An empirical study on barriers of innovation in indian smes

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ABSTRACT: Small and Medium Enterprises (SMEs) have emerged as the drivers of growth in several developed and developing economies across the world. Innovation has become the vital factor for the growth of small and medium scale enterprises. Hence, Innovation has turned out to be nucleus issue of various studies all over the world. In today's competitive world, India is far behind in innovation. The slow growth of innovation across various manufacturing sectors in India is cited as root cause for business failures in turbulent business environment. This paper aims at highlighting the barriers faced by entrepreneurs in SMEs in India. This study further makes sector wise analysis and suggests policy measures to enhance the adoption of innovation in SMEs. This study would serve as a guide to the entrepreneurs to compete internationally.

Key words: SMEs, India, Barriers, Entrepreneurs

Introduction: Innovation is thought to provide organizations with a means of creating a sustainable competitive advantage that is imperative in today's turbulent environment. Innovation is positioned as a driver of economic growth. Competition in global markets in virtually every product, service, and industry market segment is fierce, and in coming decade will grow even fiercer. In order not only to endure but to prevail, global organizations will find that bringing products to market that are relative to existing products is a strategy doomed to failure. Only innovative differentiated products that create substantial additional value, relative to what customers can buy already, can succeed.

To many Small Medium Enterprises, innovation is considered to be an upshot for their success in their current competitive, complex and capricious business environment. Evidence can be seen from the rapidly changing industries, such as information technology, automobiles, textiles, foundries, engineering, banking, etc., where innovation is a prescription not just for organization to succeed but to survive in their particular industry. Innovation is one of the fundamental instruments of growth strategies for Small Medium Enterprises (SMEs) to enter new markets, to increase the existing market share and to provide the company with a competitive edge. Motivated by increasing competition in global markets, small scale companies have started to grasp the importance of innovation, since swiftly changing technologies and severe global competition rapidly erode the value added of existing products and services. Thus, innovations constitute an indispensible component of the corporate strategies for several reasons such as to apply more productive manufacturing processes, to perform better in the market, to seek positive reputation in customer's perception and as a result to gain sustainable competitive advantage.

Innovation Barriers in Indian SMEs: The term –Small and Medium-sized Enterprises‖ (SMEs) consists of two components: The first component –small and medium-sized‖ relates to the size of an entity while the second component –enterprise‖ relates to the economic nature of that entity. Notwithstanding their large share in all enterprises and the overall employment generated, SMEs in India continue to remain week on the revenue front when compared with their large counterparts. At the same time, the increasing globalization is bringing in more competition in the home market, the traditional stronghold of many SMEs in India as well as in many other Asian countries. SMEs usually operate under high overhead costs, such as labour costs, and find themselves faced with tough price-oriented competition from low-cost producers from emerging economies in Asia and Europe.

Besides, the globalization does not bring in only challenges but also presents an opportunity to internationalize sales in new, rapidly growing markets and thereby to generate additional revenues. New markets however (may) also require products and services which are adapted to the local needs and tastes of those markets.

SMEs operating in India frequently operate in niches and have direct contact to customers thereby potentially gaining valuable impulses in the form of customer feedback. Acting often in a more informal manner and confronted with fewer intra-firm hierarchy levels than large firms, SMEs seem to be, in many respects, better placed for innovations than their large counterparts. This potential edge, in normal course, enables them to develop products better suited to market demands and thus bring more success. In practice, however, the resource constraints coupled with market uncertainties and regulatory factors (and a few other factors) limit the ability of SMEs to indulge in dedicated R&D and to experiment with the purpose of new product development.

Objectives of the Study: The main objective of the study is to identify the barriers faced by entrepreneurs in SMEs in India and to make comparative study between industries and suggests policy measures to enhance the adoption of innovation in SMEs.

Review of Literature

Barriers to innovation in SMEs have been the object of investigation in a large body of national and international studies. A few are mentioned here: Acs and Audretsch (1990) worked on this topic in the US, Ylinenpää (1998) in Sweden, while Mohnen and Rosa (1999) as well as Baldwin and Gellatly (2004) researched on them in Canada. In Germany the Centre for European Economic Research (ZEW), has conducted several studies in recent years (e.g. ZEW and DIW, 2004), Rammer et al. (2005), and Rammer et al. (2006). Further studies dealing with the German situation have been conducted by the Friedrich Ebert Stiftung (2004), and Hamburg Institute of International Economics (HWWA, 2004). The study results highlighted the problems such as

Studies	Barriers to Innovation in SMEs
Acs and Audretsch (1990), Baldwin and Gellatly (2004), Rammer et al. (2006)	Financial bottlenecks - hindered access to external finance, high innovation costs (and therefore). high economic risks and Bureaucratic hurdles - long administrative procedures, restrictive laws and regulations
Ylinenpää (1998), FES (2004), Rammer et al. (2005), Rammer et al. (2006)	Shortage of and hindered access to qualified personnel
Mohnen and Rosa (1999), Rammer et al. (2005), BMBF (2006)	Limited internal know-how to manage the innovation process effectively and efficiently.
Ylinenpää (1998), Friedrich Ebert Stiftung (2004), HWWA (2004)	Missing market know-how - to meet customer's needs, to enter foreign markets

Research Methodology: Research Design and Data Collection: The present study is descriptive in nature and used both the primary data and secondary data. The primary data has been collected through questionnaire and secondary data has been collected through journals and websites.

