

Manjeet Kharub¹
Rajiv Kumar Sharma

INVESTIGATING THE ROLE OF PORTER DIAMOND DETERMINANTS FOR COMPETITIVENESS IN MSMEs

Article info:

Received 15.07.2015

Accepted 18.08.2016

UDC – 54.061

DOI – 10.18421/IJQR10.03-02

Abstract: After the globalization of market the micro, small and medium enterprises (MSMEs) got numerous opportunities to work in integration with large-scale organizations. Competitive advantage plays a significant role in deciding how organizations can exploit these opportunities. So, the aim of this paper is to measure the competitive advantage of MSMEs based upon the Porter's diamond model framework. A well-designed questionnaire is used to collect data about the various determinants of the model. Based upon the frequency of responses, percent point score (PPS) of each casual variable was calculated. By reviewing the result of this study, it is observed that competitiveness among MSME's sectors is mostly affected by market value. As is indicated by maximum PPS score e.g. 68%, followed by highly educated personnel, production and process technology (62%), further study results indicate that there is a need to increase clusters i.e. related and supported industries as depicted by low score (PPS=49%).

Keywords: MSMEs, manufacturing firm, competitive advantage, Porter's Diamond

1. Introduction

From last few decades, firms devoted to improving the material and information flow in the supply chain (Fleury and Fleury, 2003). MSMEs play a vital role by providing parts, components, sub-assemblies to these companies. MSMEs have simple structure and excellent working procedures which allow flexibility and immediate feedback to customer needs and expectation (Bennett and Kane, 2006; Singh *et al.*, 2009). This sector has the unique capability to create employment, particularly in the low capital

cost and produces components at a lower price compared to the price big firms must pay for the in-house production of same components (Sharma and Kharub, 2015). Strategic research throughout 1980 confirmed company's specific factors as the major determinant of performance. Since 1990, economic liberalization increased with changing globalizations, the growth of trading blocs and mega-markets (e.g. India, China) continue to alter the environment in which these industries operate (Christopher and Holweg, 2011). The environment in the market place has become more complicated, due to the limitation of resources, the abilities of management and its association's analytical technique developed by planning and practices school have become

¹ Corresponding author: Manjeet Kharub
email: rksnithmr@gmail.com

pronounced (Deniz *et al.*, 2013; Hautz *et al.*, 2014). The situation makes competitiveness as the only option for survival (Chobanyan and Leigh, 2006). According to Chiarvesio *et al.* (2004), competitiveness of firms can be characterized by dynamic strategic behavior in term of innovation, suppliers and market relationship and ability to organizing and managing business networks, etc. According to (Leachman *et al.*, 2005; Kharub and Sharma, 2015) superior manufacturing performance (e.g. productivity with quality as well as efficiency feature) leads to powerful competitive advantage. It has been considered that improving competitiveness among MSMEs is very important, yet they have less research attention towards it. For, example there is little knowledge about competitive priorities of MSMEs, and key strategies that they can pursue to meet current market demands (Prajogo, 2007). So, there is a great need to conduct more research in MSMEs particularly in rapidly emerging developing countries like India, Brazil, Russia and China (Kharub and Sharma, 2016).

Though MSMEs play a critical role in the economy of developing countries, it is also observed that sickness in MSMEs is increasing at a rapid rate (Uddin and Bose, 2013). Sickness in MSMEs occurs due to various reasons like the managerial deficiency, lack of strategy planning, weak role of leading institutes, and lack of technical and marketing support (Sharma and Kharub, 2015). The lack of these resources adversely affects their performance and consequently the product quality. The components supplied with poor quality could negatively influence the performance of parent organization. This necessitates the authors to study various case studies, as proposed by different authors, and identify the various determinants which help to sustain competitiveness among MSMEs. In general, the aim of this study is to make aware or improve the fit between the organization and its environment. To this effect, authors performed an extant literature

review on various competitive strategies. It includes cost leadership strategy, differentiation strategy, focused strategy and used resource based competitive positioning approach (Porter's framework). The Porter's work provides prescriptions executive in term of five force analyses, they are (i) factor conditions (ii) demand conditions (iii) related and supporting industries (iv) firm strategy, structure, and rivalry and (v) government and culture effects to analyze the competitiveness among MSMEs. The structure of the paper is organized as: Section 1 presents a brief introduction about the competitiveness and MSMEs position. Section 2 provides theoretical backgrounds and detailed about various determinant under Porter's diamond model. Section 3 presents case study design. In Section 4 results and discusses form the key findings derived from the industry case study are presented. Section 5 discusses the conclusions and main implications of the study.

2. Theoretical background

The roots of strategic management are diverse and can be traced to several disciplines, including marketing, industrial economics, finance, military history and tactics (Mckiernan, 1997; Tasevska, 2006). Conventional economics focused on traditional resources based view such as land, labor and available capital (Stonehouse *et al.*, 2001; Tuna, 2006). Furthermore, some another factor included, like managerial experiences, knowledge of the external world, and internal organizational environment (Stonehouse and Pemberton, 2002). Since last three-four there has been considerable debate over its key concepts and frameworks. Various researchers have different views and approaches to the strategic management discipline. In previous literature four strategies have been commonly highlighted (i) perspective approach (deliberate and planned approach) (ii) emergent approach (learning) (iii) competitive positioning and (iv) resources

