FACTORS CONTRIBUTING TOWARDS THE PROCESS OF INTERNATIONAL ENTREPRENEURSHIP

A case study of Light engineering Units operating in Gujranwala District

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Abstract
The objective of this paper is to explore the importance of factors contributing towards the process of internationalization. Firm level characteristics, technological capabilities, commercial capabilities and factors inhibiting export activities are considered as the major factors affecting export performance in case of Light Engineering Units of Gujranwala District. Empirical data from a survey of 868 Light engineering units in Gujranwala District is being employed for analytical purposes out of which 209 units were found to be involved in export activities. Multinomial regression logistic model has been employed to find out the probability of being involved in internationalization process. Instrumental variable approach is being employed to encompass the role of innovation in the process of internationalization. The estimated results of instrumental equation are than incorporated in the basic model to find out the final estimation results. Results from the logit model represent that the factors of firm size, firm age, manufacturing status, affiliation with area wise trade union, average firm revenue, diversification (product mix), presence of registered trade marks, participation in promotional activities through trade fairs, personal visits and references, availability of information, fitted values of innovation in terms of innovation in new product, new process and major improvements are found to be significantly and positively correlated with the probability of being an international entrepreneur. While export restricting factors like, non-co-operative attitude on behalf of government organizations, financial problems and expensive foreign trips are found to be significantly and negatively associated with the probability of being international entrepreneur.
Key Words
Export, SME, Light Engineering Units, Logit, innovation, Gujranwala.

1. Introduction

The idea of international trade being the engine of the growth is very old; its inception can be found back in the 18th century's industrial revolution in England which later on spread to the rest of the world in the 20th century. However, during the second half of the 20th century, the idea lost its popularity. The dominance of protectionist theories in the policy making of many developing countries persuaded industrialization policies based on a very limited degree of openness known as "import substitution industrialization (ISI)" strategies, which had their source back in the thinking of Prebisch (1950)[1].

During the 1950s, 1960s and in early 1970s, a large number of development economists embraced the protectionist view and begin to design planning models depending heavily on import substitution strategy (Salvatore 2006).

The policy of industrialization through import substitution met with limited success. But growth oriented strategies based on import substitution exhibited their own limitations i.e., their

implementation in many countries failed to address the major problems like low income earnings, unemployment and poverty (UNIDO 1991). Therefore emphasis was laid on sectoral restructuring and policy redesigning. In early 1980s, many countries who earlier followed an ISI, began to liberalize trade and adopted EOI[2] . In addition, debt crises in 1982 also played an important role in reshaping the policy views.

Thus, the importance of industrialization cannot be denied being a improved strategy to provide employment opportunities, its contribution towards economic growth as compared to traditional agricultural sector, more foreign exchange earnings through exports of value added products and optimal utilization of domestic resources by establishing forward and backward linkages in the economy. In case of developing countries like Pakistan, motivation behind each development policy is to provide employment opportunities to its accelerated growth of population along with a considerable increase in their living standard but establishment of large scale industrialization requires resources in abundance, therefore alternatively, emphasis should be laid on the establishment of small scale sector in order to resolve all these problems[3].

The extraordinary growth in Pakistan's Industry in the later part of 1950s and in 1960s[4] suggested that Pakistan might be one of the very few countries at that time which would join the developed world. However, much of the growth that had been taken place in the first two decades soon unraveled, with growing income and regional disparities, resulting in the separation of East Pakistan.

In 1947, Pakistan inherited an undeveloped industrial base. Pakistan followed ISI initially by default. Industrialization process in Pakistan was initiated with the development of consumer goods (skill light).Very high rates of effective protection in the range of 100-200 percent or more were common in 1950 and 1960s in Pakistan, India, Argentina and Nigeria leading to negative value addition (Dollar and Art 2001). 1970's witnessed the board nationalization wave, while 1980's was a period of de-nationalization and cheap credit availability for large enterprises[5]. In 1980s Pakistan also started EOI along with ISI. Overall industrial and related policies in Pakistan have traditionally neglected or at best remained impartial towards the development of small and medium enterprises. In spite of the indifferent attitude of successive governments in Pakistan, the SME sector has made significant gains over time. It grew at a rate in excess of 7.2 percent in capital formation growth as against the large scale capital formation growth of -5.02 percent in the 1990's (SMEDA 2004). A shift in the emphasis from large scale to small scale sector could be considered as a consequence of poor policy experiences of heavy industrialization or due to recognition of the inherent strength, vigor and potential scope of the SME sector in Pakistan.

1.2 Role of SMEs Worldwide

From a worldwide perspective, SMEs are recognized as engine of economic growth[6] because of their dependence on indigenous skills and technology, innovativeness and expansion of industrial linkages. SMEs are endogenously based enterprises as their linkages with the large multinational corporations lead to rapid growth and expansion of SMEs. They also play a vital role in employment generation[7] and poverty reduction[8]. In addition they contribute towards resource mobilization[9], revenue generation through export earnings[10], increase in savings, and equitable distribution of income, promotion of craftsmanship, egalitarian structure of society and development of an entrepreneurial culture. SMEs are also instrumental in skill acquisition through a system of informal apprenticeship and also provide training ground for upgrading and developing skills.

There are 20.5 million enterprises in the European Economic Area (EEA) and Switzerland out of which 93 percent are SMEs, providing employment for 122 million people (Competence

development in SMEs. 2003, Observatory of European SMEs 2003/1 Europeans Commission). SMEs are crucial to the UK's economy. Businesses with fewer than 250 employees account for 56% of the UK non-government jobs and 52% of turnover (Small and Medium Enterprise (SME) Statistics for the UK, 1999 URN 00/92). In OECD SMEs represent over 95% of enterprises in most countries and generate over half of private sector employment (OECD: Economic Outlook, No. 65, June 2001). The International Finance Corporation states that in much of the developing world the private economy is almost entirely comprised of SMEs' and that 'they are the only realistic employment opportunity for millions of poor people throughout the world (Lukacs 2005).

