the most preferred mode of entry of SMEs was direct exporting. The preferences for mode of entry reflected firms' limited networks, and their desire to control their resources (O'Farrell et al., 1996). Second, the resource-based view suggests that the choice of mode of entry depends on the nature of access to foreign market resource. If a firm has resources that are transferable across geographies, then low resource access modes of entry, such as exports will be selected. However if the resources are location-specific, then high resource access modes like FDI will be necessary.

- ## Sustaining international ventures

International entrepreneurship scholars have highlighted the importance of acquisition of new knowledge and its assimilation by the SMEs (De Clerq et al., 2005). Autio et al. (2000) discovered that that the growth in overseas sales of SMEs was linked with greater knowledge intensity. The implication is that firms with more knowledge and more learning from their successes (i.e. intelligent learning from mistakes) will have higher commitment to internationalization. This argument has various problems because first, many firms discover barriers internationalization only after entering and experiencing the international markets (EIM, 2005). Some SMEs may pause exporting and may be restart exporting sometime later. Other firms should exit but actually they do not. Second, few SMEs export only when there is a dip in domestic demand and stop exporting when domestic demand rises. Crick (2004) distinguishes between disappointed firms i.e. Firm which exported earlier but do not export now and do not plan exports in future and disinterested firms (i.e. firms which exported in the past but do not export now, however they will export in future.

- The entrepreneur and/or the firm

  Traditional internationalization theories and INV perspective focus on the firm as the unit of study. Zahra et al. (2000) considered internationalization experience at the entrepreneur level but not at the firm level. However in many SMEs, the owners are the key resource. They accumulate industry and management knowledge, physical and financial capital and organizational capital that enable the competitive production of goods and services. It is assumed that entrepreneurs acquire and leverage knowledge about foreign business, foreign institutions and internationalization (Eriksson et al., 1997). Storey (1994) suggests that an entrepreneur's profile affects firm performance. A firm level analysis ignores important dimensions that influence internationalization process of SMEs and their performance. Previous experiences (Reuber and Fischer, 1997), resources (Bloodgood et al., 1996), capabilities, knowledge, and learning of the entrepreneur lead to the exploitation of opportunities in foreign markets (Madhok, 1997).

- Effect of domestic factors on internationalization of SMEs

  Firms collect resources in home markets and utilize them in their international operations (Wiedersheim-Paul et al., 1978).Resource-based view suggests that firms secure superior performance based on the quality products and/or services. When many firms specializing at various stages of value chain operate in a cluster then these advantages accrue to the individual firms (Taymaz and Kilicaslan, 2005). These clusters acquire a global footprint and enable individual SMEs to utilize home resources in overseas markets. Even local customers and other local organizations act as channels for the cluster of SMEs indicating their inclination to internationalise (Wright et al., 2007).

- Effect of external factors on SME internationalization

  There are advantages associated with viewing the firm as part of a

network(s). From a resource-based perspective, being part of a network provides firm with external tangible and intangible resources that aid internationalization (Dana, 2001). The inter-firm relationships influence the choice of foreign market and also the mode of entry. Networks also link small and large firms in a mutually gainful relationship for venturing abroad. (Dana and Wright, 2004). Few SMEs find it difficult to sell their products overseas despite local support. Barriers to internationalization are overcome when a large firm links local to global with the smaller firm becoming a supplier to the large firm (Le Gale's et al., 2004). Similarly, ACS et al. (1997) suggest larger firm can become channel for international activity of SMEs by providing them design, quality,

technology support and possibly brand name. SMEs may also be pulled into overseas markets under condition when their domestic customer ventures abroad. Some SMEs internationalize when one of their partner organization enters into a contract to serve foreign buyers. (O'Farrell et al., 1996). SMEs can build upon their social capital by joining networks which cannot be done independently. They can then utilize the knowledge for overseas operations (Yli-Renko et al., 2002). However, there may be few problems with regard to networking by SMEs. First, why and how SMEs belonging to varied domestic and industrial contexts build their networks (Nijkamp, 2003). Second, many SMEs want independent control of their activities and so they are not willing to partner with large players (EIM, 2005).

