

Evaluating The Role Of Production And Correlation Capability In Upgrading The Performance Of Micro Small And Medium Enterprises

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ABSTRACT

Technology is recognized as one of the most valuable resources that provide sustainable competitive advantages. Technical advancement is a key driving force and an important source of economic and social development. In addition, technology has become the center of competition in the world market. The diffusion, assimilation and further improvement of new technology determine the patterns of competition, growth and trade around the world at large. The capability of accessing new technology thus affects the ability of companies in emerging countries to build indigenous technological capabilities and compete in world markets. Accordingly, the technological capability has become the focus of attention not only among academicians but also among entrepreneurs of manufacturing organizations.

Industrial development is recognized as a process of acquiring technological capabilities and transforming them into product and process innovations in the course of continuous technological change. In other words, the process of industrial development, in fact, is the process of generating technological capabilities. Therefore, technological capabilities play a strategic role in affecting the competitive advantage of a company, an industry, and even a country. The technological capability has become a pervasive factor of production in the future. Thus, the development of technological capabilities is critical for companies, especially those manufacturing companies in countries that are in a catch-up phase of industrialization.

The objective of the present work is to analyze the technology innovation capabilities of the small-scale manufacturing industry in the state of Himachal Pradesh. The issues explored include, present status and future scope of technology innovation capabilities of small-scale manufacturing industry regarding investment capability, production capability and linkage capability, reasons for low performance in the area of firm performance include innovation performance, sales performance and product performance etc.

The present report is subdivided into five main segments. The first segment gives an introduction about SMEs, technology capability and the need for enhancing the technology capability of the organizations. The second segment brings together the extensive literature regarding the various factors influencing the technology capability of the organizations and the various gaps in the present literature. The third segment puts forward the methodology to be adopted for carrying out the future research, the fourth segment presents the findings of survey-based results, the results obtained after quantitative analysis of survey data. The last and final segment presents the conclusion work and limitations.

INTRODUCTION

MSMEs in India SME (small and medium-sized enterprises) are painstaking as one of the vital factors to toil an economic marvel in many nations and sections. According to well-known practice in the ecosphere, the asset of a monetary power lies not only in the victory of large enterprises but also in small and medium-sized enterprises. The small and medium-size enterprise pays a lot to the country's reconstruction drive.

Despite their praiseworthy involvement to the country's financial system, the small-medium enterprise segment does not get the necessary shore up from the linked government division, banks, and monetary institutions and business, which is disabled in fetching more competitive in the countrywide and global markets. Micro small-medium enterprise face several troubles - deficiency of sufficient and well-timed banking finance, limited assets and awareness, non-possession of suitable technology, low manufacture capability, unproductive advertising plan, recognition of new markets, restrictions on innovation & development, non-accessibility of highly expert workers at a reasonable charge, pursue up with different government bureau to tackle the troubles, etc.

Industrial Scenario

The uncertainties due to globalization of the Indian souk after monetary transformations have led to severe variations in the tactic of manufacturing organizations for developing various proficiencies to get modest benefits. According to the Global Innovation Index, 2017, published by INSEAD, (Fontainebleau in France), India's overall rank in Global Innovation Index is 57 out of 125 participating nations. India's position, however, is dragged down its performance on the innovation effort (Innovation input has five columns: organizations, anthropoid, wealth, exploration, infrastructure, souk) ranked 81th out of 125 participating nations. India is in the last quintile on the institution's sub-columns commercial environment (107th); anthropoid capital and research's sub-pillar elementary education (97th) and business sophistication's sub-pillar knowledge worker (84th).

LITERATURE REVIEW

MSME Department (2016) To achieve the objectives of the various state policies the institute focuses on setting up of facilitation cells at regional industries enters and district industries centre. The state is also investing in the development of MSME parks at various places in order to provide ready infrastructure for MSMEs in order to achieve balanced growth. The latest development in policy implementation is the formulation of product-specific clusters and convergence of schemes and resources of the state with that of the schemes of GOI.

Agarwal (2017) studied the MSMEs in the manufacturing sector are showing a growth trajectory, the government has not relaxed in terms of developing new policies for them. The government of India still focuses on helping MSMEs in major areas like simplification of procedures, providing industry-academician partnerships and providing financial support and incentives.