based competence and capability approach (McKiernan, 1997; Curran, 2001; Thurer *et al.*, 2013). The greatest impact on the modern strategic management discipline came from the industrial organization economics (IO), highlighted by Michael E. Porter with the applicability of microeconomic theory in its pure form. Michael E. Porter, a well-recognized economist, has been considered among the founding fathers of strategic management (Curran, 2001; Chobanyan and Leigh, 2006; Bakan and Dogan, 2012). He has been recognized as a leading authority on competitive strategy in organizations and more recently the application of competitive analysis on social and environmental aspects of business activities (Jin and Moon, 2006; Stonehouse and Snowdon, 2007). Porter's contribution to the strategic and management lies predominantly with the competitive positioning and planning approaches, but the influence of this studies spread well beyond. The strategies provided by him formed rigorous theoretical basis as well as proved equally important for practical applications for managers (Oz, 2000; Dogl *et al.*, 2012; Esen and Uyar, 2012). His contributions in

the concept of competitiveness at the firm, industry, and national level have been fundamental to the development of both theory and practical strategies, and to investigate the effect of competitive capitalism on society and social progress (Narula, 1993; Prajogo, 2007; Mehrizi and Pakneiat, 2008). Competitive strategy (1980) and competitive advantage (1985) two books by Porter form the centerpiece and significantly increased the awareness of the subject among both academics and business community. Porter's saw the base of firm's competitive strategy as a linking to its environmental. He emphasized that industry structure, to be analyzed by the great five forces, which determines the extent of competition and so the firm's profit potential (Snowdon and Stonehouse, 2006). Even the model faces criticisms by some management theorists. For example, lack of attention towards the role of national culture, possibilities of applicability in micro, small and medium firms (Curran, 2001), the role of technology upgradations (Bellak and Weiss, 1993), the role of domestic rivalry in a small economy.

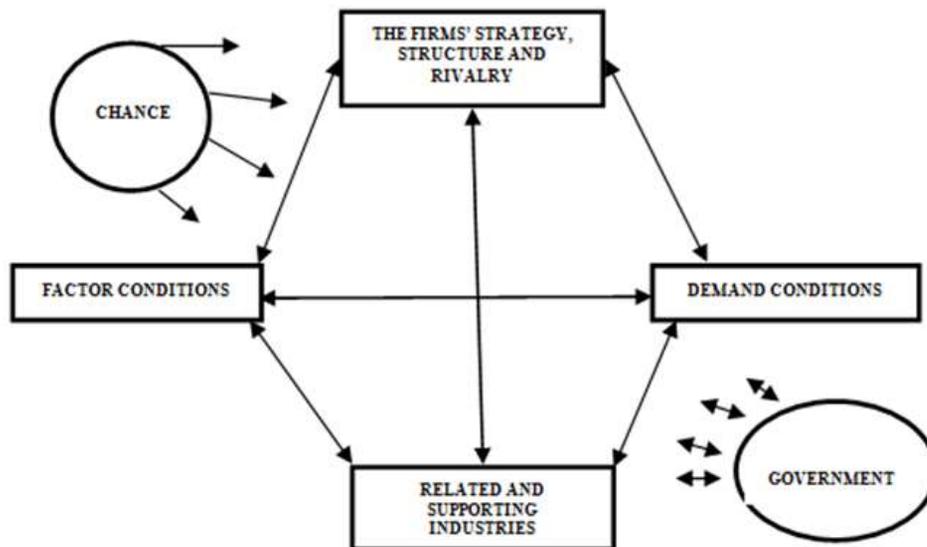


Figure 1. The Diamond Framework Source: Porter, *the Competitive Advantage of Nations*, 1990

Furthermore, the five force concept has been attacked on the basis that the principle unit of analyses is the industry rather than the individual firm (Mintzberg *et al.*, 1998). Besides these criticisms, this model is regarded as the primary analytical framework of the competitive positioning paradigm of the 1980s and remains at the heart of most business school strategy courses to this day (Narula, 1993; Jin and Moon, 2006; Esen and Uyar, 2012; Kharub and Sharma, 2016). This framework allows a firm to assess its profit potential and competitive positioning among industries by evaluation of (a) strength of the threats of the new entrance to market (b) risk of following products (c) power of buyers or customers and suppliers and (d) nature of rivalry among industries. According to Porter, the potential for a firm to be profitable is negatively associated with increased competition, lower barriers to entry, the number of substitutes and increased bargaining power of customers and suppliers. Figure 1 shows the Porter's diamond framework followed by paragraphs with brief details about each determinant.

2.1. Factor condition

In literature (Bakan and Dogan, 2012; Oz, 2000) factor conditions has been divided into two categories i) primary/generalize/source based and ii) advanced/specific/usage-base factors. The first group consists of variables such as climate, location, available minerals, national resource, agriculture, forest resource, skilled and unskilled labor. Whereas in the second group the factors are the human resource (the amount, abilities, skills), and physical resource (raw materials and its quality and quantity, etc.). Bellak and Weiss, (1993), knowledge resources like the stock of scientific, technical and market knowledge bearing on goods and service. Furthermore, information resource, universities, government research institutes, government statistical agencies, business and scientific literature, market research, reports database, etc.). Stonehouse *et al.* (2001),

added capital resource i.e. the quality and cost of capital available to fund the sector's infrastructure (the type, quality and cost of infrastructure available also including transportation system). According to (Mckiernan, 1997; Singh *et al.*, 2009; Stevenson and Fredendall, 2013) in MSME's senior management play a significant role. They noted fewer layers embedded systems and senior executive usually had considered latitude influence in market strategic choices and implementing them on day to day basis.

2.2. Demand conditions

This determinant refers to the nature of home-market and is the second broad determinant of national competitive advantage (Porter, 1990; Jin and Moon, 2006). According to Porter, the strength of demand condition is viewed as the size of the home market and the maturity level buyers. That is if the scope of the home market is large, firms will invest to reap economies of scale. To meet the world's most mature and demanding consumers companies are forced to meet high standards and have to upgrade to respond to severe challenges (Beise and Cleff, 2004; Deniz *et al.*, 2013). The Indian economy is growing with a large and rapidly growing population, meaning that many industries are far being mature, or at least facing a considerable potential increase in demand (Singh *et al.*, 2009). This determinant is measured by subdivided into two casual variables i.e. market value (market size/value and pattern of growth) and sophistication (distribution channels and new investment in region).

