



Location strategy for competitiveness of special economic zones

A generic framework for India

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Abstract

Purpose – The purpose of this paper is to develop a framework for the firms located inside special economic zones (SEZs) in India and to assess the effect of location on competitiveness of the firm.

Design/methodology/approach – A literature review is done to identify the variables and intermediate variables including sub-variables which affect the location competitiveness of the firm that leads to superior firm performance. Literature support for all the variables in the framework is discussed to establish a logical sequence.

Findings – Hypotheses are formulated in a sequential framework to draw relationships between location of a firm in an SEZ as latent function, intermediate functions, and superior firm performance as a dependent function.

Research limitations/implications – This developed framework is yet to be empirically tested. Such a paper can be applied in manufacturing industries located in an SEZ.

Practical implications – Location competitiveness is an important strategic decision for industries. The paper on location strategy for competitiveness of SEZs helps in identifying a framework including various propositions that lead to superior firm performance.

Originality/value – The value of the paper lies in its attempt to propose a relationship between firm location and its effect on firm competitiveness. The approach emphasizes multiple interrelationships between sets of variables and also suggests a quantitative research methodology, i.e. structured equation model, to test empirically.

Keywords Zones (administration), Competitive strategy, Business development, India

Paper type Conceptual paper



Introduction

SEZ as a strategy for competitiveness

Competitiveness of a nation can be achieved through its trade, especially export competitiveness (Nihon *et al.*, 2005), infrastructure development, and providing special economic privileges viz lower taxes and rebates for a liberalised economy. Country-wide development of infrastructure is expensive and implementation of structural reforms requires time due to various socio-economic and political factors. Export processing zones (EPZs) are therefore considered a strategic tool for promotion

of exports (Mondal, 2001). In order to promote export competitiveness, economic zones have emerged as a trade policy with special emphasis on outward orientation.

Areas with special economic privileges have been common since the sixteenth century but it did not impact the world trade. Since 1960, the impact of these specific areas of lower taxes and rebates have become more evident on a global basis and gained special terminology such as free economic zones (Gunagwen, 2001). Economic zones emerged as a powerful tool for integration with the world economy, with the successful examples of Chinese special economic zones (SEZ) and Mexican Maquildoras. This can be seen with the rise in a number of economic zones worldwide and also rise in numbers of countries adopting this trade policy to impart competitiveness and outward orientation to their trade (Table I).

These figures conclude that countries are adopting economic zones as a competitive strategy for growth, development and to achieve trade competitiveness globally.

However, several economic zones, in different geographical locations, have not brought out the anticipated success. Many authors have identified various critical factors for success of an SEZ (Table II). Empirical research regarding setting up of SEZ has attempted to discover various factors which make a zone successful in comparison to other established zones in the region. It can be summarised as follows.

SEZs in India

India, as a developing nation, has strategically identified economic zones for export promotion and trade development. The Ministry of Commerce, of the Government of India, defines this "Special Economic Zone (SEZ) as specifically delineated duty free enclave and shall be deemed to be foreign territory for the purposes of trade operations and duties and tariffs." The common goals and the characteristics shown by the export zones have been highlighted by Agarwal (2004a, b), Madani (1999), Kundra (2000) and Kumar (1989). Zones share a few common features worldwide:

- unlimited, duty-free imports of raw, intermediate input, and capital goods necessary for the production of exports;
- less governmental red-tape, flexibility with labour laws for the firms in the zone than the domestic market;
- generous and long-term tax holidays and concessions to the firms;
- above average (compared to the rest of the host country) communications services and infrastructure; and
- firms in a zone can be domestic, international, or joint venture.