Vinay Kumar (2017) MSME of India is an important driving factor for the growth of the Indian Economy. These MSMEs not only provide employment opportunities but helps in the process of industrialization in rural areas simultaneously reducing the unequal income distribution among the residents. The MSMEs contribute significantly in the development of the Indian economy through export production, domestic production, low investment requirements, operational flexibility, technology-oriented enterprises etc. The SMEs are complementary to large industries operating in the economy & contribute significantly to the development of the country. On average this sector has almost 36 million units that provide employment to about 80 million individuals.

R Sarojadevi (2018) the importance of MSME in the latest years in both developed and developing countries for its momentous input in heartwarming various socioeconomic goals such as advanced development of services, production, endorsement of exports, and nurturing entrepreneurship. They play a critical position in the primary, secondary, and tertiary industry improvement of several countries.

3.1 Research Problem

The development of technology capabilities enables the innovative organization to successfully develop and implement strategies for innovation, seeking to build lasting competitive advantages. This allows the organization, if not necessarily to achieve ways to guarantee success, positively respond to market challenges with greater accuracy and flexibility. Technological innovation capabilities consist of a particular set of

organizational and dynamic capabilities that critically contribute to the achievement of objectives of technological innovation. Nonetheless, it is necessary to clarify that this is a multifaceted, subtle, and full of ambiguity idea, which is hard to decide and whose measurement plays an essential role to simultaneously consider multiple quantitative and qualitative criteria applied to the organization. Despite the complication of

technical modernization proficiencies, their dimension and assessment are vital. The present research work has been carried out for the minor-scale sector in the province. It aims to investigate the nature of technological innovation capabilities in the small-scale sector by identifying the key inputs and outputs of a strategic development program, determining their status in the industrial sector and determining the key input parameters which make a significant contribution to performance improvements.

3.2 Objectives and Issues Production Capability:- In this study aims at quality planning, leadership, customer focus.

Linkage Capability: - Study aims between collaboration between industry and academia

CHAPTER - IV RESEARCH METHODOLOGY

Introduction

This chapter presents the analysis and major findings of survey-based research data. The survey explores the status of technology innovation capabilities of cutting tool factories in the province.

Survey Methodology

For conducting the survey, the questionnaire-based technique has been used. A relevant and comprehensive questionnaire has been utilized to seek information on various aspects of technology innovation capability through in-house research in small scale manufacturing industry.

For the survey, the first task has been to design a questionnaire that seeks information on the status of technology innovation capability and its various components in the engineering industry. A simple, relevant, and comprehensive questionnaire covering various aspects of the research problem has been specially designed for effectively conducting the survey. While designing the questionnaire, time constraints for people in the industry and the actual form in which information is available with the industry to have been taken into consideration.

Small scale cutting tool manufacturing organizations in Sirmaur (Himachal Pradesh, India) have been added to the assessment. The main products of the cutting tool industry in the region include metal slitting saws, slotting cutters, side and face cutters, shank type milling cutters, reamers, gear hobs, milling cutters, broaches, harvester blades, jack plane blades, etc.

A total of 55 factories were selected from the list of registered units provided by the office of District Industrial Centre, Sirmaur. Around 55 questionnaires were distributed among these industries by making personal visits to the factories and taking consideration from their senior personals.

Following are the list of the industries selected for the survey

1. MK AUTO CLUTCH
2. BLUE STAR
3. VANEESA
4. SIDDHI VINAYAK INDUSTRIES
5. SHIVALIK PACKAGING
6. VI-SON INDUSTRIES
7. MBC INDUSTRIES
8. NSC ELECTRONICS AIR CURTAIN MANUFACTURES
9. MICROPET CONTAINERS INDUSTRIES
10. MYRON INDUSTRIES SCHMIT INDUSTRIES
11. PHOENEX
12. SCHMIT INDUSTRIES
13. PIDILITE
14. SURYA LAXMI INDUSTRIES
15. SIDWAL INDUSTRIES