2.3. Related and supporting industries

The existence of related and supporting industries in a nation is argued as the third dimension of the diamond Porter model (Porter, 1990; Beise and Cleff, 2004). The presence of high competitive supplier and related industries within a nation provides benefits such as promote innovation,

upgrade technology, quick information flow and shared technology development through firm alliance which creates an advantage in downstream industries (Chobanyan and Leigh, 2006; Mehrizi and Pakneiat, 2008; Uddin and Bose, 2013). Related industries are those in which organization can organize or allocate activities in the value chain when competing or those who help in producing essential goods (Tanu, 2006). Good supplier industries create potential for competitive advantage by generating inputs, provides new methodology and opportunities to utilize new technology and transfer knowledge by offering useful information, etc. (Stonehouse and Pemberston, 2002). Further, with rapid and early access to the most cost efficient input, there are tremendous opportunities for continuing coordination between supplier's and buyer's industries. The proximity of related industries provides a faster reply to market trends and changes, which helps in making quick and easy innovation (Singh *et al.*, 2009; Stevenson and Fredendall, 2013). On the other hand, if the input such as labor and raw materials needed by industry cannot provide, there is not a concept of industrial developments.

2.4. Firm's strategy, structure and rivalry

The fourth determinant is firm strategy, structure and rivalry, referring to the conditions in the nation guiding how companies are set up, organized, and managed, as well as the nature of the domestic competition. These feature very as to the lifestyle of people living in the country (Li *et al.*, 2009; Deniz *et al.*, 2013). Namely, the attitude of individuals working in the country, their interactions with each other, and their behavior as an individual and with a group will take up organizational culture (Wood and Hecker, 2011). If any industrial sector is performing remarkably in the domestic market, it just required a little push to start to compete at international level (Tasevska, 2006). Porter concluded that

nations tend to succeed in industries where the management practices and mode of organization favored by the government are well suited to the manufacturers' source of competitive advantage. Further, Porter (1990) argued that in competing with global race the rivalry plays a crucial role. He stated that if successful companies compete energetically at home and constrain each other to develop and innovate. The pattern of rivalry has effect to the process of innovation and the final plans for international achievement (Oz, 2000).

2.5. Government and culture

The contribution of government and chance events has been introduced as the fifth determinant of Porter's diamond model. They play a significant function to complete diamond model (Tuna, 2006). The role of government is to make policies and regulations that influence all four determinants. The government makes various positions and policies that may affect different determinants in both positive and negative ways. Government inward investment programmers also help to bought foreign nations together with domestic labor cost (Stevenson and Fredendall, 2013).

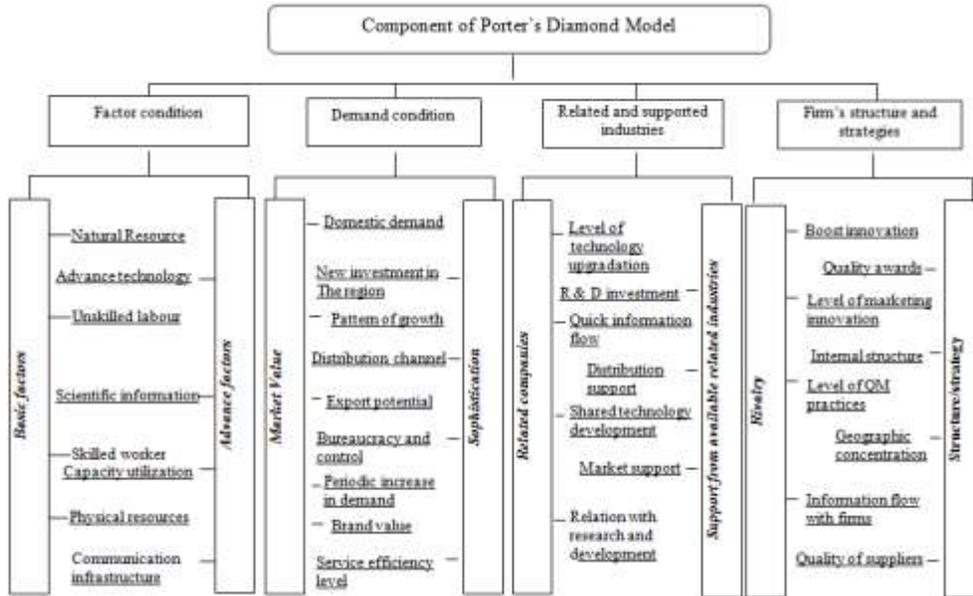
The competitive advantage builds upon a unique bundle of assets that 's hard to imitate by competitors. Its sustainability depends on the continuous development of these indispensable resources. The last factor is the business culture; it should be the one source which is improbable to copy.

With the help of analyses based on these five forces, the organization can develop a competitive genetic strategy such as differentiation or cost leadership, best delivering, and improve its value chain activities. From an extent review of the literature as discussed above, authors extracted and classified various proxy variables under Porter's model determinants. Figure 2 show the detailed classification of different proxy variables/issues.

3. Case study design

According to information retrieval from state industrial department pharmaceutical, mechanical, electronics, automobile, food

and textile MSMEs were found as one of the major industries operating in the region. After identification of the cluster industries; the sample size is determined as approximately 381.



Note: Apart from these main four main determinants (e.g. (i) factor conditions (ii) demand condition (iii) related and supported industries (iv) firm structure and strategy) influence of government and culture on each factor has been considered as external determinant.

