

An Application of Porter's Diamond Framework: A Case of Sports Goods Cluster at Jalandhar

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Abstract

Porter (1990) in his book 'The Competitive Advantages of Nation' developed a diamond model in order to examine and investigate the reasons for the success of an industry in a specific region in comparison to the others. Porter found that industries rather than the nations are the one that compete and clusters have an important influence in improving the competitive advantage of the industry. The present study aims to apply Porter's diamond model to identify the sources of competitive advantage of the cluster. The study is conducted on sports goods cluster of Jalandhar to understand the measures for improving its competitiveness. The study analyzes each of the four determinants of the diamond model to understand which determinant gives the competitive advantage to the cluster. The study proposes various strategies to create and upgrade the sustainable competitive advantage of sports goods cluster at Jalandhar.

In order to fulfill the above objectives, the study is divided into three parts. First, a theoretical background of Porter's model and sports goods cluster is identified. The use of Porter's model allows the author to identify the present status of the cluster by analyzing the competitive advantage of the cluster with regard to each determinant and finally various suggestions for improving the competitiveness are defined. The findings of the study will provide an insight for improving the competitive structure of the clusters in developing countries like India.

Keywords: Cluster, Competitive advantage, Diamond model.

Introduction

Porter (1990) in his book 'The Competitive Advantage of Nations' has developed an interesting model named as Diamond Model with an aim to analyze and understand the reason for the success of certain industries in a specific nation in comparison to others. It was found that industries rather than the nation are ones that compete and further, clusters play an important role in creating a competitive advantage for that of particular industry. Porter found that competitive advantage is the result of interaction of four determinants: factor conditions, demand conditions, related and supporting industries and firm structure, strategy and rivalry. Apart from these four factors, two other factors i.e. Government and Chance also affect this interaction. Porter developed a model known as diamond model in order to illustrate the interaction between these factors.

The present paper aims to apply Porter's model in Sports goods cluster at Jalandhar with the following objectives:

1. To understand the actual situation of sports goods cluster at Jalandhar by analyzing each of the four determinants and understand which determinant provides competitive advantage to the cluster.
2. Propose various strategies to create and upgrade the sustainable competitive advantage of sports goods

cluster at Jalandhar.

The main objective of the research is to show the application of diamond model on a particular cluster and an extensive analysis of the model to frame various strategies for growth and up gradation of the cluster.

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Porters Diamond Model

Porter (1990) conducted a study of 10 nations to develop an analytical framework in order to explain the reason why certain firms based in particular nation were able to compete against foreign rivals in specific segments or industries in successful ways and also to gain an understanding on what is the role of the nations economic environment, institution and policies in the competitive success of its firms in particular industries. The study was conducted mostly on

developed nation's viz. Denmark, Germany, Italy, Japan, Sweden, Switzerland, United Kingdom and United States along with Singapore and South Korea, two newly industrialized countries. More than 100 case studies were conducted in these 10 nations and found that four determinants of the home environment i.e. factor conditions, demand conditions, related and supporting industries and firm structure, strategy and rivalry play an important role in providing help to the domestic firms to attain and maintain competitive advantage. Porter also explained the role of Government and Chance in influencing the functioning of these four determinants.

Porter argued that it is not possible that a nation can be competitive in all their industries, but it is the right mix of these determinants that allow some industries to have a competitive advantage in the international environment.

The various determinants of the diamond model are:

Factor Conditions: Factor conditions are the compulsory inputs which are required by an organization to compete in the market. These factors can be grouped into five categories: Human Resources, Physical Resources, Knowledge Resources, Capital Resources, Infrastructure Resources

The competitiveness of the cluster is determined by the availability of factors of production within the cluster. There is nothing more than the required inputs to compete in any industry (Karkkainen, 2008). The presence of sufficient resources ensures smooth working of the cluster. Porter (1990) explained that two types of factors are required by the firms. These are basic factors and advanced factors. Basic factors include national resources, location, capital, availability of raw material and labour. Advanced factors include modern infrastructure and presence of highly educated personnel in the cluster. Porter (1990) explained that advanced factors are the most important for enhancing the competitiveness of the cluster. These factors are necessary for smooth operation of the firms and in turn that of cluster. The unavailability or shortage of any factors of production forces the firms for innovation. The presence of adverse conditions such as scarcity of raw material, shortage of labour and unavailability of infrastructure leads to two situations i.e. either the firms start using resources effectively or firms start developing new designs, methods or products. But both these situations help in improving the competitiveness of the cluster.