16. IDEAL PET INDUSTRIES
17. CONSAFF INDIA
18. ALPS COMMUNICATION PVT. LIMITED
19. SIGNORAWARE TECHNO PLASTIC INDUSTRIES
20. ART-N-GLASS INDUSTRIES AMBA SHAKTI INPAT
21. SAVOCYLINDER
22. RUCHIRA PAPER
23. FEDDERS LLOYD COOPERATION LIMITED
24. CORRANTION BOXES
25. V-GUARD
26. SHIVON COTSPIN LIMITED
27. DHARMA ENTERPRISES
28. KAG INDUSTRIES
29. SIGNORA WARE
30. AR INDUSTRIES
31. OGLI PAPERS PVT.LIMITED
32. IDEAL STRIP
33. VIRGO INDUSTRIES
34. ERICSSON CABLE INDUSTRIES
35. EPSILOBIOTECH
36. JAI GANESH CONTAINERS
37. JHS SEVANGARD LAB.LIMITED
38. SHREE PLSTIC INDUSTRIES
39. KONAR FIXTURES
40. UNITED BISCUIT BVT. LIMITED
41. HARBAN ENGINEERING WORK
42. AGGARWAL GLASS LIMITED
43. SUPERNOVA INDUSTRIES
44. GOLD PLUS GLASS INDUSTRIES
45. VIMAL INDUSTRIES
46. STARFITATION SYSTEM
47. SVS BIOTECH
48. ADITYA INDUSTRIES
49. SHRI STEPPING ROLLER INDUSTRIES
50. RAGHAV INDUSTRIES PRODUCT
51. ANMOL POLYMERS PVT. LIMITED
52. GLOBAL COATING
53. SHREE SHYAMA INDUSTRIES
54. SARV BIOLABS
55. INDU RAMA ENGINEERS MANUFACTURERS

RESULT AND DISCUSSION

Status of components of Technology Innovation Capability Program

The current work observes three key areas (apparatus) for all-inclusive assessment of technology innovation capability leads in small scale sector. These contain

- Investment Capability
- Production Capability
- correlation Capability

This segment assesses the position of each of these components in the cutting tool segment in the province. Table 4.1 presents the status of the 'Investment Capability' component. A set of questions that reflect different issues under this component are presented in the below Table. For each question, the central tendency (C.T) and percent points scored (P.P.S) have been calculated. These measures reflect how well the area (issue) represented by a question is being looked after in the industry. Finally, the overall average for each component

is calculated (considering all the issues under the component), which represents the status of the entire component. The overall average of the 'Investment Capability' factor is 2.40 on a scale of 5.00.

'Correlation Capability' and 'Output Performance Parameters' components of technology innovation capability (TIC) respectively.

The rank of Production Capacity

This segment discusses the position of 'Production Capacity' issues in terms of quality management in the manufacturing sector. The manufacturing organizations surveyed have shown a moderate rating (PPS=67.20) in leadership factors. Many of the units (60%) showed that higher managers enthusiastically give the confidence to change and execute a tradition of trust, involvement and commitment in moving towards 'Best Practice' to a marginal extent and few of the units (44%) are extremely good in using tactical knowledge for innovation and improvements.

The manufacturing organizations in the region have obtained an average rating (PPS=61.60) in this issue. Most of the units (76%) have been found moderately focus on human resource management.

The answer to particular questions (issues) on this element is presented in the below chart.

The small scale sector is showing a relatively poor rating (PPS=55.20) with regards to this issue. Most of the units (92%) focus on process management issues only moderately or to a small extent. The small scale sector shows a relatively good rating (PPS=71.20) in terms of customer focus. A large number of organizations (48%) have been found to be good to a large extent in this issue.. The cutting tool units have show poor rating (PPS=47.20) with regards to this issue. Most of the organizations (68%) lack in quality planning at their units. The remaining units focus on these issues only moderately or to a small extent

S. No.	Subjects in the Component	No. of Responses (N)	No. of Units Scoring					Total Point Score (TPS) [^]	Percent Point Score (PPS) $\frac{TPS}{5 * N} * 100$	Central Tendency (CT) TPS/N
			1 (W1)	2 (W2)	3 (W3)	4 (W4)	5 (W5)			
1	Senior personals leadership	25	0	1	15	8	1	84	67.20	3.36
2	Human resource management	25	0	2	19	4	0	77	61.60	3.08
3	Process management	25	0	8	15	2	0	69	55.20	2.76
4	Customer focus	25	0	0	12	12	1	89	71.20	3.56
5	Quality planning activities	25	0	17	7	1	0	59	47.20	2.36
6	Organization structure	25	0	10	12	2	1	69	55.20	2.76
7	Process and quality improvement programs	25	10	14	0	1	0	42	33.60	1.68
8	Use of quality tools on shop floor	25	7	17	0	1	0	45	36.00	1.80
9	Policies & procedures for quality control	25	0	15	8	2	0	62	49.60	2.48

system									
Average (On a scale of 5.00)									2.63
^ Total Point Score (TPS) = 1×W₁+2×W₂+3×W₃+4×W₄ +5×W₅									

Organization structure is the formal structure of task and reporting relationships that control, coordinates, and motivates employees so that they cooperate to achieve an organization's goals. Organizational structure also shows poor rating (PPS=55.20). Most of the organizations (48%) focus on their organizational structure to a moderate extent. Few of the units (40%) focus on this issue to a small extent.