Sample Size: 84 small scale entrepreneurs in India.

Sampling Design: Non-probability Convenience Sampling.

Research Tools: Descriptive analysis like Percentage analysis, Mean and Standard Deviation were performed, to find the importance of each variable given by respondents.

Analysis:

Table 1 showing percentage of sectoral representation of the respondent's

Industry/ Sector	Number of Respondents	Percentage %
Textiles	19	22.6
Wet Grinder	10	11.9
Pumps	11	13.09
Foundry	3	3.57
Engineering	25	29.7
Automobile	13	15.47
Others	3	3.57
Total	84	100

Source: Primary Source

From the above table 1, it is inferred that the majority of the respondents were from engineering firm (29.7 %), and textiles firm (22.6 %), with about 3.57 percent from other sectors namely agro based.

Table 2 showing comparative summary of barriers of innovation in selected industry

Description	Textiles		Wet grinder		Pumps		Foundry		Engineering		Automobile		Others	
Variables: Barriers	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Lack of funds within business	4.21	0.71	3.8	1.033	3.6	1.2	3.66	0.57	3.88	0.83	3.92	0.64	4	1
Lack of funds from outside	3.68	0.94	3.8	1.31	3.45	1.03	3.66	0.57	3.8	0.91	3.84	0.89	4	1
Lack of qualified personnel	4.1	0.8	**4.4 [H]**	0.51	**4.09 [H]**	0.83	3.33	1.53	4.04	0.84	3.46	1.12	**4.6 [H]**	0.57
Lack of information on technology	3.84	0.89	4.1	1.1	3.18	1.25	**2.66 [L]**	1.53	3.36	1.03	3.7	1.16	4.33	0.57
Lack of information on markets	3.57	1.01	3.6	0.69	3.09	1.37	3	1	3.6	0.91	3.6	0.65	3.66	1.15
Lack of effective collaboration with Universities and R&D labs	3.68	1.33	3.9	1.19	3.36	1.28	3.33	0.57	3.36	1.52	3.76	1.23	3.66	1.15
Market dominance by established Business	3.52	0.96	3.9	0.737	3.54	0.93	3.66	0.57	3.4	1.25	3.53	0.66	3.33	0.57
Uncertain demand for innovative Products	3.15	1.21	3.9	0.875	3.45	0.82	**4.66 [H]**	0.57	3.64	0.75	3.3	1.1	**2.6 [L]**	1.52
No need due to prior innovation	**2.94 [L]**	1.07	4.1	1.03	3.09	1.13	4	1	**2.88 [L]**	0.97	3	1.22	4.33	0.57
No need because of no demand for innovation	3.00	1.05	**3.2 [L]**	0.99	**3.00 [L]**	0.77	3.66	0.57	2.96	1.05	**2.5 [L]**	1.05	4.33	0.57
Excessive government regulation	**4.31 [H]**	0.8	3.5	1.43	3.72	1.19	3.33	0.57	4.08	0.86	**4 [H]**	1	3.33	0.57
Lack of government incentives	3.84	1.01	4	1.41	3.09	1.7	3	1	**4.24 [H]**	0.96	3.38	1.04	3	2
Average Mean Score	**3.65**		**3.85**		**3.38**		**3.49**		**3.60**		**3.49**		**3.76**	

Source: Primary Data

Note: Minimum score=1; Maximum Score=2; M= Mean; SD= Standard Deviation; H= High score; L= Low Score;

From the above table it is inferred that average mean score of ̶Barriers of Innovation‖ variable were above the medium level of 3.00, ranging from 3.38 to 3.85 between industries.

- **Barriers in Textile Industry:** From the above table it is found that excessive government regulation in industry with the highest mean of 4.31 and no need due to prior innovation as a reason not to innovate has the lowest mean of 2.94. The average mean was found to be 3.65. The results infer that excessive government regulation acts as barriers of innovation and has an impact on innovation in textiles. Regulatory factors have to be addressed to improve innovation in textile cluster.