Year	1975	1986	1995	1997	2003
No. of countries having zones	25	47	73	93	116
No. of zones	79	176	500	845	More than 3,000

Source: Wepza Report (2002)

Table I.
Estimates of EPZs

Factors	Studies	Country context	Inference
Location	CII Report (2008) IDFC (2001) Ota (2003) Madani (1998) Ryan <i>et al.</i> (1993) Madani (1999)	India India China Philippines Costa Rica Zaire	Geographical location is the most important factor behind SEZ success
Agglomeration in form of linkages with domestic economy	Jenkins <i>et al.</i> (1998) Wijewardane (1993) Jayanthakumaran (2003) Sklair (1985)	Asia and C. America Sri Lanka S. Korea and Indonesia S. Korea and Sri Lanka	Linkages with domestic economy have been found to be one of the success factors of SEZ
Government and institutional support	Mody and Srinivasan (1996) Kumar (2003) Mitra <i>et al.</i> (1998) Madani Wei (1999)	S. Asia India India S. Asia China	Economic infrastructure and favorable government policy are critical for SEZ success
Factors of production	Knoth (2000) Agarwal (2004a, b) Landingin and Wadley (2005)	China India, Sri Lanka, and Bangladesh Brunei, Indonesia, Malaysia, and Philippines	Availability of labor, machine, money, and material is required for SEZ success

Table II.
Success factors for SEZ

The Indian Government's idea to foster SEZ relies on a two pronged strategy:

- (1) reduction in restrictions-duty free imports, liberalized foreign exchanges, flexible labor laws, etc.; and
- (2) provision of incentives-better infrastructure, generous long-term income tax concessions (IDFC, 2001).

India was one of the first countries in Asia to recognize the effectiveness of the EPZ model in promoting exports. It established Asia's first EPZ at Kandla, in the state of Gujarat in 1965. Among all the SEZs established in India, the most successful SEZs are of Mumbai, Noida, and Chennai which are prominent cities in India. This also signifies the location advantage of existing industrial and infrastructure base for export competitiveness of an SEZ. Presently, India has 19 functioning SEZs contributing 5-6 percent to the national exports and more than 400 SEZs have been principally approved by the Government of India at various locations (Ministry of Commerce, 2007).

Modeling location, intermediate variables and superior firm performance

Location of a firm

The emergence of SEZ for promotion of exports has again highlighted the importance of location of firm and its impact on firm competitiveness. Economic zones as specialized locations have provided efficiency in business transactions through advanced infrastructure and other facilities to enhance trade competitiveness of the country. The early theories of industrial location concentrated on analyzing simple

frameworks, where the location and spatial diversification were simply determined by an adjustment between location, weight, and distance characteristics of inputs and outputs (Weber, 1929). Various recent empirical research and literature suggest that location can be a contributing factor to the competitiveness of a firm (Karakaya and Canel, 1998). Empirical studies suggest that SEZs which are located in a developed area where they have higher chances of pursuing agglomeration are found to be more successful as compared to those which are located in semi or undeveloped areas (IDFC, 2001). It seems that agglomeration and linkage effect of the SEZs are more difficult to exploit if they are established in an area with poor or no industrial base. This raises a few research questions regarding the location of an SEZ, viz:

RQ1. Does location of a firm in an SEZ lead to superior firm performance?

RQ2. What leads to competitiveness of a firm in an SEZ?

The central question we seek to answer is how does location of a firm in an SEZ affect the competitiveness of the firm? With this central question as the subject of this paper, a framework on the basis of exploratory study has been proposed with several prepositions. Empirical studies on the location of a firm have brought out various factors which can be summarized and inferred upon (Table III).

These studies indicate that proximity to supplier/resources, availability of infrastructure, government and institutional support, quality and availability of men, machine, money, and materials are the important factors affecting the location of a firm.

Intermediate variables/functions. The central question is further investigated by modeling the interrelationship between firm location and variables/functions which lead to superior firm performance (F7). Five sets of broad explanatory functions (factors) were integrated that explain firm competitiveness/superior firm performance in an SEZ. These intermediate variables/functions (F2-F6), so derived can be depicted in Table IV.