Figure 2. Classification of proxy variable under various Porter's model determinants

The research data was obtained by using the questionnaire as the data collection method. The survey questionnaire was designed using extant review of the literature. Input from academicians, consultants and practitioners from industries were used to modify it. Each expert was requested to assess the instrument for the readability, prejudice, understandability, equivocal items, and fitness of each item in connection to the MSME's. The feedback received was incorporated to make the questionnaire more relevant for the purpose. Five-Point Likert scale was employed to evaluate respondents expectations representing 1 = strongly disadvantage; 5= strongly advantages with point 3 as a neutral point. Questions or items requested in the questionnaire were designed

as structured questions, semi-structured questions, and unstructured questions. Although it was planned to access the whole sample population, with only 245 of them face to face interview were performed which yield the response rate by 64.5 % which in authors opinion is sufficient number for further analyses. The period of making personal visits and taking interviews took around one year for 245 industries. Each company visit lasted on average one hour for interview.

3.1. Calculation of PPS score

The status of all casual variables under various determinant of Porter diamond model was assessed with the help of

frequency distribution and percent point score (PPS).

The PPS for each set of questions reflects different proxy issues/variables under various casual variables have been calculated from respondents score one and two given below:

$$\text{Percent Point Score} = \frac{TPS}{5 * N} 100 \quad (1)$$

$$\text{Central Tendency} = \frac{TPS}{N} \quad (2)$$

Where:

TPS = Total Point Score

PPS = Percent Point Score

n = Number of questions in a particular issue

N = Number of responses

W₁ to W₅ = Scale value on five point Likert scale

The detailed procedure is of calculating TPS and PPS is presented in Table 1 (see Appendix).

Table 1. procedure is of calculating TPS and PPS

S. No.	Casual variables	Topics in the Component	No. of Responses (N)	No. of Units Scoring					Total Point Score (TPS) [^]	Percent Point Score (PPS) $\frac{TPS}{5 * N} 100$
				1 (W ₁)	2 (W ₂)	3 (W ₃)	4 (W ₄)	5 (W ₅)		
Overall Average ($\sum_1^n \frac{TPS}{N}$), (On the scale of 5.00)										
[^] Total Point Score (TPS) = 1×W₁+2×W₂+3×W₃+4×W₄+5×W₅										

Where: *TPS = Total Point Score, PPS = Percent Point Score, n = Number of questions in a particular issue, N = Number of responses, W₁ to W₅ = Scale value on five point Likert scale.*

These scores reflect as to how well the area represented by that question can generate competitive advantage to industries. The major results concerning various casual variables in Porter Diamond model are summarized below.

4. Results and discussions

4.1. Factor conditions

Based on previous studies (e.g. Bakan and Dogan, 2012; Jin and Moon, 2006; Deniz *et al.*, 2013) factor conditions has been divided into two categories (i) basic factors and (ii) advance factors. The concept of the first group e.g. basic factors was examined with the help of questions asked from respondents such as:

- What is the status of natural resources with respect to your firm(s)?

- Up to what extent your firm(s) is satisfied with the availability, quality, and quantity of raw materials?
- Availability of unskilled workers?
- The education level of employees?
- What is the status of physical resources with respect to you firm(s)?

The intention behind these questions was to qualify the ground reality with respects to an important aspect which was finalized after a roundtable discussion with experts from industries as well as academic. The questions were quantified on five-point Likert scale as one strongly disadvantage and 5 for strong advantages. Figure 3 shows the survey results as 45% respondents feels disadvantaged, 26% said advantages, 14% strongly benefits whereas only 1% firms found with strong disadvantages. Study results find in tune with (Uddin and Bose,

2013; Stevenson and Fredendall, 2013) as they stressed that small firms are just trying to generate profits with limited available resources. They try to minimize product cost via optimum use of multi-skilled labors.

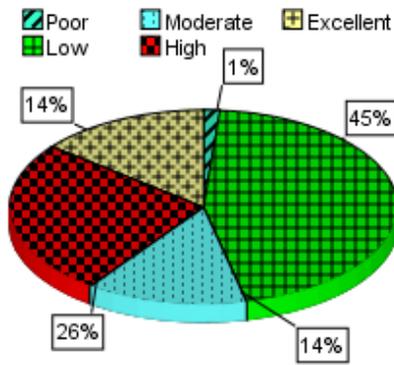


Figure 3. Status of Basic Factors

The overall percent point score was found medium as (PPS=61.31%). Central tendency for basic factors was found 3.07 out of 5.

The second category (e.g. advance factors) of factors conditions are found mainly affected by human efforts such as abilities, technical and market knowledge, scientific awareness, universities and capital resources such as transportation and communication system.

The questions of this component aim at collect information on the following:

- Scientific and technical information about products and services.
- Ability to retain skilled manpower.
- Capacity utilization
- Availability, effectiveness, and efficiency of communication systems such as parcel delivery, email, and internet services.

With respect to this aspect, Figure 4 show the survey results, 22% firms described this issue excellent in generating competitive advantages with another 22% said high, 13% said moderate, 29% low and only 14% feel inadequate. The overall PPS and central tendency were found quite well as 62% and 3.10 (out of 5) respectively. Comparatively,

slightly high score in the second variable shows the firm’s ability to be innovative, and it reflects the successful managerial effort towards competitiveness.

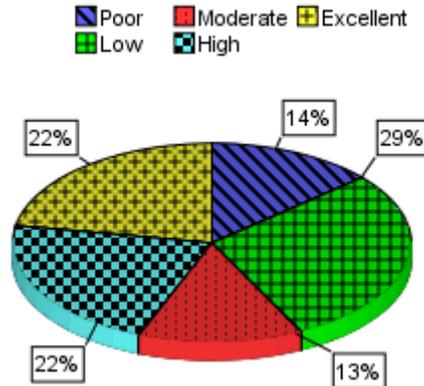


Figure 4. Status of advance factors

C The results clearly support the previous findings as (Esen and Uyar, 2012; Oz, 2000), concluded that firms in developing countries like India, China and Brazil try to get competitive advantage more from advance factors than basic factors.