- **Barriers in Wet Grinder industry:** The table shows that lack of qualified personnel has the highest mean of 4.40 and no demand for innovation as a reason not to innovate has the lowest mean of 3.20. The average mean in Wet grinder industry was found to be 3.85. It is inferred that barriers of innovation are slightly higher in Wet grinder cluster compared to other clusters also lack of qualified personnel in this sector has an impact on innovation.

- **Barriers in Pump Industry:** The above table shows that lack of qualified personnel has the highest mean of 4.09 and no demand for innovation as a reason not to innovate has the lowest mean of 3.00. The average mean in pump industry was found to be 3.38. The average mean in pump industry was found to be lower when compared to other industry also knowledge factor such as lack of qualified personnel is hampering innovation in pump cluster.

- **Barriers in Foundry Industry:** From the above table it is identified that uncertain demand for innovative products has the highest mean score 4.66 and lack of information on technology has the lowest mean of 2.66. The average mean in foundries was found to be 3.49. The results infer that market factors such as uncertain demand for innovative products has acted as major barriers in innovation among foundry cluster.

- **Barriers in Engineering Industry:** The above table shows that lack of government incentives have the highest mean of 4.24 and due to prior innovation has the lowest mean of 2.88. The average mean was found to be 3.60. The results indicate that regulatory factors such as lack of government initiatives are acting as major barriers of innovation in engineering industry.

- **Barriers in Automobile/ Auto component Industry:** From the above table it is identified that excessive government regulation has the highest mean of 4.00 and no demand for innovation has the lowest mean of 2.5. The average mean was found to be 3.49. The results indicate that excessive regulatory factors are acting as major barriers in automobile/ auto component innovation.

- **Barriers in Other Industry:** From the above table it is found that lack of qualified personnel with the highest mean of 4.60 and uncertain demand for innovative products has the lowest mean of 2.66. The average mean was found to be 3.76. The results infer that knowledge factors such as lack of qualified personnel acting as barriers of innovation which has to be address to improve innovation in Agro or Agro based cluster.

Findings and Suggestions:

1) Regulatory factors such as excessive government regulation have the highest mean of 4.31.The results infers that excessive regulatory factors and lack of funds within the business to invest in innovation are perceived as barriers of innovation among textile cluster. Government has to curtail some regulatory factors to improve innovation among textile industries.

2)Lack of qualified personnel have the highest mean of 4.4 indicating lack of knowledge factor such as effective collaboration with universities and R&D labs and qualified personnel has a negative effect or acting as barriers of innovation amongst wet grinder clusters. Cluster based R&D centers at district levels can be made available at low fee to enhance innovation in wet grinder industry. The average mean score of wet grinder industry was found to be 3.85; it indicates that compared to other clusters barriers of innovation is higher in this sector.

3) Lack of qualified personnel and lack of funds from other sources have the highest mean of 4.09 and 3.45. It indicates that cost factor and knowledge factors are acting as barriers of innovation in engineering cluster. Technology utilization fund which are available to textile industry can also be made available to other engineering clusters.

4) Uncertain demand for innovative products has the highest mean score of 4.66. The results indicate that entrepreneurs in foundry cluster highlight uncertain demand for innovation as reasons not to innovate. Common facility center and collaboration tie ups with universities can be made used by the foundry cluster to improve innovation. Barriers of innovation is slightly less when compared to other sectors.

5) Lack of government incentives for innovation has the highest mean of 4.24. The results indicate that due to non recognition of innovation and due to non availability of incentives from government in engineering sector have acted as barriers of innovation in engineering industry.

6) Excessive government regulation has the highest mean of 4.0. It is inferred that excessive regulatory factors are acting as barriers of innovation in Auto component or in Automobile sector. Government has to make less stringent regulations which supports innovation in this sector.

7) Lack of qualified personnel in Agro based industry has the highest mean of 4.60. The results suggest that knowledge factor has to be improved in the agro based industry.

Conclusion: Global innovation opens up new arenas for Indian firms, especially for SMEs, so SMEs has to strengthen their innovation capabilities and thereby has to increase their competitiveness in a global world. In order to mitigate the effects of innovation barriers SMEs have to find qualified personnel i.e. skilled labors and motivate them to innovate. Co-operative agreements with the local research institutions or universities, making use of common facility centers etc does not require high capital investments and thus SMEs can make use of these facilities with low fees which substantially limits the financial burden of the firms. Also government support such as Technology Up gradation Funds and curbing excessive regulations are sorted by the entrepreneurs to improve innovations in their cluster. Thus a meticulous understanding of internal business processes, organizational backing by management and by other employees, especially in R&D departments, as well as a profound analysis of business environment conditions of the target market are prerequisites of a successful Innovation management. Empirical evidences reveals that for triumph of SME`s constant innovative practices and successful diffusion down their organizations becomes imperative to face the stiffened international competition.

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