Through this integration as depicted we can conclude following intermediate functions/variables:

- (1) *F2: investment in competitive resources and capabilities.* Resources are central to firm competitiveness (resource based-view of strategic management).
- (2) *F3: linkages.* Positive agglomeration effect and creation of linkages between firms in an SEZ and domestic firms.
- (3) *F4: entrepreneurial ability.* The ability of an entrepreneur to run a business efficiently and effectively.
- (4) *F5: government and institutional support.* Support and encouragement by government to firms in terms of infrastructure and export market assistance, can lead to enhancement of competitiveness of a firm.
- (5) *F6: factors of production.* Businesses need constant supplies of qualified men, machines, money and materials for smooth running.

These five sets of broad intermediate functions/variables consist of different sub-variables:

- *Investment in competitive resources and capabilities.* Consistence of quality practices, cost effective manufacturing capabilities, management capacity, branding, higher capacity utilization, and strategic planning.

Studies	Factors affecting location of firm (<i>FI</i>)	Inference
Schemenner (1979), Galbraith (1985, 1990), Galbraith and de Noble (1988) and Schemenner (1982)	Other competitive industries in the area Proximity to supplier/resources	It encompasses availability and proximity to other industries and supplier/resources in the region which leads to forming of business transaction as decider of location of a firm
Galbraith and de Noble (1988), Hekman (1992), Schemenner (1979), Blair and Premus (1987), de Noble and Galbraith (1992), Stonebraker and Leong (1994), Blair and Premus (1987), Fulton (1971), de Noble and Galbraith (1992) and Schemenner <i>et al.</i> (1987)	Area's business climate Attitude of local and state government State and local government incentives Transportation costs and facilities Proximity to highways Availability of utilities and services Tax structure and rates Local and physical infrastructure	Availability of infrastructure, incentives in the form of tax rates and attitude of local government can be grouped in govt. and institutional support being provided to the firm which wants to locate in the region
Fulton (1971), de Noble and Galbraith (1992), Galbraith and de Noble (1988), Hekman (1992), Schemenner (1979), Stonebraker and Leong (1994), Galbraith and de Noble (1988), Hack (1984), Schemenner (1982), Schemenner <i>et al.</i> (1987), Stonebraker and Leong (1994), Blair and Premus (1987), Fulton (1971), Galbraith (1985, 1990), Schemenner (1982) and Karakaya and Stahl (1989)	Labor productivity and attitude toward productivity Cost of labor Availability of labor Availability of skilled labor Availability of unskilled labor Availability and transfer of qualified technical and managerial personnel Land availability for building and expansion Cost of land Cost of construction Financing opportunities Banking services Access to raw materials	Availability and quality of men, machine, money, and material including land are traditionally considered to be factors of production in economic literature

Table III.
Factors affecting location of a firm

- *Linkages.* With other firms, outside duty tariff area (DTA) firms and foreign firms.
- *Government and institutional support.* In terms of available infrastructure (roads, electricity, telecom, internet, and ports).
- *Entrepreneurial ability.* Will include vision, ability to organize, innovate, and take calculated risks.
- *Factors of production.* Are linked with economical labor, skilled manpower, technology management, access to cheap cost of capital and procurement of goods.

These sub-variables have been considered important by different researchers and Table V clearly highlights the same.