- Time of international entry

  Firms' timing of entry in the overseas market distinguishes between traditional and new internationalization studies. As per the latter studies, international new venture (INV) theorists question the stage model theory, and suggest that many new SMEs internationalize since the inception of their business (Autio et al., 2000). INVs are firms that, from inception, derive superior competitive performance from the sale of product to many countries. INV theorists suggest that many firms do not consider international markets as extension to the home market.

SMEs with competitive advantages related to their technology, product or service exploit opportunities in overseas markets from their outset (Oviatt and McDougall, 1994). INVs are associated with the asset of novelty. New SMEs do not have to unlearn procedures which have gone into developing a domestic market (Autio et al., 2000). McDougall et al. (1994) suggests that INVs establish systems for managing multicultural workforces, and multinational resources and multilocational customers simultaneously.

- Effect of internationalization on SME performance

Bloodgood et. al. (1997) opine that international operations are required to be competitive in the market by acquiring international expertise, technologies, and innovations. Internationalization provides SMEs, the avenues for knowledge growth, capability development and revenue enhancement which reinforce their competitiveness.

Internationalizing firms report superior performance is a widely received thought. This view is widely assumed but it has not been clearly stated/ validated by various academics and practitioners (EIM, 2005). A review of the evidence indicates no consistent linkage between an SME's international operation and its reportedly superior performance.

Also there is no consensus regarding measurement of internationalization performance (Katsikeas et al., 2000). The different performance indicators used makes it difficult to compare various studies. The results may also be influenced by the industry sectors and the time frames studied.

McDougall and Oviatt (1996) noted that firms that had increased international sales exhibited superior performance. Further, Bloodgood et al. (1996) found that internationalization was fairly associated with ventures that reported higher profits. Burgel et al. (2001) detected that firms with international operations reported higher productivity and sales growth but not employment growth. These three studies focused on internationalizing firms engaged in new technology-based sectors like the software firms.

Regarding SMEs located in the UK involved in different manufacturing,

and service activities, Westhead et al. (2001b) detected that the inclination to internationalise was marginally linked with superior performance relative to competing firms and it also did not encourage subsequent sales and employment growth, or firm survival, significantly. The studies reviewed suggest that the relationship between internationalization and SME performance may be context specific (i.e. country, industry and region).

Lu and Beamish (2001) have demonstrated that FDI activity initially led to decline in profitability, but later with greater levels of FDI profitability increased. Further the relationship between internationalization and firm performance is moderated by other strategic variables like the choice of foreign markets. Further, Lu and Beamish (2001) discovered that level of exports influenced the relationship FDI had with firm performance. They detected that high exports concurrent with high FDI was less profitable than one that involved lower exports with high FDI levels. Finally, there is selection bias in the studies which exclude non-internationalizing firms. The reviewed evidence fails to suggest that internationalization consistently enhances the performance of SMEs.

Research objective

The literature has studied the impact of internationalization from different perspectives but all of them have the same underlying theme which is that they all impact the performance of SMEs. However, there seems to be no consensus regarding the impact of internationalization on firm performance. Therefore in this study we propose to further understand the impact of internationalization on SME's performance particularly in developing country, with Indian SMEs in the software sector, as the sample for study.

Proposition formulation

The studies discussed above point towards the positive effect of internationalization through FDI on SME performance. The opening of subsidiaries /offices in foreign countries indicates the internationalization activity and impacts firm performance (Lu & Beamish, 2001). Therefore we test the following proposition:

Proposition A: The foreign direct investment positively effects performance of SMEs.

SME performance is the result of not only internationalization but also of other factors, as per the Resource Based View (RBV) and Knowledge Based View (KBV). Firms which focus on marketing are able to offer products with attributes better or different than those offered by their competitors, and thus earn higher returns. (Ruekert and Walker, 1987). Therefore, investment intensity in both marketing is required in order to gain sustainable competitive advantage (Walwyn, 2005) particularly for the technology intensive firms like the IT firms (Lin, Lee, and Hung, 2006). FDI provides more avenues for marketing . Therefore SMEs having foreign subsidiaries show superior performance. We therefore propose as follows:

Proposition B: The expenses for marketing positively impact performance of SMEs.