The SMEs constitute more than 99 percent of businesses in Pakistan and all these activities are handled by the private sector and most of these operate in the informal economy[11]. There are about 3.2 million economic establishments In Pakistan, 99 percent of these are accorded as SMEs, according to the definition of SMEs by SMEDA. Their contribution towards value addition in manufacturing sector is 35 percent. SMEs contribute 30 percent to GDP. Their share in manufactured exports is 25 percent. They contribute 99 percent towards employment generation[12].

The main objective of this article is to investigate the reasons that how some Entrepreneur experience better export performance as compared to others. For this purpose, the study has employed different factors like Firm level characteristics, technological and commercial capabilities along with the factors that restrict the export activities to examine the variations in export performance of under consideration firms. The inclusion of export inhibiting factors among the important determinants of export performance is an important contribution of the study, as limited work has been done in this respect to explore the relationship between different types of trade barriers and export performance of small industrial units.

2. Literature Review

The increasing trend of globalization has extended the domain of market along with competition for an entrepreneur from domestic markets to the international markets. The role of small and medium enterprises (SMEs) as prominent players in international markets is now well recognized. Literature regarding the factors relating to different factors contributing towards the process of international entrepreneurship can be categorized on the basis of the firm level characteristics, technological and commercial capabilities along with the factors restricting the growth of entrepreneurs in the international markets.

2.1 Firm level characteristics

According to the literature, the firm specific factors are considered very important for structuring competitive advantages[13] and identifying economic rents[14]. Literature[15] has suggested different rationale for firm's differential within industries (Rumelt, 1991), on the basis of their performance (Cool and Schendel, 1988), due to the adoption of technological and corporate policies (Lefebvre *et al.*, 1997), along with the employment of different technical expertise (Davies, 1979; Helfat, 1994; Baldwin and Rafiquzzaman, 1998).

The firm-level determinants of export performance have been investigated extensively (Chetty and Hamilton, 1993) and encompasses a variety of different factors regarding the significance of firms' demographics (Wagner, 1995) along with perception of the entrepreneurs regarding organizational activities (Bijmolt and Zwart, 1994). In the section, firm level characteristics, along with their consequent impact on process of international entrepreneurship are discussed. Within firm level characteristics, factors like firm size, firm age, manufacturing status, affiliation

with trade unions along with the revenue per month and average wages have been considered along with their consequent impact on export orientation of entrepreneurs.

2.1.1 Firm Size

Among the structural factors, the firm size is considered to be the most debated in the literature. The conventional hypothesis that large firms have greater chances to compete globally is found to be significant in different studies (Chandler, 1990, Ogbuehi and Longfellow, 1994) but a number of empirical studies have established a negative or no relationship between Firm size and exports (Calof, 1993). The difference in the results can be attributed to the non-linearity of the relationship between two variables (Lefebvre et al., 1998).

2.1.2 Firm Age

As far as the relationship between age of a firm and its export potential is concerned, it has been frequently investigated in the literature. Empirical results suggest conflicting results regarding the relationship between firm age and exports. Established firms on the basis of accumulated knowledge[16] and strong capabilities have greater chances to penetrate in the foreign market. On the other hand, mature firms can behave more rigidly leading to competence traps[17], while younger firm's can act in a more practical, aggressive and flexible manner (Lefebvre et.al, 2000). Some studies don't provide any empirical evidence to support any correlation between these two variables (Ong and Pearson, 1982; Reid, 1982), some have suggested a positive correlation (Welch and Wiedersheim- Paul, 1980; Abbas and Swiercz,1991), while others have confirmed a negative relationship between age of a firm and its export potential (Kirpalani and MacIntosh, 1980; Ursic and Czinkota, 1984).

2.1.3 Manufacturing status

Literature regarding manufacturing status of a firm suggests that more established firms depend on domestic SMEs for the provision of components and subsystems used as inputs in their products. It is therefore assumed that contractors will experience more direct exports as compared to subcontractors (Lefebvre et.al, 2000). The present study is going to investigate the impact of manufacturing status (contractor vs. subcontractor) on the export performance of the firm under consideration.

2.1.4 Association with Trade Unions

According to the literature concerning with the role of trade unions in the promotion of export activities suggest that all the SMEs are not associated with any type of trade union but some have affiliation with different trade unions. Affiliation with trade unions affects the firm's performance as strikes are found to have a negative impact on export performance (Greenhalgh et al., 1994). The existence of trade unions is not related to the probability of being exporter (Lefebvre, 2000). In case of Pakistan different types of trade unions are there, but as far as experience of SMEs is concerned, two types of trade unions are considered to be important. They can be classified as area wise trade union and product wise trade union.

2.1.5 Average Revenue

A bidirectional causal relationship is found to exist between successful export business and revenue it generates as it provides firms with more resources to invest in R&D and innovation processes (Huang et.al 2008). Empirical evidence suggest that productivity was found to be high among export-oriented SMEs as compared with non-exporting SMEs, as measured by the total revenue per worker per SME and total profit per worker per SME (Trung et.al 2008).

2.1.6 Average Wage

As far as wage bill of a firm reflects the composition of skill of the workforce, implying that the average wage is a skill composition adjusted wage rate (Bhavani. et.al, 2001). Skills (average wage) and the contribution of quality control manpower in employment affected the exporting of Sri Lankan engineering and clothing firms (Wignaraja 1998, 2007).

2.2 Technological Capabilities

Literature relating to innovation and learning processes in developing countries highlights the importance of acquiring technological competence as a major determinant of firm's export potential (Lall, 1992, Bell and Pavitt, 1993). Literature[18] motivates the utilization of imported technology affectively with the help of different firm-specific factors concerned with building technological capabilities. It suggests that in order to utilize imported technologies productively, firms have to invest in research, engineering and training (Lefebvre et.al, 2000). From the view point of theoretical perception acknowledged as "firm's resource-based view", firm-level determinants of export performance are examined with special emphasis on firm's innovative capabilities, as the competition in export market is based heavily on technological advancements, it is anticipated that technological capabilities would play an important role in firm's potential to export (Lefebvre et.al.,2000).