4.2. Demand Conditions

This is the second broad determinant of national competitive advantages. It describes the nature of the home market, sophistication and demanding ability buyers. Based upon the previous studies this determinant has been by sub-divide it into two categories (i) market value (ii) sophistication.

With respect to the first group, the key statements comprise as follows:

- What do you firms think concerning current market size?
- Expected pattern of growth in demand conditions in coming years?
- Effect of liberalization on market size.
- Effects of company’s image (brand value) on the customer.

- Does your firm be able to charge premium price due to high brand value?
- Behaviors of buyers and consumers towards firms.
- International market value of your product(s).

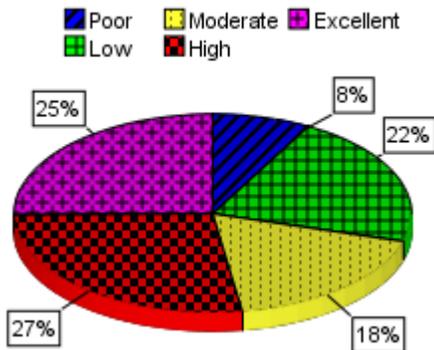


Figure 5. Status of market value

It is quite discussed in the literature that firms can get competitive advantages based on label value, quality, and performance and can adopt a strategy to charge a premium price to the customers. Survey results as shown in Figure 5, found that 25% firms show excellent market value with high demand conditions, whereas 27% feel great and 18% moderate. The overall PPS score for this aspect was found maximum as (PPS=68.02%). The central tendency was observed as 3.4 out of 5. Findings of ours support the study discussion of Mckieranan, (1997) as the author of this study highlighted the future demands in developing countries like India, China, and Brazil, etc.

With regards to the second category e.g. sophistications, the survey questionnaire consists of questions aimed to collect information about the attitude and behavior of buyers. As per previous studies more rigorous demand leads the firms towards high standards, force them to upgrade technologies, improvement in quality product, its design, and features. The survey results as shown in Figure 6, found that only

12% said excellent, 23% high and 21% moderate. Whereas, 13% define it poor and 30% fair concerning generating competitive edge over competitors. The overall percent point score (PPS) was found 58.29%, and the central tendency was 2.91 out of 5. Slightly low score in this aspect indicates the little demanding powers of domestic consumers hence study the findings discussed by Oz, (2000).

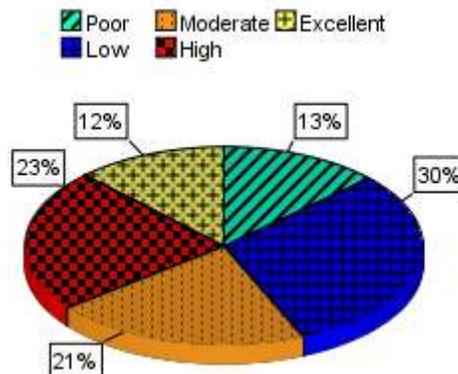


Figure 6. Status of sophistication

4.3. Related and supported industries

The existence of related and supported industries in nations has been considered third dimensions of the model. The presence of effective and efficient related and supported industries provided benefits such as technology up gradation, innovations, quick information flow and shared new technology, etc. This key determinant of model has been conceptualized by sub-divided into two categories.

- Availability of related industries
- Supports from related industries

The questions on this aspect aim at collecting information on the following:

- What is the status of available related industries with respect to your firm (s)?
- What is there reaction with regards to technology upgradation?

- What is the level of information flow among your industrial networks?
- The standard of R&D supports getting from related industries.
- The role played by suppliers and distributions channels towards creating a competitive edge.
- Other marketing support provided by related firms.

Porter emphasized that the success of generic strategy in delivering competitive advantage depends upon the firm's value chain activities, efficient value chain activities in downstream create competitive advantage by adding greater value in products and services. The technique of analyzing value chain helps to understand firm's ability to add more value through internal and external linkages. Further, it allows managers to evaluate the current value-added system and their potential to create future value by reorganization and improving coordination of activities in the value chain. Concerning the availability of related firms 11% companies confirms excellent, 15% said high, and 17% found moderate. Whereas, 22% firms deny the existence of related firms and 34% firms dissatisfied by ticking on low with respect to this question.

The detailed results are presented with the help of Figure 7. Comparatively percent point score with respect to this aspect was found low as 51.79%, with central tendency as 2.46 out of 5. Study results are found in tune with previous studies as lack of financial resources resulting in low investment in R&D activities, less education and employees training are well discussed in previous studies (e.g. Stonehouse and Pemberton, 2002; Kharub and Sharma, 2016).

Concerning second category e.g. the support from available related firms. Survey results as shown in Figure 8, found that around 12% firms have high support e.g. significant contribution in R&D and technology

upgradation, whereas 29% firms considered weak and 28% with moderate support from related industries.

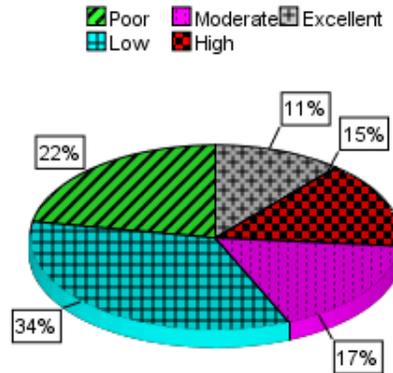


Figure 7. Status of availability of related company

The overall PPS score for this component was found as 49.28%, and central tendency 2.46 out of 5. The results clearly support previous findings (e.g. Narula, 1993; Singh *et al.*, 2009) as the low score indicates the need of increasing clusters of related industries.