Author/references	Intermediate functions/ variables	Inference
Wernerfelt (1984), Mahoney and Pandian (1992), Peteraf (1983), Powell (1992a, b), Rumelt (1984), Barney (1991), Aaker (1989) and Grant (1991)	F2. Investment in competitive resources and capabilities	Resources are central to org. competitiveness affirmed by resource-based view of strategic management. Type, magnitude and nature of firm's resources and capabilities are determinants of profitability
Grubel (1982), Amin and Thrift (1992), Hanson (1996), Rauch (1993) and Canina <i>et al.</i> (2005)	F3. Linkages	Concept of positive agglomeration and linkages with domestic economy. Linkages with other firms lead to creation of agglomeration which benefits the firms
Covin and Slevin (1991), Vasant Desai (2006), Coase (1937) and Niman (1991)	F4. Entrepreneurial ability	Unleashing entrepreneurial talent of the firm leads to successful tapping of the opportunities outside
Piore and Sabel (1984) and Porter (1998)	F5. Government and institutional support	Government support and promotion comes in macro-environment perspective and it creates atmosphere to make the firm competitive
Madani (1999), Kusago and Tzannatos (1999) and Karakaya and Canel (1998)	F6. Factors of production	Location of firm depends upon the factors of production available

Table IV.
Studies depicting
intermediate
variables/functions and
inference

This brings about a relationship between the location of a firm (*F1*) and other intermediate functions/variables (*F2-F6*) which consist of sub-variables. All the relationships so inferred through detailed literature review can be shown in Figure 1.

Superior firm performance

Firm performance is taken as a tool to measure the competitiveness of a firm. A firm is said to be competitive when it shows superior financial performance, although financial parameters are not only the sole indicators of a firm (Drucker, 1954). All theories regarding competitiveness of a firm have talked about superior firm performance as a consequence of being competitive. The most important obligation of an export firm, situated in an SEZ, is net exports, i.e. exports minus imports which have been laid down as a requisite for setting up in an SEZ. Other important parameters used by different researchers are productivity and cumulative annual growth rate (CAGR). These three measurements have been taken to understand the superior firm performance in an SEZ (Table VI). Productivity has been considered surrogates of competitiveness and can be defined as total turnover divided by numbers of headcount and CAGR justifies the extent of growth of the organization over a period of years.

Proposed framework; a sequential approach

There can be two possible approaches for studying the impact of location on superior performance; one is direct and other will be indirect. Location competitiveness of a firm in

Name of variables	Literature study	Relationship
<i>F2. Investment in competitive resources and capabilities</i>		
1. Quality practices	Mpofu (1998), Chaston and Mangles (1997), Hwang and Chou (2004), Krajewski and Ritzman (1996) and Khalil (2000)	Quality practices bring competitiveness to the firm by enhancing reliability in the eye of customers
2. Cost effective manufacturing capabilities	Nobel (1993), Skinner (1969), Tunalv (1992) and Boyer <i>et al.</i> (1997)	Cost effective manufacturing capabilities are important for manufacturing firm for competitiveness
3. Management capacity	Priyanto (2006) and Verma (2002)	Management capacity is crucial to makes progress towards competitiveness of a firm
4. Branding	Porter (1980)	Branding as differentiation is one of the generic business strategy which makes the firm competitive
5. Production capacity and utilization	Hayes and Wheelwright (1984), Krajewski and Ritzman (1996) and Bhavani (2006)	The production capacity and utilisation provide competitiveness to the firm by superior performance
6. Strategic planning	Lussier and Corman (1995), Robinson and Pearce (1983) and Larsen <i>et al.</i> (1998)	Importance of doing strategic planning especially in small firms brings supportive results
<i>F3. Linkages</i>		
1. Linkages with other DTA firms	Berliant <i>et al.</i> (2002), Davis and Weinstein (1998), Weinstein (1999), Agarwal (2004a, b), Marshall (1890), Dyer and Nobeoka (2000) and Kale <i>et al.</i> (2000)	Firms benefit from local production externalities, which exist when a firm's production possibilities depend on the actions of other firms located in the same region
2. Higher interaction with other firms (same location)	Ahuja (2000), Kogut (2000), Ahlström-Söderling (2003) and Thompson (1967)	Higher interaction with other firms located in the same place provides advantages to the firms
3. Linkages with foreign firms	Gulati and Singh (1998), Alvarez and Barney (2001) and Freel (2000)	Creating network with foreign firms increase capability of the firms in facing competition
<i>F4. Entrepreneurial ability</i>		
1. Vision	Murphy <i>et al.</i> (1996) and Vasant Desai (2006)	Vision is one of the abilities of the entrepreneur to steer the firm ahead in the competitions
2. Calculated risk	Herri (2003) and Vasant Desai (2006)	Taking calculated risk has been found to be one of the main determinants of small firm competitiveness
3. Innovation	Drucker (1954), Miller and Friesen (1982), Hine and Ryan (1999) and Vasant Desai (2006)	Innovation is the hallmark of the entrepreneurs
4. Ability to organize	Lumpkin and Dess (1996), Dionco-Adetayo (2004) and Vasant Desai (2006)	Ability of an entrepreneur to organize things is one of the tasks to bring efficiency