Policies and procedures for the quality control system is also an important indicator in production capability in terms of quality management. The cutting tool units have shown a poor rating (PPS=49.60) with regards to this issue. Most of the units (60%) have framed and implemented these policies to a small extent only.

The overall score of this aspect is 2.65 (out of 5.00) as depicted in Figure 4.2. The analysis reveals that some issues need critical attention such as implementing policies and procedures for quality control systems, use of quality tools on the shop floor, process and quality improvement programs.

Status of Correlation Ability

This segment shows the rank of the Correlation ability phase of industrialized Companies with added minor enterprises, big factories, and universities, etc.

- i) Items as well as manufacture allied assistance through a partnership with minor enterprises and great Factories, profit acquired through secondary hiring.
- ii) Factory–Academia alliance on investigating and growth for resolving mechanization associated troubles.
- i) Supportive and indenture established study with Institutions, Institution labs and infrastructure for examining and scrutiny, combined supervision of thesis etc.

The answer to different issues in this section is presented in the below chart.

The survey results show a very poor rating (PPS=37.00) for industry-industry collaboration with positive results. Most of the units (60%) have obtained only to a small extent any positive results through these collaborations.

CHAPTER - VI CONCLUSION AND LIMITATION

Conclusions

The outcomes of previous phases (survey-based empirical study and literature review) have been synthesized and presented in the form of conclusions in this section. The various issues are presented as follows:

- Small firms have not been doing well in the training of employees. Most of the units provide professional training where workers learn through experience simply.
- Organization leadership encourages transformation in the industry through uninterrupted development and unwrap connection and this possibly explains the development in monetary performance, client service, and goods quality. The manufacturing organizations surveyed have shown only a moderate performance in this issue.
- There has been a lack of process management in small-scale units. There is a lack of efforts aimed at managing and continually reducing process variation leading to continuous quality improvement.
- Lack of quality planning activities has been a major problem in small scale units. Quality planning activities affect human resource management and also process management. There is a need for the units to plan their activities to improve quality.
- Small firms have lacked in having a proper company structure. It is the official structure of duty and reporting relationships that control, coordinate, and motivate employees so that they cooperate to achieve the organization's goals.

Limitations of the Study

The main limits of the study are as follows:

- i) The study has been restricted to only small industries of the province. The investigation has not taken into consideration the effect of parameters like firm age, turnover etc. on the resulting outcome.
- i) The item measures identified for various constructs have been considered to be of equal importance in the study, however, in actual situations, some item measures may be more important than the others. The

study can be extended by attaching appropriate weights to these item measures through qualitative techniques.

ii) The present study has taken into consideration the manufacturing industry only and can be extended to other categories of industry. Also, it can be carried out for the large scale manufacturing sector.

Future Scope

- More Industries can be included in the survey
- The question can be modified according to the present result.
- Effective ways can be used to reach the root cause of industries problems.

REFERENCES

1. Qinglana & Yingbiao (2011)
2. SMEs chambers of India (2010). Small and medium enterprise play a vital role in growth of Indian economy.
3. Nanda, T. & Singh, T.P. (2009). Determinants of creativity and innovation in the workplace: A comprehensive review. *International Journal of Technology, Policy and Management*, 9(1), 84-106.
4. Global Innovation Index Report, 2017 Micro Small & Medium Enterprises Department (2016). To achieve the objectives of the various state policies
5. Agarwal (2017). Studied the micro small medium enterprises in the manufacturing segment are showing a growth trajectory.
6. Kumar, V. (2017). Micro, small and medium enterprises of India is an important driving factor for the growth of Indian Economy.
7. Fabi. et al., 2009
8. R, Sarojadevi. (2018). Performance of MSME units in India