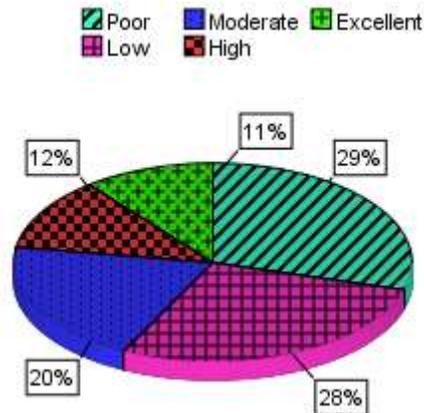


Figure 8. Support from related company

4.4. Firms structure and strategic

This determinant reflects the conditions which determine how the firms were created, planned, structured and executed as well as

the type of domestic rivalry. To thoroughly understand this aspect of Porter's diamond model it has been sub divided into two categories (i) rivalry (ii) firms structure and strategy.

The questions on this components aim at collecting information on the following:

- What is the competitive strategy of your firms, which you think would give advantage our competitors?
- Do you boost your employees towards innovation?
- Up to what extent internal structure matters when we discuss in term of creating a competitive edge?
- Do you think Geographic location of you firms create a competitive advantage over competitors?
- Effect of organizational culture?
- Employee's empowerment and reorganization systems.

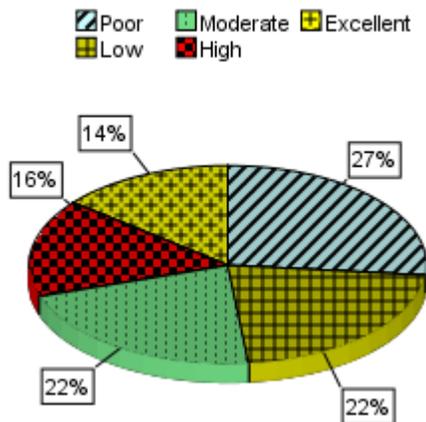


Figure 9. Effects of rivalry

With respect to the effect of rivalry on firm's competitiveness, survey results as shown in Figure 9, found that 14% company feels great competition, 16% high and 22% companies confirms the moderate effect. The overall PPS score for this aspect was considered little better as 53.88% and central tendency (CT) as 2.69 out of five. Results clearly support the findings by (Dogl *et al.*, 2012; Li *et al.*, 2009) as these studies

discussed regarding the interactions among MSMEs, lack of infrastructural and strategy making capabilities.

With respect to second category e.g. structure and strategy, it has been noted (from Figure 10) that 11% firms think excellent with respect to their competitive strategies, 15% high, whereas 27% moderate effect of creating competitive advantage due to a better strategy. Porter emphasized that firms should create competitive advantage either through cost leadership strategy or differentiation strategy. The former involve producing at low cost, and latter include creating customer perception that a product and service is superior to that of the other firms.

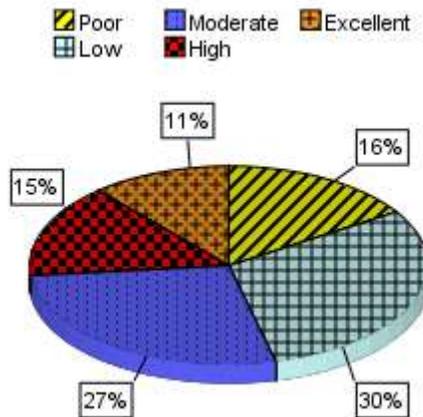


Figure 10. Firm structure and strategy

Porter argue that in small market segment companies must choose one between these two, if company stuck in the middle (between the two), likely to result in failure.

The overall percent point score for this aspect was found 55.18%, and the central tendency was found as 2.76 out of 5. Our findings suggest that the support can be enhanced if increase management awareness of organizational culture, and involve employees in decision-making aspects of companies as openly discussed in previous studies conducted by (Chistotoper and Holweg, 2011; Stevenson and Fredenall, 2013).

4.5. Government

Government policies directly or indirectly affect the competitive environment of enterprises under which they are operating. To understand the effect of government on firms competitiveness this aspect has been sub-divided into two categories. (i) supports provided from government (ii) culture created by government.

The questions on this basic aim to collect information on the following:

- Financial assistance provided by the government.
- R&D activities labs provided by the government.
- Government institutes and projects aimed to build competitive advantage.
- Rules and regulations which seek to run a smooth business.
- Environmental regulations.
- The impact of national culture.
- Business climate

With regards to the first category, the survey results are shown in figure 11 below:

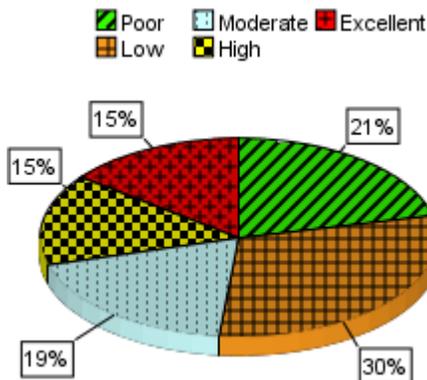


Figure 11. Government support

It is observed found that only 15% firms described excellent support provided by government and 21% ticked on poor and 19% on moderate whereas 30% firms feel weak support from government side.

The overall PPS score for this aspect was

found as 54.20% and central tendency as 2.67 out of 5.