2.2.1 Innovation

Amongst technological capabilities, expenditures on R&D enables firm not only to innovate, but also facilitate them to incorporate external technological knowledge in an improved manner (Lefebvre et.al., 2000). R&D is therefore considered as one of the major factors affecting firm's export performance. Positive relationship between exports and R&D in small firms has been established (Ong and Pearson,1984). Innovation is said to be most motivating factor driving the exports[19].

The direction of causation runs from innovation to export (Krugman ,1979). Empirical results from earlier studies didn't provide any reliable results while investigative the relationship between innovation and export performances in case of small firms, because the process of innovation in small firms seems to have imprecise boundaries i.e., a lot of factors contribute to the process of innovation making it difficult to circumscribed (Nassimbeni, 2001). In case of small firms, specific R&D is mostly exogenous and represents the modifications of existing products and processes. Therefore, the traditional measure to evaluate innovative capacity of the firm as R&D expenditures may yield insignificant results. However, different aspects technological innovation like product innovation, process innovation and major improvements in existing products (Nassimbeni, 2001) are taken into consideration in the present study to analyze their impact on firm's export performance.

2.2.2 Investment strategy

Investment strategy of a firm involving its different dimensions as investment in capacity building, in replacing old equipment, for enhancing productivity, in improving quality of output and investment in producing new product suggested by Nguyen et.al. (2007) has been employed in the present study to find out the impact of the investment strategy adopted by a firm on its probability of being an exporter.

2.2.3 Owner's perception in starting new project

Differences in exporter performance can be explained by the variation in degree of difficulties faced by small firm in their international operations. Entrepreneurs while initiating a new project may face different problems, for instance, they may face credit access problems in the financial market. Market acceptance and lacking of skilled labor are also considered as major problems

faced by small firms while starting up new projects, forcing them to leave the international markets (Alvarez, 2004).

2.2.3.1 Financial Problems

Credit restriction, equity capital and lack of external debt are considered to be the main hindrance to the internationalization of SMEs (Chittenden, Hall, & Hutchinson, 1996; Friedman & Friedman, 1994; James, 1999). Small firms are found to be characterized with conservative attitude and risk adversity (Ward, 1998). According to empirical evidence the financial institutions behave more conservatively while providing loans to SMEs. SMEs are usually charged comparatively high interest rates along with high collateral and loan guarantees (Stieglitz & Weiss, 1981). Thus, the financial constraints restrict the entrepreneur to start up a new project of internationalization.

2.2.3.2 Market Acceptance

The efficiency with which a firm sells its products and services to the foreign market determines its export growth indicating that market acceptance an important determinant of firm's export process. Firm's market intelligence helps to coordinate its internal processes to respond swiftly and efficiently to preferences of foreign customers (Hult, Snow & Kandemir, 2003; Narver & Slater, 1990). Empirical evidence suggests that *market acceptance* is significantly associated to the overall growth performance of a firm (Jaworski & Kohli, 1993).

2.2.3.3. Lacking of Skilled Worker

In addition to lack of resources and capacity utilizations, a significant barrier to growth is concerned with human resource management and the conditions relating to employ and dismissal of workers (Bartlett & Bukvic, 2001). Shortage of technological skills is considered to be one of the main drawbacks of SMEs, which is deemed essential for the adoption of highly developed manufacturing technology (Lefebvre *et al.*, 1996). The number of scientists, engineers, and technicians represents firm's technological knowledge, which is expected to be strongly correlated with its export performance.

2.2.4 On job Training

Literature based on the determinants of firm growth considers both human capital and financial resources as most important factors effecting small business growth (Wiklund et al., 2007). On the firm level, the experience, skill and knowledge of the total employees contribute more promisingly as compared to the entrepreneur alone (Chandler & Hanks, 1994, Birley & Westhead, 1990). Human capital can be measured both in terms of specific and generic terms. Generic human capital is defined in terms of different levels of educational attainment by workers. Specific human capital can be measured by employing a dummy variable indicating whether firm is offering on job training to its workers or not (Lee et.al ,2005).

2.2.5 Presence of unique Knowhow

Small firms carry out a large number of technological innovations based on their unique know how approach in an unbalanced manner among industrialized nations (Pavitt et al., 1987, Rothwell, 1988) and also in newly industrialized countries like Korea (Lee, 1995). They play an important role in the diffusion of technology and their unique know-how is often based on the improvements of general technologies developed by large firms. Competitive advantage based on existence of a unique product is significantly related to firm's performance (Julien et al., 1994).

2.2.6 Number of Skilled Workers

Technological capabilities are found to be strongly related with the indicators of human capital as share of skilled employees in total labor force and firm's expenditures on training (Dikj,

2002). Human capital was found to be positively associated with exports in a study based on samples of German firms (Wagner, 2001). Negative relationship between human capital and exports was found among large samples of Brazilian firms (Willmore, 1992)[20]. According to the neo-technology theory, exports are positively affected by human capital because the technological capabilities of the firm depend mainly on skills. Also, in case of developing country like Pakistan highly educated people have ability to speak foreign languages that are helpful to establish and develop contacts with foreign customers (Dikj, 2002).

2.3 Commercial Capabilities

Literature suggests that firm's market intelligence and marketing capabilities are considered as basics for entrance and expansion in the process of internationalization. Small new high technology firms have capability to overcome complications with technology than with the market (Fontes and Coombs, 1997). As this study was based on a sample of information technology sector, there are little chances of generalization of these results. The present study focuses on the contributions of a wider range of commercial capabilities to export performance, namely diversification, trademarks, use of export promotion bureau trade fairs, personal visits and use of imported raw materials.

2.3.1 Diversification

Exporting strategy of SMEs based on diversification of products and product lines have proved to be successful in export growth (Denis and Depelteau, 1985). In the presence of diversified products, the expertise and knowledge acquired in the fields of commercial and competitiveness can be transferred from one sector to others, which are found to be associated with export success (Cafferata and Mensi, 1995).