Size of the firm is a significant resource of the firm as per RBV. Large sized firms have more managerial and financial resources which enable them for higher international activity (Chetty and Hamilton, 1993). We therefore propose:

Proposition C: The size of the SME positively impacts its performance.

The literature on KBV provides insights into the influence of managerial orientation and vision on internationalization activity (Fillis, 2001). The owner/ manager as a key variable in SME's internationalization process determines the internationalization activity of the firm (Burpitt and Rondinelli, 2000). Therefore performance of SMEs in the international market is not just about accessibility of markets but also about managerial competence (Chandler and Hanks 1994). This leads to the second proposition:

Proposition D: The performance of SMEs is positively affected by the level of competence of their CEO.

Methodology

The paper aims to better understand the impact of internationalization, through FDI, on the performance of SMEs. Indian software SMEs have been chosen as the sample for this study because of their phenomenal role in the socio-economic upliftment of the country.

SMEs are identified based on various criteria like number of employees, annual turnover, number of outlets (Kaynak et al., 1987; Baird et al., 1994; Wolff and Pett, 2000; Perry, 2001). Sales turnover is found to be the most useful criterion for determining the size of the firm as per various empirical studies (Cavusgil, 1984; Czinkota and Johnston 1981; Reid 1982; Ali and Swiercz 1991; Beamish et al., 1993). The European Commission (2000) identifies a firm as SME if its annual sales turnover does not exceed £24 million Pound Sterling (Hutchinson et al., 2005). However, in India the law titled The Micro, Small and Medium Enterprises Development Act, 2006 determines the SME in the service sector based on its investment in equipment. According to the law, a service firm like the software firm is an SME if the investment in the equipment is more than Rupees ten lakhs and does not exceed Rupees five crores (Ministry of Micro, Small, Medium Enterprises). The sample for this study comprises SMEs based on this definition. The data has been collected from secondary source which comprises the annual reports of sample firms available at the website www.insight.asiancerc.com. Out of the total 325 firms in the software industry given in the database, 124 firms were found to be in the SME sector as per the aforementioned definition. From this number of firms, 29 firms were identified for the study sample as they had continuous data from 2002 to 2008.

Variables

The degree of internationalization has been measured in terms of FDI (Fujita, 1995). FDI is in the form of establishing subsidiaries and branch offices abroad which results in creation of assets. Therefore investment by the firms in fixed and current assets in overseas markets has been taken to operationalise FDI. This has been measured as the ratio of foreign assets to total assets of the firm (Chen, 1999).

Profitability has been considered as the measure of performance in the existing literature (Fujita, 1995). However performance, in this study, is required to be studied in relation to the assets created in the home country and in the host country. Profitability per se if used will be a general measure of performance in this context. Profits in relation to assets will be a more precise way to assess impact of internationalization on firm performance. Therefore Return on Asset (ROA) has been adopted to measure firm performance (Lu & Beamish, 2001).

The owner-managers of SME are the key determinants in the internationalization activity. Their competence depends on various factors including their educational background (Lloyd-Reason *et al.* 2002). Higher education is a feature of high technology entrepreneurs (Baruch, 1997) like the software firms. Therefore managerial competence has been operationalised through the education levels of SME's top management.

Marketing intensity has been measured as the ratio of advertising expenses to the total sales for the firm (Lu & Beamish, 2001) from its annual reports.

Size of firms generally plays a significant role in international activity. This study uses sales turnover which is the most commonly adopted measures of firm size (Axinn et al.1995).

Data analysis and results

The data has been collected on variables of Return on asset (RoA), sales(SALE-LN), ratio of advertisement expense to sales(ADVT), education level of firm's top management (EDU), ratio of foreign assets to total assets (assets include both current assets and fixed assets)(FATA) for 29 firms from 2002 to 2008.

RoA is the dependent variable and other variables are independent variables in the regression analysis, done for panel data comprising 203 data points . The analysis has been done taking the log values for firm's sale. The level of education has been coded as follows:

Qualification	Code
Doctorate	3
Post-graduate (professional)	2
Graduate (professional)	1
Non-professional	0

The regression involves the following relationship among variables:

$$RoA = Const + \beta_1\ ADVT + \beta_2\ SALE\text{-}LN + \beta_3\ EDU + \beta_4\ FATA$$

The analysis has been done in two stages. In the first stage the regression has been done on firms indicating both positive RoA and negative RoA. In the second stage the regression has been done on firms with only positive RoA. The first stage of analysis shows the following result.