About the second category, e.g., the culture created by government for efficient business is presented with the help of Figure 12. Survey results found that around 50% firms found it better where 50% were not satisfied with the environment created by government. The overall PPS score for this component was found as 53.4% and central tendency as 2.67 out of 5. Results clearly support the previous studies by (Woods and Hecker, 2011; Sharma and Kharub, 2015).

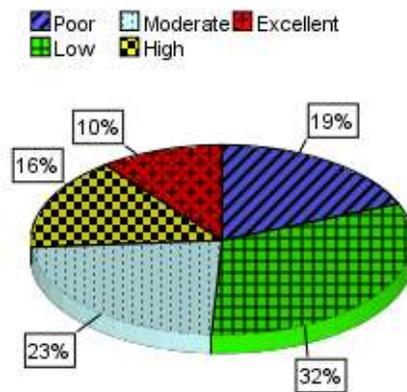


Figure 12. Business culture

5. Conclusions and recommendations

The paper is built upon the growing body of literature that attempts to understand the determinant of small firm's growth, which would help managers in achieving a faster rate of growth. The study is undertaken in manufacturing micro small and medium enterprises (MSMEs), situated in the state of H.P of India with an aim to quantify the impact of factors which affect competitiveness. To accomplish the objective of this study, the response from 245 companies' representatives were taken and analyzed. By reviewing the results of this study, it is observed that advance factors (such as production and process technologies, communications infrastructure

and scientific knowledge) along with basic factors (natural resources, skilled and unskilled workers) plays a significant role in developing competitive positioning of firms as evident from good PPS score (62%). It has been noted that in MSME's senior executives are not only involved in formulating strategic choices, planning, organizing, setting priorities, specific tasks and resources activities, but also play a vital role in implementing them. Demand conditions also demonstrate the future pattern (PPS=68.02%) of these industries with an increase in market size and growth pattern; also studies by (Mckiernan, 1997; Steveson and Fredendall, 2013). Furhter, Cho *et al.* (2008) stated that three extended attributes Related and supporting industries are industries, in which firms can share activities inter-sectorally in the value chain. It is observed that development of industrial clusters helps to strengthen innovativeness and the promotion of co-operation with local/foreign partners in R & D investment and shared technology development. From the results with respect to the fourth determinant, it is noted that rivalry of firms affected by geographic concentration and it changes the competitive strategy of enterprises, readily availability of required resources in a particular industrial cluster, make it unique and competitive

Finally, the last determinant government and culture can influence each of the four determinants in a positive or negative way. The primary governmental influence on the competitive positioning of MSMEs helps in financial support in the form of direct investment, subsidies, soft loans, excise duties and tax holidays, etc. Another important factor is the stringency of environmental regulations, which represents a critical factor for competitive advantage. Lastly, the score of cultural and business climate demonstrate their importance on competitiveness of firms.

- In present dynamic and intense business environment, management must have the ability to consolidate

corporate-wide technology and production skills into companies to adapt quickly to changing customer's need and opportunities.

- This study emphasize that firms must identify their unique resources which would deliver competitive advantage and therefore must understand that it is an interaction of resources with each other and human experience that provides firm with unique advantage.
- Firms should develop unique firm specific core competence that will allow them to performer better.
- To confront current market demand firms need to improve productivities via exercising new methods and advanced technologies and further attempt to create unique product or service.
- Furthermore operating in clusters would help to assess relevant information, share technology, and coordination with allied industries would result in higher productivity.

The major contribution of our study is to understand the factors on which competitiveness of various MSMEs sectors depends. Moreover, like most of the previous studies, this study is based upon the assumptions that the scores for determinants lead to competitive advantage (Deniz *et al.*, 2013) and, the factors which have low score should be analyzed in order to gain competitiveness. Additionally, work could be done by extending this study into empirical research to determine the statistical significance of identified factors with firm's performance indicators as well as with each others.

Acknowledgments: Authors acknowledge the financial support of NSTMIS division of the Department of Science and Technology, Government of India. Dr. Praveen Arora (Sc-G) and Dr. A. N. Rai, (Sc-F) for extending their valuable expert advice for defining the broad objectives of the study.

Also, the support received through various respondents working in the capacity of CEOs, management respondents, managers is highly acknowledged as without their support this project might not have

completed in successful manner, and also the anonymous reviewer and editor for their comments which helps to improve the quality of the paper.

References:

- Bakan, I. & Dogan, I.F. (2012). Competitiveness of the industries based on the porter's diamond model: An empirical study. *International Journal of Research and Reviews in Applied Sciences*, 11(3), 441-455.
- Beise, M. & Cleff, T. (2004). Assessing the lead market potential of countries for innovation projects. *Journal of International Management*, 10(4), 453-77.
- Bellak, B.J. & Weiss, A. (1993). A note on the Austrian, "diamond". *Management International Review*, 33(2), 109-118.
- Bennett, D. & O'Kane, J. (2006). Achieving business excellence through synchronous supply in the automotive sectors. *Benchmarking: An International Journal*, 13(1/2), 12-22.
- Chiarvesio, M., Maria, E.D. & Micelli, S. (2004). From local networks of SMEs to virtual districts? Evidence from recent trends in Italy. *Research Policies*, 33(10), 1509-1528.
- Cho, D.S., Moon, H.C. & Kim, M.Y. (2008). Characterizing international competitiveness in international business research: A MASI approach to national competitiveness. *Research in International Business and Finance*, 22(4), 175-192.
- Chobanyan, A. & Leigh, L. (2006). The competitive advantages of nations: Applying the Diamond model to Armenia. *International Journal of Emerging Markets*, 1(2), 147-164.
- Christopher, M. & Holweg, M. (2011). Supply Chain 2.0: managing supply chains in the era of turbulence. *International Journal of Physical Distribution & Logistics Management*, 41(1), 63-82.
- Curran, P.J (2001). Competition in UK Higher Education: applying Porter's diamond model to Geography departments. *Studies in Higher Education*, 26(2), 223- 251.
- Deniz, M., Seckin, S.N. & Cureoglu, M. (2013). Micro-economy competitiveness: a research on manufacturing firms operating in TRB1 region. *Procedia-Social and Behavioral Sciences*, 75, 465-472.
- Dogl, C., Holtbrugge, D. & Schuster, T. (2012). Competitive advantage of German renewable energy firms in India and China: An empirical study based on Porter's diamond. *International Journal of Emerging Markets*, 7(2), 191-214.
- Duisters, D. Duysters, G., & Man, A. (2011). The partner selection process: steps, effectiveness, governance. *International Journal of Strategic Business Alliances*, 2(1/2), 7-25.
- Esen, S. & Uyar, U. (2012). Examination of competitive structure of Turkish tourism industries in comparison with diamond model. *Procedia - Social and Behavior Sciences*, 62, 620-627.
- Fleury, A.C. & Fleury, M.T.L. (2003). Competitive strategies and core competencies: perspectives for the internationalization of industry in Brazil. *Integrated Manufacturing Systems*, 14(1), 16-25.
- Hautz, J. Mayer, M., & Stadler, C. (2014). Macro-competitive context and diversification: The impact of Macroeconomic growth and foreign competition. *Long Range Planning*, 47(6), 337-352.