With regard to factor condition, every region has its own strengths and weaknesses, but the competitiveness depends upon the efficiency with which factors have been utilized.

Demand Conditions: Porter (1990) defined that the most important characteristics that determines the demand conditions are 'the composition of the demand, its size and patterns of the growth and the internalization of domestic demand.' Porter emphasized more on demand in domestic market rather than demand in foreign market as firms are aware about domestic market more than foreign market and react to there demand more quickly. The increase in the demand of the firms' product motivates them to adopt new technology with less fear that all the facilities will be utilized. Porter (1990) defined that a nations firms gain competitive advantage if domestic buyers are sophisticated and demanding as regards the product or service. These types of customers pressurize firms to innovate faster and develop new products or design. If the consumers are not demanding, the firms will continue producing and supplying same products and will never think of producing anything new.

Demand condition directly affects the performance of the cluster as firms start moving from producing low quality and imitative product or service to innovation and differentiation (Kakkainen, 2008). The pressure from demanding and sophisticated consumer motivates the firm to improve its performance with regard to existing as well as future needs. Porter explained that foreign market did not provide all these benefits but it is the local demand that makes the firm competitive. Porter (1998) explained that in the global economy, the quality of local demand matters more than its size and clusters in linked industries influence setting of demand conditions heavily.

Related and Supporting Industries: The third determinant on Porter's model is the presence of related and supporting industries. The presence of suppliers accelerates the process of innovation and upgrades the business of the cluster. The presence of related industries gives a better chance to the firms located in the cluster to share information and identify new opportunities.

Firm Strategy, Structure and Rivalry: This factor determines the ways; the firms are created, organized and managed. Porter explained that no managerial approach can be considered the best for the development of an industry rather than it depends on the manner how efficiently the nations practice match the competitive advantage of a particular nation. Porter explained that competition and rivalry within the cluster directly affects its competitiveness. The presence of competitors within the cluster leads to innovation and continuous improvement (Porter, 1990). Before formulating any strategy, the firms always consider the reaction of the competitor located at the same place. The presence of rivalry generates imitation. The presence of large number of competitors in the cluster motivates all the

firms to take notice of each others' action and try to adopt the best strategy to face the competition. As domestic firms are visible to each other, success on the part of one showed that further development is possible in the local circumstances (Davies and Ellis, 2000). The pressure from the firms which are in proximity to each other provides inspiration to the firms to search for innovation and in turn improve its competitiveness.

Chance: Porter (1990) defined certain events which are beyond the control of firms as chance events. These events may create forces that reshape the structure of an industry allowing the firms to improve its competitive position. Chance is the likelihood that the external events such as natural disasters and war can affect or benefit a country or an industry or cluster but these events are entirely beyond the control of Government and managers within the industries.

Government: The final element for the growth of cluster is the Government. The presence of responsive, effective and organized public sector helps in building an efficient cluster. Porter (1990) explained that in order to increase the export earnings and innovative capacity of a region, its Government should interact to develop a sustainable array of internationally competitive industry clusters. Government, through its policies helps in creation of new clusters or strengthening the existing cluster. Government can help the cluster to limit or eliminate barriers to the growth. Porter (1998) defined that both national and local Governments have an important role in the promotion of a cluster. Besides, creating the framework conditions, rules for competition and promoting entrepreneurial spirit, Government should actively engaged in and promote such an approach.

Porter concludes that the presence of the factors in a nation allows a particular industry to succeed and expand their competitive advantage over a period of time.

The Sports Goods Cluster at Jalandhar

The origin of sports goods Industry of India can be traced back to Sialkot, Pakistan. In 1947, after partition, the entrepreneur belonging to one community decided to shift from Sialkot. The workers belonging to that community also migrated along with the entrepreneurs. As per the resettlement plan of Government of India, initially these migrants settled in Batala but later on shifted from Batala to Jalandhar. (UNIDO, 2001, p.3). At Jalandhar, the raw material required was easily available. Some of the migrants shifted to Meerut where also the raw material required was available.

Punjab and Meerut have emerged as the leading

centers for sports goods manufacture and the only industry which appears to offer some prospects is sports goods industry of Punjab. Meerut is yet to become powerful (Chandra Mohan, 2002).

Jalandhar has grown as the major centre of Indian sports goods industry. Meerut in Uttar Pradesh is the second and Gurgaon in Haryana is the third largest cluster of sports goods manufacturing. (NPC, 2009, p.1).

Result and Discussion

The present study aims to use the Diamond model to analyze the position of sports goods cluster at Jalandhar with regard to the availability of the drivers of the competitive advantage.