2.3.2 Presence of trade marks

Mandatory legal measures like trademark protection is necessary to execute at early stages of firm export process. The presence of trademarks can serve as an asset for SMEs working in foreign markets (Lefebvre et al., 2000).The study is going to analyze the impact of presence of trademarks on the firm's export performance.

2.3.4 Export promotion bureau trade fairs

The exhibitions and trade fairs organized by different government and non government associations have proved to be very helpful in providing opportunities to small firms in order to break into international markets by bringing buyers and sellers from different parts of the world simultaneously at the same place (Vohra, 2008). These types of opportunities adds to firm's export experience, which helps entrepreneur to perceive risks and opportunities in the foreign market (Cavusgil et al., 1979; Cooper, 1981; Christensen et al., 1987; Aaby & Slater, 1989; Ogbuehi and Longfellow, 1994; Moini, 1995). These trade fairs also facilitate firms to observe international market's attitude and knowledge of international affairs significantly influencing their choices and chances of breaking into international markets[21].

2.3.5 Networks and references

Networks can contribute positively to firm's growth by increasing output and employment in linked enterprises[22], diffusion of knowledge and skills among firms in different countries, helping SMEs to enter in the international market, increasing commercial transactions between multinationals and small firms, and increasing the choice for the small firms to serve the market of their choice (Elhiraika and Nkurunziza 2006).

Strong sociability helps entrepreneurs to develop social networks resulting in stronger relationships with partners, suppliers and customers (Barringer & Greening, 1998). The ability to

establish and develop networks increases the probability of success and growth of business (Baron and Markman, 2000).

2.3.6 Use of Imported Raw material

Imports of disembodied technology are found to affect firm's productivity in a significantly positive manner (Hasan, 2002). Spending on imported raw materials and capital goods influences firm's productivity considerably (Topalova, 2007). In developing countries, the productivity enhancing affect of imported intermediaries has also been illustrated in the context of Chile (Kasahara and Rodrigue, 2004). In the context of present study, which is dealing with small enterprises, most of the firms are not involved directly in the import activities but they do utilize imported raw material in their products. That's why a dummy variable has been included in the study to analyze the impact of imported raw material on the export performance of the firms under consideration.

2.4 Export Restricting Factors

Dynamism and willingness of SMEs to engage themselves in international activities is obstructed by different factors like availability of information, non-cooperation of Government agencies, and degree of competition in foreign markets, financial difficulties and problem of cost competitiveness faced by small firms in international markets. These factors are taken into consideration to analyze their impact on the probability of being exporter.

2.4.1 Availability of Information

As for obstacles encountered by firms in the process of internationalization, the major problem is concerned with the lack of information regarding perception of risks and opportunities prevailing in foreign markets (Nassimbeni, 2001). Imperfect information and entry barriers imposed by large enterprises and foreign governments limit the international expansion of small firms (Acs *et al.*, 1997).The availability of information concerning both international markets and management of expansion is considered as a crucial factor for the development of internationalization process (Erikson et al., 1997). According to Uppsala School of thought, exports are based on a learning process enabling firms to gain information of the temperament and working of new markets. This necessary information will facilitate them to expand abroad with a minor extant of uncertainty factor (Johanson & Vahlne, 1977).

2.4.2 Non cooperation of Govt. agencies

Firms entering in the export process have to face administrative and customs problems in both importing and exporting countries (Kedia and Chhokar, 1986; Madsen, 1989; Styles and Ambler, 1994). The chances of small firms' international success diminish as they have to face the fiscal imposition as well as bear infrastructural inadequacies (*Nassimbeni, 2001)* Small firms seems to be heavily penalized as compared with their larger counterparts both by local governments and by foreign legislative restraints (Styles and Ambler, 1994; Chetty and Hamilton, 1996).

2.4.3 Increased Competition in Foreign Markets

Firms entering in the export process have to face administrative and customs problems in both importing and exporting countries (Kedia and Chhokar, 1986). In the consequence of present wave of globalization, SMEs have to face foreign competition in the home market, stimulating firms to explore international market along with domestic market (Etemad, 2005). Foreign competition is considered to be the highly rated problem, demonstrating that this problem is enduring and generic nature (Katsikeas and Morgan, 1994).