Table V.

Literature review of relationship among sub variables and intermediate variables/functions

(continued)

Name of variables	Literature study	Relationship
<i>F5. Government and institutional support</i>		
1. Roads	<i>Global Competitiveness Report – GCR</i> (2003-2004, 2005-2006, 2006-2007), <i>World Competitiveness Yearbook – WCY</i> (2007)	It, a part of macro-environment, is considered basic infrastructure of a country
2. Electricity	<i>GCR</i> (2003-2004, 2004-2005, 2005-2006, 2006-2007) and <i>WCY</i> (2007)	It, a part of macro-environment, is considered basic infrastructure of a country
3. Telecom	<i>GCR</i> (2003-2004, 2004-2005, 2005-2006, 2006-2007) and <i>WCY</i> (2007)	It, a part of macro-environment, is considered basic infrastructure of a country
4. Internet	<i>GCR</i> (2003-2004, 2004-2005, 2005-2006, 2006-2007) and <i>WCY</i> (2007)	It, a part of macro-environment, is considered basic infrastructure of a country
5. Port	<i>GCR</i> (2003-2004, 2004-2005, 2005-2006, 2006-2007)	It, a part of macro-environment, is considered basic infrastructure of a country
6. Export market assistance	Wilkinson (2006)	Export market assistance increases the exports
7. Trade promotion	Bhavani (2006)	Trade promotion helps the firm to do business
8. Less bureaucracy	Madani (1999) and Exim Policy (2002-2007), SEZ Act, Ministry of Commerce and India	Providing hassle free environment to run business is one of the objectives of SEZ exim policy
<i>F6. Factors of production</i>		
1. Economical labor	Jin (2004) and Kusago and Tzannatos (1999)	The cost of labor is one of the constituents of business location decision
2. Skilled manpower	Gereffi (1999)	
3. Technology management	Balasubramanian (2005), Momaya and Ajitabh (2005), Bennet and Vaidya (2005), Khalil (2000) and Khalil and Ezzat (2005)	Superior technology management lead to wealth creation and imparts competitiveness to the organization
4. Access to cheap cost of capital	Kundra (2000) and Madani (1999), Ministry of Commerce (India)	Government wishes to provide economical and easy access of capital to the organization for their growth
5. Procurement of goods	Agarwal (2004a, b) and Ahren and Baudeck (1995), Ministry of Commerce (India)	Ability to procure goods from outside is one of the principal benefits of creating export zones

Table V.

an SEZ cannot be directly measured so it is done through intermediate variables and its effect on firm performance. This study suggests that a logical sequence may exist among the location of a firm, five intermediate variables/functions (investment in competitive resources and capabilities, linkages, entrepreneurial ability, government and institutional support, and factors of production), and superior firm performance (Figure 2).

Proposed sequential framework with prepositions

The proposed sequential framework connects the latent function (location of a firm-*F1*), intermediate functions (*F2-F6*), and dependent function (superior firm performance-*F7*) as shown in Figure 3.