Factor Conditions: Porter classified factors into five categories:

(a) Human Resources: The sports goods cluster of Jalandhar is using labour intensive methods. It has 5000 highly skilled workers (DIC, Jalandhar). This number comprises of the workers which are employed in the registered firms on permanent basis. Apart from this, there are many workers who are employed in the units which are not registered as well as household workers who are working at home. As per the records of SGS, there are 10000 workers in the cluster.

It is found that the firms in cluster employ less than 10 workers. The main reason behind it is to avoid the provisions of The Factories Act, 1947. Further, due to the seasonal demand of sports goods, the firms do not employ permanent workers rather workers are appointed as per the demand. When the demand increases, job workers are appointed to fulfill that demand. Further, the presence of subcontractors in the cluster assures the availability of products as soon as demand arises.

(b) Physical Resources: Jalandhar is found to be suitable place for manufacturing sports items due to its location near the foothills of Himalayas which assured regular supply of wood and further the presence of leather cluster assured regular supply of leather. At Jalandhar, both the raw materials required are easily available.

© Knowledge Resources: There is lack of knowledge resources within the cluster. It is found that human resource development activities are not present in the cluster. Most of the firms do not give training to their workers as they think that the workers borne the skills from their forefathers and there is no need to give training to them. There is absence of any training institute in the cluster. It is found that the industry associations have organized one or two training

programs in the cluster where only active members of the cluster participate but non members do not want to send their workers for training.

(d) Capital Resources: It is found that the cluster is operating with its own funds and firms are not facing any problem with regard to availability of finance. It can be due to the high rate of interest on loan but the main factor contributing to lesser problem of finance is low fixed capital base of the majority of firms. As most of the operations of the firms are skill based, the requirement of fixed capital is low and the firms generally go for their own sources.

(e) Infrastructure: In terms of infrastructure, there is good road and rail connectivity with all states and the country ensuring easy transportation of raw material and finished products. Further the presence of airport of Amritsar (60 kms) ensures import and export from abroad.

Demand Conditions: The classification of demand conditions explained by Porter will be used to analyze the sports goods cluster of Jalandhar with regard to determination of competitive advantage. The market of sports goods can be divided into two parts i.e. domestic market and international market. The main buyers for the domestic market are Government departments, local customers and educational institutions. The main customers for the international market are foreign customers, Government department, firms and institutions of various countries like UK, Australia, USA, South Africa, France, Germany etc. (Annual reports, Sports Goods Export Promotion Council, New Delhi).

Related and Supporting Industries: The suppliers of raw material and machinery are available within the cluster. The suppliers of raw material provide both natural as well as man made material to the cluster. There are many units located in the cluster providing raw material to the manufacturers. These raw material suppliers are located in the core cluster location i.e. Basti Nau and Basti Sheikh. It is found that raw material suppliers do not provide any technical help to the firms for innovation but are interested only in the sale of their product.

Firm Strategy, Structure and Rivalry: The sports goods cluster of Jalandhar consists of micro and small enterprises. No medium and large scale firms are located within the cluster. All the firms in the cluster have been established since independence of India. The business is carried out by the next two or three generations of the founder. In the present study, it is found that many new firms apart from migrants units are also part of the cluster. New entrepreneurs are also a source of new ideas and their vision, style and functioning is different from the units which are old. Most of

the firms in the cluster are family owned and they are either sole proprietorship or partnership firms. The partners of the partnership firms are either family members or friends. It helps the firms to take independent decisions and more risk.