2.4.4 Financial Constraints

In the process of internationalization, small firms face financial constraints and under-capitalization (Buckley, 1997). Financial constraints correspond to the lack of financial resources. Credit restriction, equity capital and lack of external debt are considered to be the main hindrance to the growth of SMEs.
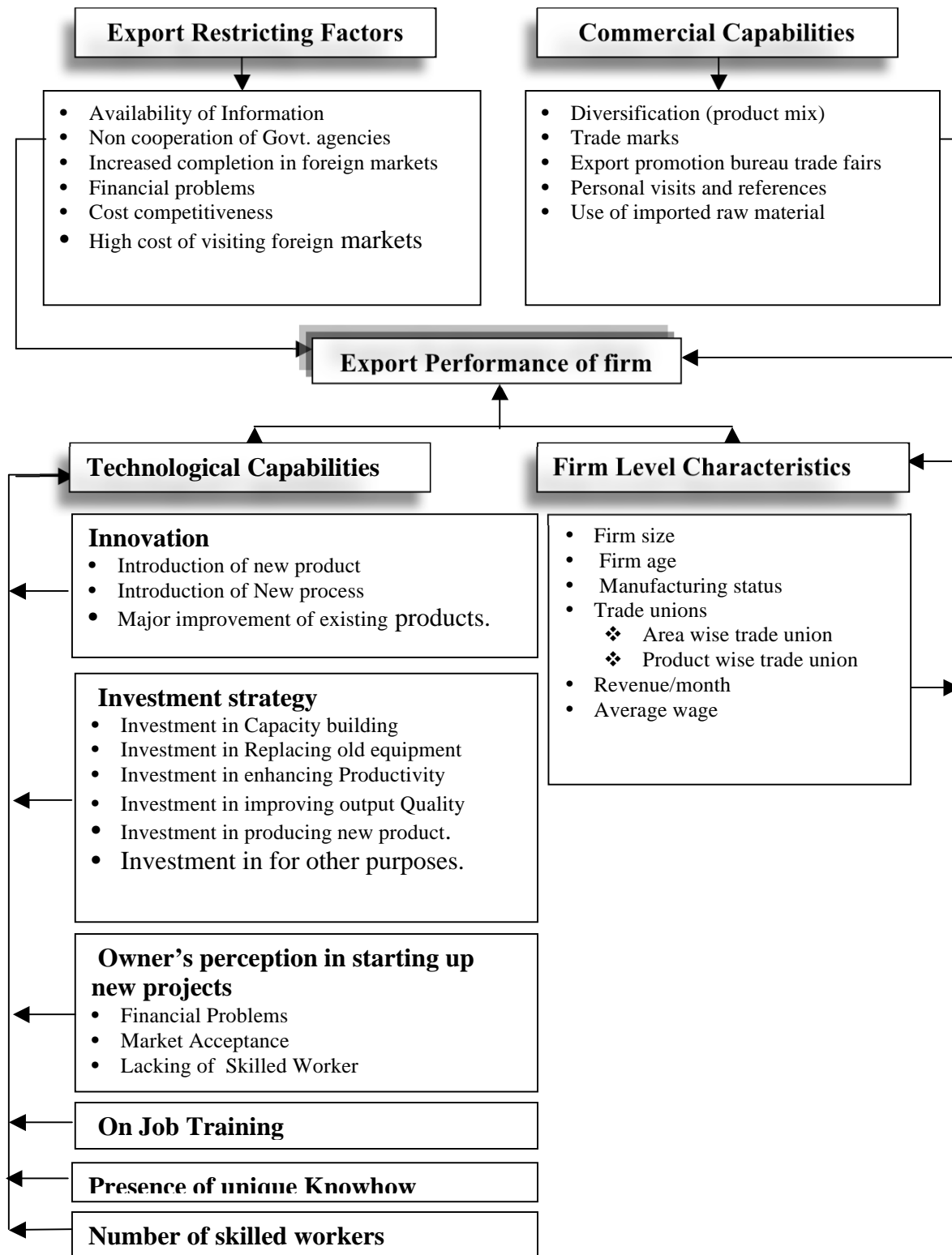
2.4.5 Cost competitiveness

According to trade theories, a significant source of cost competitiveness at the firm level is considered to be the advantage impact of scale operation resulting in lower average costs and thus improving market competitiveness[23]. Small firms mostly supply non-branded varieties in bulk quantities to the international markets where the market is competitive both in terms of quality and price and therefore, it is necessary for the firms to be cost competitive in order to survive in the international market (Bhavani and Tendulkar, 2001).

2.4.6 High cost of visiting foreign markets

Small firms build their networks by associating with foreign companies in target countries having complementary skills similar to their own firms. For this purpose, the entrepreneur/manger has to go around and try to formulate a network through personal contacts, visiting foreign markets and other clients (Coviello et.al, 1998). In a developing country like Pakistan, firms lack such resources enabling them to visit foreign markets, get familiar with the market situation and requirements, and act accordingly. High cost of visiting foreign markets is proved to be a major obstacle in the process of internationalization of small firms.

On the basis of the above mentioned review of literature, research model presented in Fig. 1 is being constructed by the author to analyze the impact of different factors on the process of International entrepreneurship.

Fig 1: Research Model of major determinants contributing towards international Entrepreneurship.

Export Restricting Factors	Commercial Capabilities
• Availability of Information • Non cooperation of Govt. agencies • Increased completion in foreign markets • Financial problems • Cost competitiveness • High cost of visiting foreign markets	• Diversification (product mix) • Trade marks • Export promotion bureau trade fairs • Personal visits and references • Use of imported raw material

Export Performance of firm

Technological Capabilities	Firm Level Characteristics

Innovation
• Introduction of new product
• Introduction of New process
• Major improvement of existing products.

Firm Level Characteristics

• Firm size
• Firm age
• Manufacturing status
• Trade unions
   ❖ Area wise trade union
   ❖ Product wise trade union
• Revenue/month
• Average wage

Investment strategy
• Investment in Capacity building
• Investment in Replacing old equipment
• Investment in enhancing Productivity
• Investment in improving output Quality
• Investment in producing new product.
• Investment in for other purposes.

Owner's perception in starting up new projects
• Financial Problems
• Market Acceptance
• Lacking of Skilled Worker

On Job Training

Presence of unique Knowhow

Number of skilled workers

Source: Author (2011)

3. Research Method
3.1 Sources of Data
In the present study, primary data collected through a detailed survey of Light Engineering sector is being utilized for analytical purposes. The survey has been conducted in the district of Gujranwala from Feb, 2009 to Feb, 2010. The format of the SMEs questionnaire, covering broad aspects of each unit's individual characteristics, commercial and technological capabilities along with a detailed profile of factors that restrict small units to enter the international market. 868 units were investigated out of which 209 units were found to be involved in exporting activities.

3.2 Logit Model for development of International Entrepreneurs
To estimate the probabilities of being an international entrepreneur, logistic regression analysis with maximum likelihood estimation is employed. In the analysis dependent variable takes the value 1 when the entrepreneur is involved in exporting activities and 0 when it is not participating in international markets. Explanatory variables in this model can be divided into four categories as firm's characteristics, technological capabilities, commercial capabilities and export restricting factors.

Basic model can be written as

$$International\ Entrepreneur = a_0 + a_1 X + a_2 Innovation + e \qquad (3.1)$$

Where

International Entrepreneur =1 (if Entrepreneur is participating in export activities)
= 0 (if Entrepreneur is participating in export activities)

X= firm's characteristics, technological capabilities, commercial capabilities and factors inhibiting export activities.

The interpretation of the model in terms of probabilities can be explained as odds ratios. Odd ratio greater than 1 indicates the increase the probability of being an international entrepreneur while less than one indicates the decrease in the probability of being an international entrepreneur.