It suggests that *F1* leads to *F2-F6* and subsequently they lead to *F7*, thus intermediate functions (*F2-F6*) are both dependent as well as independent variables. Structural equation modeling (SEM) is a recognized multivariate technique which enables us to assess both measurement properties and test the key theoretical relationships. It is a powerful technique for specifying, estimating, and testing hypothesized interrelationships among a set of substantively meaningful variables. It helps to identify direct and indirect effects in a complex system of variables and allows including the mediating variables in the analysis easily (Swamidass and Newell, 1987). SEM provides a method of dealing with multiple relationships simultaneously and comprehensively for determining the goodness of fit measure of the sequential model (Bentler, 1990; Hair *et al.*, 2007).

Prepositions

The relationship flow chart (Figure 2) clearly delineates the factors involved in the association between location of firm and superior firm performance through five mediating variables. The suggested hypothetical relationship diagram has been constructed on the basis of the following assumptions:

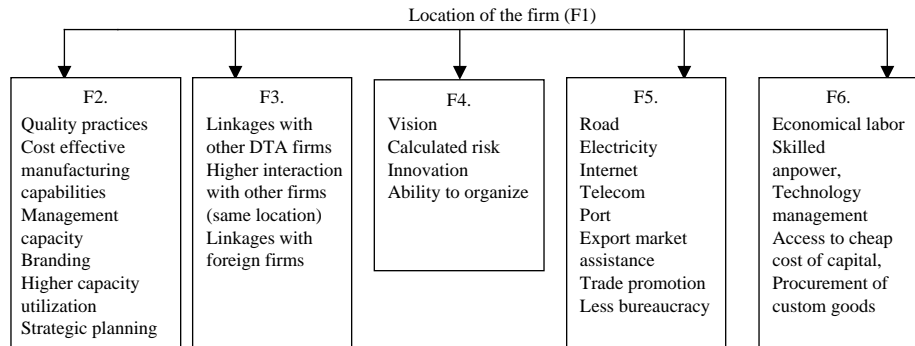


Figure 1.
Location of a firm (*F1*) and intermediate functions (*F2-F6*) with sub variables/functions

F7. Superior firm performance

1. Net foreign exchange	Requisite for setting up unit in SEZ by Ministry of Commerce	Total earning of a firm by deducting imports from exports. Stipulated by Government of India in SEZ Act, 2005
2. Productivity	McKee and Sessions-Robinson (1989), Francis (1989) and Baumolm and McLennan (1985)	Considered surrogate measure of competitiveness
3. Cumulative annual growth rate	Momaya and Ajitabh (2005)	CAGR is considered to be one of factors of superior firm performance