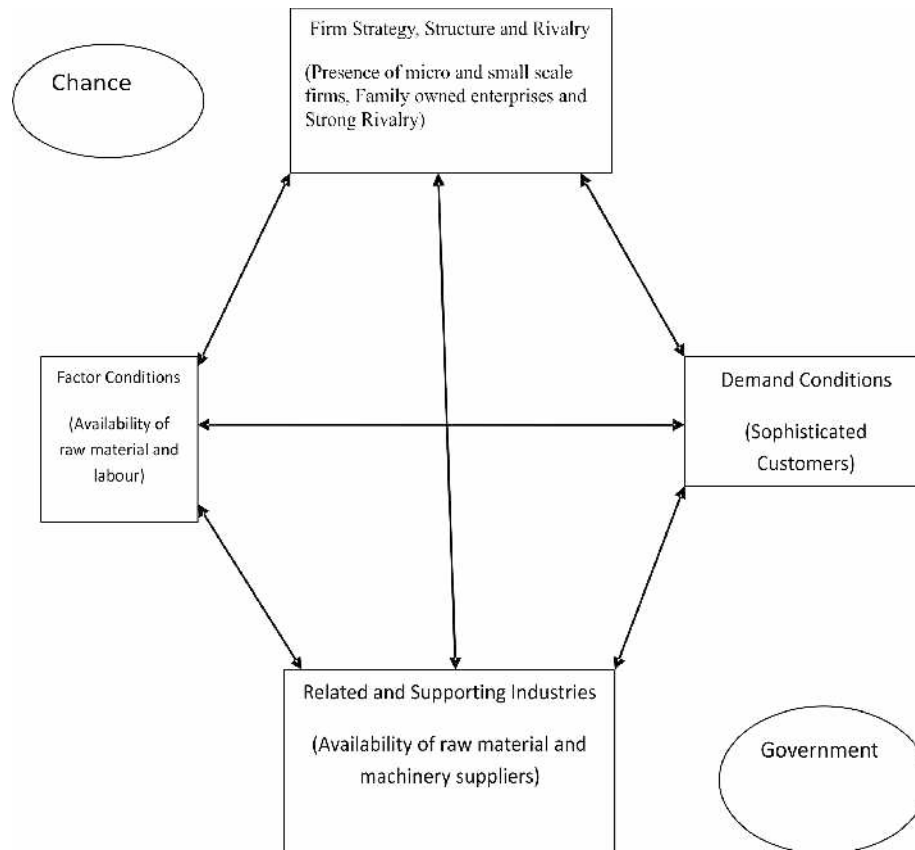
It is found that in the Jalandhar cluster, rivalry is very strong because of the presence of large number of firms at a particular place. The presence of large number of competitors in the cluster motivates all the firms to take notice of each other's action and try to adopt the best strategy to face the competition.

Government: The Central Government and the Punjab Government have designed various policies for sports goods industry. It is found that most of the policies are to promote the exports of the products but there is absence of any policy for the promotion of sports goods cluster. As far as domestic market is concerned, it is found that only one policy is framed by Government of Punjab for the providing incentives to domestic players. It is observed that the exporters are satisfied with the incentives provided by the Government but domestic players are highly dissatisfied with the role of Government. UNIDO (2001) conducted a study on sports goods cluster at Jalandhar and found that Government had provided support to the exporters for the promotion of exports but no support is provided to the domestic market. It shows that even after expiry of ten years, no initiatives are taken by the Government for providing support to the enterprises dealing in the domestic market.

Various firms have reported that the Government announces various policies but they are never implemented. For example, one per cent freight subsidy was declared by the Government of Punjab but this subsidy has never been given to the firms. It is seen that some firms are even not aware about the policies issued by the Government. Various initiatives are required to be taken by the Government to promote the growth and development of the cluster.

Chance: It is found that chance events have been favourable for the sports goods cluster of Jalandhar. The location of the cluster near foothills of Himalayas ensures regular supply of wood, an important raw material for the cluster. Further, good rail and road connectivity ensures easy availability of raw material and supply of finished goods to the target market.

The application of Diamond model to sports goods cluster of Jalandhar can be shown as:



Based on above analysis, the present study suggests various strategies to upgrade the competitive advantage of sports goods cluster of Jalandhar.

Human Resource Development

It has been learnt that the cluster is facing the shortage of skilled labour. Further most of the firms do not give training to their workers. As the need of the industry is to adapt modern technology, workers are required to be trained for handling the machines. Most of the firms in the cluster resist providing training to the workers because they do not want to bear the cost of training. The public sector in association with private sector should establish specialized training institutes to cater the needs of the cluster.

Promotion of Domestic Products

While purchasing the sports equipments, various agencies like Sports Authority of India, Central Government, State Government etc, should give preference to Indian sports equipments. All the tournaments which are held in India should be required to purchase products of Indian brands only.

Initiatives by the Government

It is seen that many firms in the cluster are not aware about various policies which are framed for the sports industry. Interactions with industry associations, Business Development Service providers can help the Government in

providing information to all the firms in cluster. Various seminars and workshops should be organized by the Government to provide information about the policies and its benefits so that maximum firms can take advantage of these policies. The work of Government does not end with framing a policy but its implementation should also be ensured. A separate department of Government should be given the task of ensuring timely implementation of policy. This department should also take feedback of the policy from the firms in order to ensure that the policy has achieved the objective for which it was framed. Further this feedback should be used as a point of reference before framing new policies or revising the existing policies. The Government should also ensure that all the departments who are involved in implementation of the policy should be timely informed so that there should be proper implementation of policies.