Where innovation can be measured in terms of innovation in new product, in new process and major improvements in the existing product and e is expressed as error term

Out of the major determinants effecting firm's export performance, innovation has found to have an endogenous relationship with development of an international entrepreneur. So, the direct estimation of the eq. 3.1 would lead to a biased estimate of causal impact of innovation on exports.

Two approaches can be employed to deal with this problem of endogenity. These approaches are the instrumental variable approach and simultaneous equation technique. While in the present study an instrumental variable approach has been employed. In order to utilize the instrumental variable approach, the first step is to explore those variables that are highly correlated with innovation but not with exporting activities of an entrepreneur.

Following specification is used as instrumental variable technique.

$$Innovation = b_1 + b_2 Z + e \qquad (3.2)$$

Where innovation= 1 (If an entrepreneur innovates)
=0 (If entrepreneur does not innovate)

Where Z is the instrumental variable and it comprises of Investment strategy adopted by a firm, entrepreneur's perception in starting up new projects, on job training, presence of unique know

how, number of skilled workers in the firm and use of imported raw materials in the final product.

The specification expressed as 3.2 is then utilized to find out the impact of instrumental variables on the three components of innovation as

$$Product\ Innovation = b_1 + b_2 Z + e \qquad (3.2a)$$

Where Product innovation= 1 (If entrepreneur is involved in innovating a new product)

=0 (If entrepreneur is not involved in innovating a new product)

$$Process\ Innovation = b_1 + b_2 Z + e \qquad (3.2b)$$

Where process innovation= 1 (If Firm entrepreneur is involved in innovating a new process)

=0 (If entrepreneur is not involved in innovating a new process)

$$Major\ improvements = b_1 + b_2 Z + e \qquad (3.2c)$$

Where major improvements = 1 (If entrepreneur undergoes some major improvements)

=0 (If entrepreneur has not made some major improvements)

The fitted values of new product, new process and major improvements after the estimation of the three innovation equations will be then incorporated in final export equation of 3.1. The variables along with their conceptual definition are being presented in table 1.

Table 1: Determinants of Export Performance

DETERMINANTS	MEASURE
FIRMS CHARACTERISTICS	
Firm Size	Number of full-time employees
Firm Age	Number of years since the foundation of the firm
Manufacturing Status	Subcontractor or contractor
Area-Wise Trade Unions	1 if the firm is affiliated with the trade union, 0 otherwise
Product-Wise Trade Unions	1 if the firm is affiliated with the trade union, 0 otherwise
Lnrev09/Month	Log of firm's revenue in 2009
Wage/Emp09	Ratio of total wage to number of employees (Pakistan Rs.)
2. Technological Capabilities	
Innovation	
Newproduct	1 if firm introduces new product(s), 0 otherwise
Newprocess	1 if firm introduces new production process, 0 otherwise
Modiproduct	1 if firm makes major improvements of existing product(s) or changes specification, 0 otherwise
Investment Strategy	
Inv Capacity (Investment Strategy)	1 if firm invests in their capacity, 0 otherwise
Inv Replace (Investment Strategy)	I if firm invests in replacing old equipment, 0 otherwise
Inv Productivity (Investment Strategy)	I if firm invests in improving their productivity, 0 otherwise
Inv Quality (Investment Strategy)	I if firm invests in improving their quality of output, 0 otherwise
Inv New (Investment Strategy)	1 if firm invests in producing new output, 0 otherwise
Inv Other (Investment Strategy)	1 if firm's investment is for other purposes, 0 otherwise
Owner's Perception In Starting Up New Projects	
Financial Problems	1 if firm's owner perceived the importance of lacking finance in staring up new projects, 0 otherwise
Market Acceptance	1 if firm's owner perceived the Importance of lacked market acceptance in staring up new projects, 0 otherwise
Lack Skilled Worker	1 if firm's owner perceived the importance of lacking skilled workers in staring up new projects, 0 otherwise
On Job Training	1 if firm normally trains its existing workers or new workers, 0 otherwise
Presence Of Unique Know How	1=yes 0=otherwise
Skilled Workers	Number of skill workers
3.Commercial Capabilities	

Diversification (Product Mix)	No of industrial sectors in which the firm operates
Trade Marks	Presence=1 Absence=0
Registered Trade Marks	Presence=1 Absence=0
Export Promotion Bureau Trade Fairs	Yes=1, No=0
Personal Visits And References	Yes=1, No=0
Import Activities/ Use Of Imported Raw Material	Yes=1, No=0
4.Factors Inhibiting Export Activities	
Availability Of Information	Yes=1, No=0
Non Cooperation Of Govt. Agencies	Yes=1, No=0
Increased Completion In Foreign Markets	Yes=1, No=0
Financial Problems	Yes=1, No=0
Cost Competitiveness	Yes=1, No=0
High Cost Of Visiting Foreign Markets	Yes=1, No=0

4. Estimation Results

The results of the instrument equation 3.2a are being shown in Table (2).

Table 2: Logistic Results New Product

New product	Coefficients	Odd Ratios
Skilled Labor	0.759**	2.135
Inv in capacity	0.385*	1.470
Inv in replacing old equipment	1.407*	4.082
Inv productivity	0.156	1.169
Inv quality	1.589**	4.901
Inv new product	3.025	20.600
Inv other	0.617**	1.854
Financial problems	-0.020*	0.980
Market acceptance	0.136	1.146
Lacking of skilled workers	-0.117*	0.889
Training on job	0.469*	1.598
Presence of unique knowhow	0.248*	1.282
Imported raw material	0.640**	1.897
Constant	-4.012	0.018
Log Likelihood= 118.498 Pseudo R-Squared = 0.0613 LR Chi2 (13)=1138.934 No. of Observations=868 Prob. > Chi2=0.000		

*** indicates that coefficients are significant at 1 percent level
**indicates that coefficients are significant at 5 percent level
* indicates that coefficients are significant at 10 percent level

The investment strategy is found to be positively and significantly affecting the process of international entrepreneurs as four out of six components of investment strategy are found to be

significant at 90 and 95 percent confidence level. Investment in capacity building has a positive impact on the innovation of new product. A unit change in the investment in capacity building increases the odds of innovation of new product by 1.470 units (the probability of innovation in new product over the probability of not experiencing any innovation in new product). Investment in replacing old equipment is found to be significant at 90 percent confidence level as one unit increase in the investment in replacing old equipment increases the odds of innovation in new product by 4.082 units. As far as entrepreneur's perception regarding new product is concerned all the three components like lacking of skilled labor, market acceptance and financial problems are found to be significant with lacked skilled labor and financial problems exerting negative influence on the probability of involving of an entrepreneur in international markets.