		ROA	ADVT	SALE-LN	EDU	FATA
ROA	Pearson Correlation	1				
ADVT	Pearson Correlation	.006	1			
SALE-LN	Pearson Correlation	.174*	-.248	1		
EDU	Pearson Correlation	-.018	-.138	.197*	1	
FATA	Pearson Correlation	.102	-.025	.339**	.056	1
	Mean	-9.94	1.21	2.53	1.52	0.31
	SD	7.97	5.01	1.91	0.58	0.25

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 1. Correlations, Mean, Standard Deviation (SD)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.192[a]	.037	.008	7.94	1.888

Table 2. R-square and Durbin- Watson coefficients

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	32690.010	4	8172.503	1.295	.275[a]
	Residual	852028.874	135	6311.325		
	Total	884718.884	139			

Table 3. ANOVA for goodness of fit

		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1	(Constant)	-23.749	21.154		-1.123	.264		
	ADVT	.703	1.395	.044	.504	.615	.927	1.079
	SALE-LN	7.474	3.924	.179	1.905	.059	.806	1.241
	EDU	-6.859	11.881	-.050	-.577	.565	.953	1.050
	FATA	14.381	28.532	.045	.504	.615	.881	1.135

Table 4. Regression coefficients

In the first stage the Durbin-Watson coefficient (Table 2), which indicates the relative independence of explanatory variable is 1.88 which is close to the standard value of 2.00. It shows that the explanatory variables are independent of one another. However the four explanatory variables do not statistically explain the dependent variable, significantly as the t-values of

each of them is less than 1.96 (Table 4). Further the ANOVA is also not significant at 0.275; as such the model is not a good fit (Table 3). The R-square value is 0.037(Table 2) indicating that in the current stage the explanatory variables can explain only 3.7% of the variance in dependent variable. Upon probing further it has been found that the mean value of RoA is negative 9.94(Table 1), indicating overall negative returns for the industry sector which is quite unlikely. The average age of firms in the sample is ten years and given their small and medium size, they also face resource scarcity. Therefore, in the second stage of analysis regression has been done with only positive RoA as the dependent variable.

The results are as follows:

		ROA	ADVT	SALE-LN	EDU	FATA
ROA	Pearson Correlation	1				
ADVT	Pearson Correlation	.170	1			
SALE-LN	Pearson Correlation	-.045	-.140	1		
EDU	Pearson Correlation	.128	-.182	.021	1	
FATA	Pearson Correlation	.215	-.074	.279[*]	.048	1
	Mean	1.42	0.54	3.20	1.62	0.35
	SD	2.12	1.03	1.89	0.57	0.26

*. Correlation is significant at the 0.05 level (2-tailed).
Table 5. Correlations, Mean, Standard Deviation (SD)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.335(a)	.112	.058	20.61778951 1027480	1.760

Table 6. R-square and Durbin- Watson coefficients

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3540.279	4	885.070	2.082	.093(a)
	Residual	28056.154	66	425.093		
	Total	31596.433	70			

Table 7. ANOVA for goodness of fit

Model		Unstandardized Coefficients		Standardized Coefficients			Co linearity Statistics	
		B	Std. Error	Beta	T	Sig.	Tolerance	VIF
	(Constant)	-1.300	9.250		-.141	.889		
	ADVT	4.199	2.449	.204	1.715	.091	.948	1.055
	SALE-LN	-.999	1.364	-.089	-0.733	.466	.908	1.101
	EDU	5.782	4.401	.155	1.314	.193	.966	1.036
	FATA	20.016	9.764	.248	2.050	.044	.920	1.087

Table 8. Regression coefficients

In the second stage of analysis the Durbin Watson coefficient is 1.76 (Table 6) which is within the acceptable limits for relative independence of explanatory variables. ANOVA is also close to significance level at 0.09 (Table 7) indicating a relatively good fit of the model. The explanatory variables can better explain variance in the dependent variable with R-square at 0.112 (Table 6). The Variance Inflation Factor (VIF) is close to one for all the variables indicating low multicollinearity across them (Table 8). The mean value of RoA is also positive at 1.42(Table 1)