An information center should be established by the Government under Cluster Development Programme where all the latest information relating to technology, innovation, raw material should be available. This information should be provided to each firm in the cluster so that they become aware of the latest innovations.

A number of trade fairs and exhibitions are organized in various parts of the world. Sports Goods Export Promotion Council is providing a help to various exporters for the participation in the sports fairs. But this support is provided

to its registered members. But a number of micro enterprises do not participate in such exhibitions. The Government should provide subsidy to these small scale concerns so that they can also participate in such trade fairs.

It is seen that in the international tournaments all those sports equipments are used which are certified by international federations. But fee for such certification is very high which every firm is not able to pay. The Government should provide subsidy in the cost incurred by the firm to obtain the certificates.

Setting up of Special Economic Zone

The Jalandhar cluster should be declared as the Special Economic Zone. Declaration of cluster as the Special Economic Zone will help in promotion of exports. A large investment from domestic as well as foreign market will be attracted. The infrastructure facilities can be easily developed leading to up-gradation of existing technology and easy adoption of innovations. A better infrastructure will attract new firms leading to creation of employment opportunities.

Establishment of Business Development Cell and Research Institutes

A Business Development Cell should be established in the cluster where at least some full time professionals should be appointed. These professionals should work on collection of latest information in the international market. The cell can be funded under Sports Goods Export Promotion Council or Cluster Development Scheme by Government of India.

Various research institutes or universities should be established that can help the cluster in enhancement of the research activities. Apart this, the Department of Industries, Government of Punjab, should help the cluster in getting assistance about the innovations from other research institutes located outside the cluster.

Conclusion

After using Porter's model and analyzing the different determinants of competitive advantage, we can conclude that sports goods cluster of Jalandhar is mainly dependent on factor conditions i.e. availability of raw material and skilled labour. Apart from it, the presence of sophisticated customers, suppliers of machinery and competitors enhance the growth of the cluster. The cluster has to focus on developing specialized and advance factors in order to upgrade competitive advantage from basic factors of production. Further, timely and effective implementation of Government policies and strategies can help the cluster to become more competitive.

References

- Davies, H. and Ellis, P., D. (2000). Porter's Competitive Advantage of Nations: Time for a final judgment?. *Journal of Management Studies*, 37(8), 1189-1213.
- Eickelpasch, Alexander, Lejpras, Anna and Stephan, Andreas. (2010). Locational and internal sources of firm competitive advantage: Applying Porter's diamond model at the firm level. JIBS Working Papers No.2010-6, Jonkoping University.
- George, Galanos and Manasis, Giannis (2010). Analysis of competitiveness of Greek's olive oil sector using Porter's Diamond Model. *Research journal of International Studies*, 16, 33-46.
- Karkkainen, Riku. (2008). Clustering and international competitiveness of information technology industry in the Saint Petersburg Area. Lappeenranta.
- Leech, Jennifer (2011). Analysis of the Guatemalan Jade cluster using Porter's Diamond from the Competitive Advantages of Nations. *Otago Management Graduate Review*, 9, 45-69.
- Mohan, Chandra (2002). Punjab's Disturbing Industrial Scene II. *The Tribune*, September 25, 10.
- Moon, Chang, H., Rugman, Alan, M. and Verbeke, Alain (1998). A generalized double diamond approach to the global competitiveness of Korea and Singapore. *International Business Review*, 7, 135-150.
- Oz, Ozlem (2002). Assessing Porter's framework for national advantage: The case of Turkey. *Journal of Business Research*. 55, 509-515.
- Porter, Michael E. (1990). *The Competitive Advantage of Nations*. 1st Edition, Palgrave, New York Press.
- Porter, Michael E. (1998). *Clusters and the New Economies of Competition*. *Harvard Business Review*, 76(6), 77-90.
- Porter, Michael E. (1998). *On Competition*. Harvard Business School Publishing, Boston, Massachusetts.
- Report of National Productivity Council (2009). *Competitiveness of Indian Sports Goods Industry*. Department of Industrial Policy and Promotion, Ministry of Commerce and Industry, New Delhi.
- Smit, A. J. (2010). The competitive advantage of nations: Is Porter's Diamond framework a new theory that explains the international competitiveness of countries?. *Southern African Business Review*, 14(1), 105-130.
- UNIDO (2001). Diagnostic Study – SME – The Sports Goods Cluster, Jalandhar, Punjab. New Delhi, UNIDO.
- Wickham, Mark (2005). Reconceptualising Porter's diamond for the Australian context. *Journal of New Business Ideas and Trends*, 3(2), 40-48.