The results of the instrument equation 3.2b are being shown in Table (3).

Table 3: Logistic Results New Process

New process	Coefficients	Odd Ratios
Skilled Labor	0.176**	1.192
Inv in capacity	0.109	1.115
Inv in replacing old equipment	0.153**	1.166
Inv productivity	0.104**	1.109
Inv quality	0.068*	1.070
Inv new product	0.040	1.040
Inv other	0.072	1.075
Financial problems	-0.130**	0.878
Market acceptance	0.210***	1.233
Lacking of skilled workers	-0.069*	0.933
Training on job	0.148*	1.160
Presence of unique knowhow	0.047*	1.049
Imported raw material	0.011	1.011
Constant	0.993***	2.699
Log Likelihood= 1551.09 Pseudo R-Squared=0.23 LR Chi^2 (13)= 85.38 No. of Observations=868 Prob. > Chi^2=0.000		

*** indicates that coefficients are significant at 1 percent level

**indicates that coefficients are significant at 5 percent level

* indicates that coefficients are significant at 10 percent level

The investment strategy is found to be positively and significantly affecting the process of international entrepreneurs as three out of six components of investment strategy are found to be significant at 90 and 95 percent confidence level. Investment in replacing old equipment has a positive impact on the innovation of new process. A unit change in the investment in replacing old equipment increases the odds of innovation of new process by 1.1.166 units (the probability of innovation in new process over the probability of not experiencing any innovation in new process). Factors like investment in capacity building, investment in new product and for other purposes are found to be insignificant in the present analysis. As far as entrepreneur's perception regarding new product is concerned all the three components like lacking of skilled labor, market acceptance and financial problems are found to be significant with lacked skilled labor and financial problems exerting negative influence on the probability of involving of an entrepreneur

in international markets. Determinants like on job training, unique know how and presence of skilled labor is also found to be significantly influencing the probability of innovating of an entrepreneur in terms of new process.

The results of the instrument equation 3.2c are being shown in Table (4).

Table 4: Logistic Results Major Improvements

Major Improvements	Coefficients	Odd Ratios
Skilled Labor	0.377**	1.457
Inv in capacity	0.790*	2.203
Inv in replacing old equipment	0.103*	1.108
Inv productivity	0.270	1.309
Inv quality	0.841**	2.319
Inv new product	0.622*	1.863
Inv other	0.052*	1.054
Financial problems	-0.076*	0.927
Market acceptance	0.162**	1.176
Lacking of skilled workers	-0.109**	0.896
Training on job	0.122**	1.130
Presence of unique knowhow	0.481	1.618
Imported raw material	0.007	1.007
Constant	-0.077	0.926
Log Likelihood= 1621.816 Pseudo R-Squared=0.24 LR Chi^2 (13)=79.60 No. of Observations=868 Prob. > Chi^2=0.000		

*** indicates that coefficients are significant at 1 percent level

**indicates that coefficients are significant at 5 percent level

* indicates that coefficients are significant at 10 percent level

The investment strategy is found to be positively and significantly affecting the process of international entrepreneurs as five out of six components of investment strategy are found to be significant at 90 and 95 percent confidence level. Factor of investment in enhancing productivity, is found to be insignificant in the present analysis. As far as entrepreneur's perception regarding new product is concerned all the three components like lacking of skilled labor, market acceptance and financial problems are found to be significant with lacked skilled labor and financial problems exerting negative influence on the probability of involving of an entrepreneur in international markets. Determinants like on job training and presence of skilled labor is also found to be significantly influencing the probability of innovating of an entrepreneur in terms of new process.

The estimated results of the basic export equation 3.1 are being show in the table (5).

Table 5: Logistic results Exports

Export	Coefficients	Odd Ratios
employment	1.629***	5.099
Firm age	0.200*	1.222
Investment	0.009	1.000
Manufacturing status	1.078**	2.940
Affiliation with trade unions product wise	0.310	1.364
Area wise affiliation	1.115**	3.050
Firm revenue in month Rs	0.392*	1.480
Average wage	0.018	1.018
Diversification SIC	1.550**	4.711
Trade Marks	0.484	1.622
Trademarks registered	1.188**	3.280
Trade fairs	2.203***	9.049
Personal visits/references	2.696***	14.820
Information	0.738*	2.091
Non cop. Govt	-1.274**	0.280
Competition in foreign markets	-1.998**	0.136
Financial problems	-3.196***	0.041
Cost competitiveness	1.335	3.800
Highly priced foreign trips	-0.933**	0.393
Major Improvements	1.660***	5.261
New process	2.632***	13.897
New product	2.449***	11.574
Constant	-20.254***	
Log Likelihood= 1916.478 Pseudo R-Squared=0.068 LR Chi2 (22)=958.239 No. of Observations=868 Prob. > Chi2=0.000		

*** indicates that coefficients are significant at 1 percent level

**indicates that coefficients are significant at 5 percent level

* indicates that coefficients are significant at 10 percent level

Size of a firm is found to be significantly and positively influencing the probability of being an international entrepreneur at 99 percent significance level. A unit change in firm size increases the odds of involving in export activities by 5.099 units (the probability of being an international entrepreneur over the probability of not being an international entrepreneur).