Table VI.
Superior firm performance

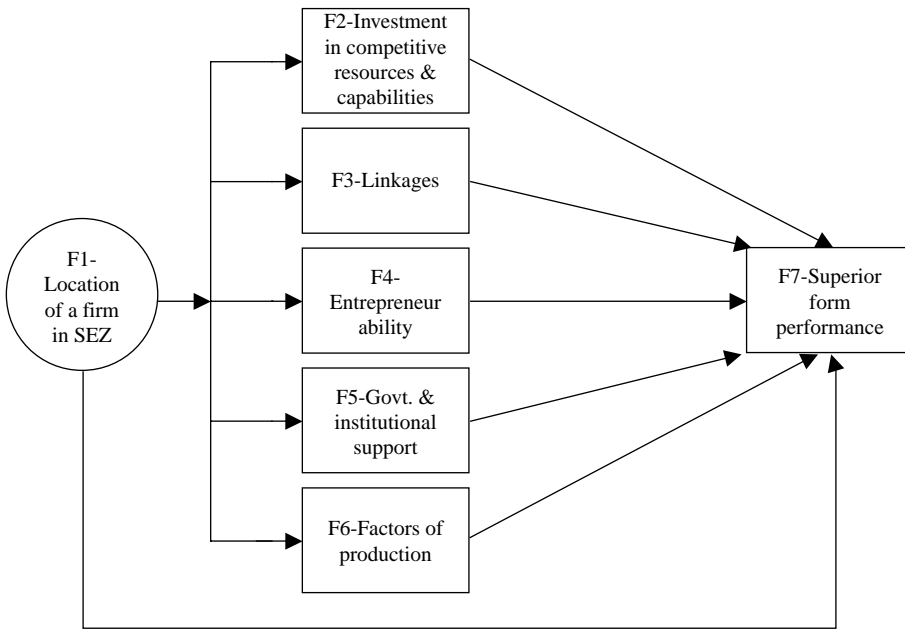


Figure 2. Relationship flow chart

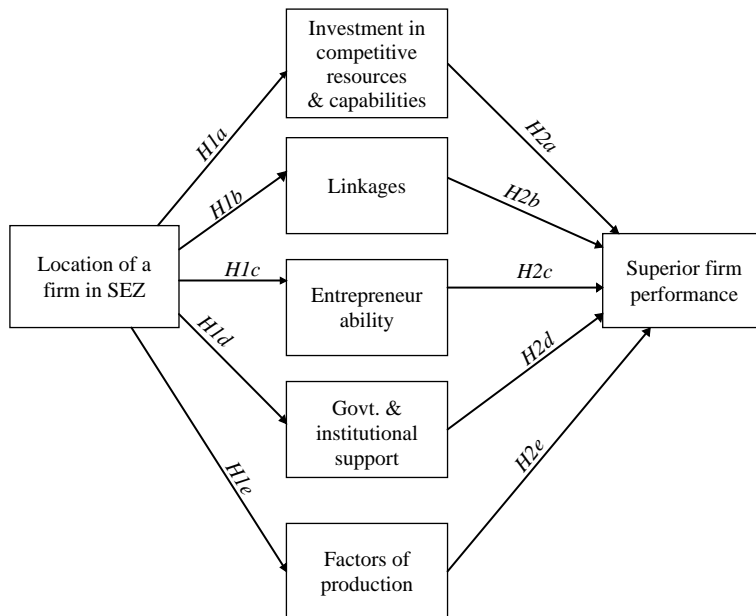


Figure 3. Proposed sequential framework

- factors responsible for location strategy have been empirically found for the firms outside the SEZs and we have assumed that the same factors will be responsible for the location of a firm inside the SEZ; and
- location leads to intermediate variables and provides superior firm performance.

Under the light of the above assumptions, following prepositions are tabulated:

- H1a.* Being located in SEZ positively relates to firm/s investment in competitive resources and capabilities.
- H1b.* Being located in SEZ positively relates to linkages with other units.
- H1c.* Being located in SEZ positively relates to entrepreneur ability.
- H1d.* Being located in SEZ positively relates to government and institutional support.
- H1e.* Being located in SEZ positively relates to factors of production.
- H2a.* Investment in competitive resources and capabilities positively relates to superior firm performance.
- H2b.* Linkages with other units positively relates to superior firm performance.
- H2c.* Entrepreneur ability positively relates to superior firm performance.
- H2d.* Government and Institutional support positively relates to superior firm performance.
- H2e.* Factors of production positively relates to superior firm performance.

Further scope of the research

The proposed model has been developed with the objective to explain the basic central research question, viz: *RQ1* and *RQ2*. The strength of the framework lies in its theoretical approach which gives a valid reason to test it empirically by using SEM. This hypothesized framework may be applied on any manufacturing industry operating from SEZs and can be tested on different industries operating within an SEZ. While competitiveness of the firm in an SEZ has been identified in the study, it may be possible to refine the framework and use it to further study the firms operating in different geographical locations which do not fall under SEZ.

However, the basic limitation is that the proposed framework has not been tested empirically and needs to be further researched. Another limitation of the research is generalization of the empirical studies carried out on firm competitiveness but not operating from SEZ, since there were few empirical studies available on economic zones from strategic management dimensions.

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