The impact of the explanatory variables on RoA (Table 8) is discussed as follows:

The ratio of foreign assets to total assets is statistically significant with value of 2.05 with beta coefficient showing positive causality with RoA. Therefore internationalization through FDI has positive impact on firm performance. The result supports Proposition A that FDI positively impacts firm performance. Overseas investment opens up markets, resources and technology for firms (UNCTAD programme survey, 1993). Also IT-SMEs from emerging economies like India leverage the advantage of their low cost and skilled human resource in foreign ventures.

The advertising to sales ratio is statistically significant 9% level (a weak predictor) with t-value of 1.71 with beta coefficient showing a positive causality with RoA. The result supports weakly the Proposition B that marketing expense leads to superior performance of the firm. The results relate to the impact of only advertising expenditure levels. They do not dispute that advertising is a method for creating comparative advantage. Although marketing expenses can be imitated but the creative content of the advertisement is more likely to create a comparative advantage (Erickson and Jacobson, 1992). Eastlack and Rao (1986) also note that "creative component of advertising has been found to be far more important than the actual spending rates or patterns." They opine that advertising copy, media selection and timing play a more important role in generating returns than merely expenditure levels. However, Indian SMEs have not made serious efforts in branding and marketing (Athavale, 2006). Individual SMEs in India because of their small size find it difficult to attain economies of scale in advertisement and sales, which are possible for large enterprises (Biswas et. al, 2007). It is also possible that the advertising intensity of these firms was too low to reach the threshold necessary to achieve economies of scale (Yu et. al., 2005).

The result for sales is statistically insignificant with t-value of 0.73.The beta coefficient shows negative causation with RoA. Thus, it does not support the proposition C that size leads to superior firm performance.
Firm size was assumed to have a direct effect on financial performance because of economies of scale (Richard, 2000). A positive relationship between size and profitability can be expected if firms benefit from economies of scale (Glancey, 1998). However as argued earlier also the size of these firms has been too low to reach the threshold level required

to achieve economies of scale where they can reap the benefits of increased size.

Education has been found to be a statistically insignificant variable for performance with t- value of 1.31 and a positive beta coefficient. The result thus does not support the Proposition D that firm's performance is positively affected by competence of the top management. SMEs are essentially entrepreneurial ventures and an entrepreneur's profile affects firm performance (Storey, (1994). However, as the firm grows and diversifies there is also an increase in the monitoring cost and the agency cost, which tends to absorb away the positive effect of managerial competence.

Limitation/scope of further research

The inferences drawn in the study are subject to various limitations. Due to unavailability of continuous data from secondary sources the sample size of the study has been small. For the same reason the period of firms' performance has also been short i.e. for seven years only. Future research can take the study forward by taking a bigger sample and a longer duration of overseas investment. Other measures of firm performance like return on sales return on equity and Tobin's Q can also be considered. Managerial competence has been measured only through the education level as the study is based on secondary sources. There are other measures of assessing managerial capability like experience in the IT sector, motivation and business philosophy, role of family and relatives, which can be better studied through the study based on primary sources. Also, future research can further explore the impact of other variables like R&D, age of the firm etc.

Managerial implications

As per the study, FDI has positive impact on SME performance. Therefore Indian SMEs particularly in the IT sector should explore and exploit opportunities for overseas investment. SMEs face resource crunch while marketing consumes substantial resources. Therefore they should have strategies which help them achieve quickly, the threshold level of economies of scale where they can reap benefits from higher marketing

intensity and bigger size

Conclusion
There is a research gap on the subject in SMEs in general and in Indian SMEs in particular. The paper attempts to fill this research gap. The primary question of this study has been to understand the effect of internationalization on firm performance. The present study discovers that internationalization has positive effect on firm performance, which is linear in nature, particularly for the technology based SMEs. It thus adds a fresh perspective to the discussion on the relationship between internationalization and firm performance. The same study can be replicated across industries, countries and include other modes of internationalization in order to study the impact of the changing context of markets and policy environment, on firm performance.

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