- Jin, B. & Moon, H.C. (2006). The Diamond approach to the competitiveness of the Korea's apparel industry. *Journal of Fashion Marketing and Management: An International Journal*, 10(2), 195-208.
- Kharub, M. & Sharma, R. (2015). Investigating the role of CSF's for successful implementation of quality management practices in MSMEs. *International Journal of System Assurance Engineering and Management*, 1-27.
- Kharub, M. & Sharma, R. (2016). Framework to assess competitive positioning in manufacturing industries. *International Journal of Business Excellence*, In Press.
- Leachman, C., Pegels, C.C. & Shin, S.K. (2005). Manufacturing performance: evaluation and determinants. *International Journal of Operations & Production Management*, 25(9), 851-874.
- Li, H., Li, V., Skitmore, M., Wong, J. and Cheng, E. (2009). Competitiveness Factors: A Study of the Real Estate Market in China. *Construction Management and Economics*, 27(1), 567-569.
- Mckiernan, P. (1997). Strategy; strategy future. *Long Range Planning*, 30(5), 690-708.
- Mehrizi, M.H.R. & Pakneiat, M. (2008). Comparative Analysis of Sartorial Innovation System and Diamond Model (The Case of Telecom Sector of IRAN). *Journal of Technology Management & Innovation*, 3(3), 78-90.
- Mintzberg, H., Ahlstrand, B., & Lampel, J. (1998). *Strategy safari*, New York: free press.
- Narula, R. (1993). Technology, international business and Porter's "diamond": Synthesizing a dynamic competitive development model. *Management International Review*, 33(2), 85-107.
- Oz, O. (2000). Assessing Porter's framework for national advantage: the case of Turkey. *Journal of Business Research*, 55(6), 509-515.
- Porter, M. (1990). *The Competitive Advantage of Nations*, Simon and Schuster.
- Prajogo, D.I. (2007). The relationship between competitive strategies and product quality. *Industrial Management and Data Systems*, 107(1), 69-83.
- Sharma, R.K. & Kharub M. (2015). Qualitative and quantitative evaluation of barriers hindering the growth of MSMEs. *International Journal of Business Excellence*, 8(6), 724-746.
- Singh, R.K., Garg, S.K. & Deshmukh, S.G. (2009). The competitiveness of SMEs in a globalized economy: Observations from China and India. *Management Research Review*, 33(1), 54-65.
- Snowdon, B. & Stonehouse, G. (2006). Competitiveness in a globalized world: Michael Porter on the microeconomic foundations of the competitiveness of nations, regions, and firms. *Journal of International Business Studies*, 37(2), 163-175.
- Stonehouse, G. & Snowdon, B. (2007). Competitive Advantage Revisited: Michael Porter on Strategy and Competitiveness. *Journal Of Management Inquiry*, 16(3), 256-273. <http://dx.doi.org/10.1177/1056492607306333>
- Stonehouse, G.H. & Pemberton, J. (2002). Strategic planning in SMEs—some empirical findings. *Management Decision*, 40(9), 853-861.
- Stonehouse, G.H., Pemberston, J.D. & Barder, C.E. (2001). The role of knowledge facilitators and inhibitors: Lesson from Airline Reservation System. *Long Range Planning*, 34(2), 115-138.

- Tasevska, G. (2006). *An Economic Analysis of the Macedonian Viticulture – A Competitiveness View of the Grape and Wine Sectors*’, Degree Thesis in Business Administration. Thesis No: 445, Department of Economics.
- Tuna, E. (2006). *The tobacco sector in The Republic of Macedonia - Competitiveness Analysis*, Degree thesis in business administration, Thesis No: 446, SLU, Department of Economics.
- Uddin, M.R. & Bose, T.K. (2013). Factors affect the success of SME in Bangladesh: Evidence from Khulna City. *Journal of Management and Sustainability*, 3(3), 166.
- Woods, M. & Hecker, R. (2011). Helping to learn: governance of knowledge-sharing in the Aurora preferred suppliers alliance network. *International Journal of Strategic Business Alliances*, 2(½), 91–112.

Manjeet Kharub

National Institute of
Technology,
Department of Mechanical
Engineering
Hamirpur,
Himachal Pradesh – 17705
India
manjeetkharub@gmail.com

Rajiv Kumar Sharma

National Institute of
Technology,
Department of Mechanical
Engineering
Hamirpur,
Himachal Pradesh – 17705
India