Firm age is proved to be significant at 90 percent confidence level. Manufacturing status of the firm being a contractor increases the probability of being an international entrepreneur as a unit change in manufacturing status from sub-contractor to contractor increases the odds of involving in export activities by 2.940 units.

Association with the area wise trade union exerts a positive influence on the attitude of an entrepreneur to participate in international activities. The factor of diversification in product line is proved to be significant in the current scenario. The existence of registered trade marks

positively increase the probability of being an international entrepreneur as a unit increase in the acquisition of registered trade mark increases the odds of involving in export activities by 3.280 units (the probability of being international entrepreneur over the probability of not being international entrepreneur).

Participation in the trade fairs along with personal visits and references are found to be adding positively towards the process of international entrepreneurs.

Exposure of a firm to the information regarding export markets increases the probability of being an international entrepreneur by 2.091 units. While non co-operation on the side of Government agencies, financial problems, competition from the foreign firms and expensive foreign visits significantly reduces the probability of being an international entrepreneur. Level of competition in foreign market negatively and significantly hampers the process of international entrepreneurship. Financial problems along with expensive foreign trips also found to reduce the probability of being an international entrepreneur in the present analysis.

All the three imputed components of innovation like innovation in new product, process and major improvements in the existing equipments are proved to be significant at 99 percent of confidence level and positively increase the probability of being an international entrepreneur.

Factors like initial investment in the start of the project, affiliation with trade unions, average wage, presence of trade marks, and cost competitive structure of the firm are proved to be insignificant in the present analysis.

5. Conclusion

The study has provided a comprehensive view of different factors that adds towards the development of international entrepreneurship. These important factors were classified into three main categories like firm level characteristics, technological capabilities and commercial capabilities. Another important dimension of the present study is that it has also focused those factors that restrict firms to be involved in exporting activities.

According to the results, firm size, firm age, manufacturing status of the firm, area wise affiliation with trade unions, natural log of the average revenue per month, diversification, registered trade marks, trade fairs, personal visits and references, availability of information regarding foreign markets along with the three imputed variables of innovation in terms of product innovation, process innovation and major improvements in existing equipment are found to be positively and significantly adds towards the process of international entrepreneurship.

The factors of non-cooperation of government agencies, financial problems and expensive foreign trips are found to be significantly hampering the growth of entrepreneurs in international markets.

While, the factors like initial investment in the start of the project, affiliation with trade unions, average wage, presence of trade marks, and cost competitive structure of the firm are proved to be insignificant in the present analysis implying no affect on export activities

There is a universal consensus that Government export assistance programs should be modified according to the requirements of SMEs. Restrictions to enter the international markets are analytically stricter for small firms as compared to their large counterparts. The problems of capital shortage and management skills, and lack of basic information are considered to be the main obstacles faced by small units in the process of internationalization imposed by government agencies. Though government has offered some support programs, they are not considered to be sufficient enough to encourage small firms to enter in the international market. Moreover, special attention should be given regarding the designing of policy options corresponding to the

requirements of firms as they go through the different phases of the process of internationalization.

The estimated results imply some policy implications as it should formulate such policies that can support small firms in their process of internationalization. It can help them in with providing information regarding foreign markets, solving their financial problems, making them more cost competitive as far as their products are concerned and by subsidizing their visits to foreign markets. All these arrangements can positively help small units to enable themselves more productive in this present era of internationalization.

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1 A periodic decline in the export price of raw materials and commodities produced by LDCs resulted in a widely growing disparity between them and rich countries and in order to decrease that disparity the LDCs had to protect their newly emerging manufacturing sector.

2 Hong Kong, Korea and Singapore followed Export oriented Industrialization in early 1950s, while Korea followed ISI with EOI (Salvatore 2006).

3 Government of Pakistan had estimated a required investment of Rs. 5.2 trillion in large scale sector to provide employment opportunities to an addition of 16 million persons to the labor force while only Rs. 8 billion are required in case of small/micro scale sector.(http://www.pakistan.gov.pk/ministries/planninganddevelopment-ministry/mtdf)

4 In the year 1959-60, there were 2758 no. of establishments in Pakistan which was 37.79 percent more as compared to those of 1955-56 (2031 units), while in year 1964-65 total no. of establishments were 3212 leading to a 58.17 percent increase as compared to last decade of 1950s.(CMI, various issues)

5 PFIS Punjab, 2005

6 See Gebremariam *et.al* (2004), Beck *et.al* (2004,2005) and Tambunan (2008)

7 See Birch (1979), Noriyuki *et.al* (1998) and Osmani (2004).

8 See Mukras (2003), Antonio (2003) and Liu *et.al* (2008).

9 By organizing money market through banking sector.

10 See Reason *et.al* (2004), Karadeniz *et.al* (2007), Nazar *et.al* (2008).

11 Refers to all economic activities that fall outside the formal economy regulated by state.

12 Economic census of Pakistan 2005.

[13] See Amit and Schoemaker, 1993

[14] Jacobson, 1988; Hansen and Wernerfelt, 1989.

[15] The mentioned studies also support the resource based view of the firm (Wernerfelt, 1984; Grant, 1991 and Peteraf, 1993).

[16] Baldwin and Rafiquzzaman, 1998.

[17] Leonard-Barton, 1992.

[18] Pietrobelli, 1997; Ernst et al., 1998; Rasiah, 2004.

[19] Suggested by the international trade models developed by Vernon (1966) and Krugman (1979).

20 The results are found to be inconsistence with Heckser-Ohlin theory predicting that countries with abundance of unskilled labor like Brazil, skilled labor is an expensive and scare factor and therefore negatively associated with the amount of goods exported.

[21] Czinkota and Johnston, 1983; Cooper and Kleinschmidt, 1985; Axinn, 1988; Aaby and Slater, 1989; Madsen, 1989.

[22] (Fafchamps and Lund, 2001)

[23] The three main source of scale-based advantage include economies in the production process due to increasing returns to scale, economies in the mass purchases of materials and economies in marketing costs (Bhavani and Tendulkar, 2001).

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