Executive Summary

This case study compilation report has been developed as a volume 2 of the report: **Assessment of Research & Development & Innovation Practices in Micro, Small & Medium Manufacturing Enterprises (MSMEs) in India**. It covers anecdotal information of 20 MSMEs in various states and sectors in India.

While the main report covers the quantitative research findings and policy implications, the objective of this report is to determine the innovation and R&D practices among MSMEs in detail and have a deeper understanding of the drivers and barriers the MSMEs are encountering.

The firms responded to the survey giving a background as to why the innovation was needed and the reason it was created, role of various factors like industry, competition, location, environment for innovation and the point of origination of the idea.

The respondents provided description of their innovation and R&D activities outlining the domain in which they work and ways they are innovative.

The MSMEs were encouraged to share the risks they had taken to promote R&D and Innovation, problems and barriers that they had encountered during the process and ways they are overcoming those.

The respondents shared details of their Process of innovation, their current stage at which the innovation is and what remains do be done along with the role of R&D in innovation.

Some of these MSMEs have benefitted from their innovation and R&D practices and have duly shared the lessons learned during this whole activity paving a way to the future – where their innovation would be headed.
In view of the changing MSME landscape in India, this report brings about the necessary voice of the innovators of our country.

Basis of Selection

A three-step process was adopted to select the firms for case study developments:

Step 1- Qualification based on Level of Interest: The main study covered over 8000 respondents and in the last section of the study, they were asked whether they would be willing to participate in the anecdotal research project as well. 12% of the firms were interested to participate in sharing information.

Step 2- State and Sector Allocation: State wise, the confirmations provided in the first phase was majorly from the South Indian and Western States. Maharashtra had the highest affirmations (31%), followed by Tamil Nadu (24%) and Gujarat (17%). The southern states of Karnataka (16%), Andhra Pradesh (16%) and Kerala (12%) too had good number of firms willing to participate. The qualified firms were then approached with a framework for data collection.

During data collection for case studies, there were some fall outs due to:

a) Confidentiality of their practices,

b) Complexity of the structure of the data capture instrument,

c) Disinterest of participation due to low confidence on positive outputs from this activity.

Therefore, it became necessary to make alterations of the basis of data capture. States/ Sectors of higher innovation index combined with higher novelty were given priority. This combined with qualifications based on level of interest (Step 1) yielded results.

Step 3- Data Quality Checks: The preliminary data shared by the firms were analyzed based on the critical responses pertaining to R&D and Innovation. Firms that provided adequate information that were critical in nature were then further interviewed as per the framework. Firms that provided generic information were not probed further. The other factor was timeliness of response.

The final cut off list of 20 firms was prepared for the development of this case study report.

List of participants' state and sector wise:

Sl. No	Company	State	Sector
1	Aqualite	Maharashtra	Mineral Based
2	Bois Tech	Tamil Nadu	Engineering
3	Chakara Seed	West Bengal	Agro & Food
4	Chetran	Maharashtra	Agro & Food
5	Comsat System	Andhra Pradesh	Radio & Communication
6	Dhopeshwar	Andhra Pradesh	Engineering
7	Excel Impex	Kerala	Glass & Ceramics
8	Faze Three	Gujarat	Textile
9	Hi-Tech Packaging	Kerala	Printing & Packaging
10	India Roofing Industries	Tamil Nadu	Construction & Building Material
11	Inspired Control Systems	Maharashtra	Electronics
12	Jayanthi Transformers	Tamil Nadu	Engineering
13	Jopasu	Maharashtra	Automotive
14	Kariwala Industries	West Bengal	Textile & Leather
15	PC Process	Karnataka	Electronics
16	PG Industries	Madhya Pradesh	Misc
17	Pilotsmith Process	Kerala	Food Processing
18	Reliance Fire and Safety	Andhra Pradesh	Machinery & equipments
19	Sertel Electronics	Tamil Nadu	Electronics
20	Sre Senthil	Tamil Nadu	Engineering Units

Sate wise distribution:

States	Firm Count
Andhra Pradesh	3
Gujarat	1
Karnataka	1
Kerala	3
Madhya Pradesh	1
Maharashtra	4
Tamil Nadu	5
West Bengal	2
Grand Total	**20**

Sector wise distribution:

Sectors	Firm Count
Automotive	1
Construction & Building Material	1
Electronics	3
Engineering	4
Glass & Ceramics	1
Machinery & equipments	1
Mineral Based	1
Misc	1
Printing & Packaging	1
Radio & Communication	1
Textile	1
Textile & Leather	1
Agro & Food Processing	3
Grand Total	**20**

The South Indian states of Andhra Pradesh, Tamil Nadu, Kerala and Karnataka are high to medium on innovation and R&D index combined with higher novelty factors. So is the case of Maharashtra. West Bengal despite low on innovation index, 1 of the firms (agro based) participated.

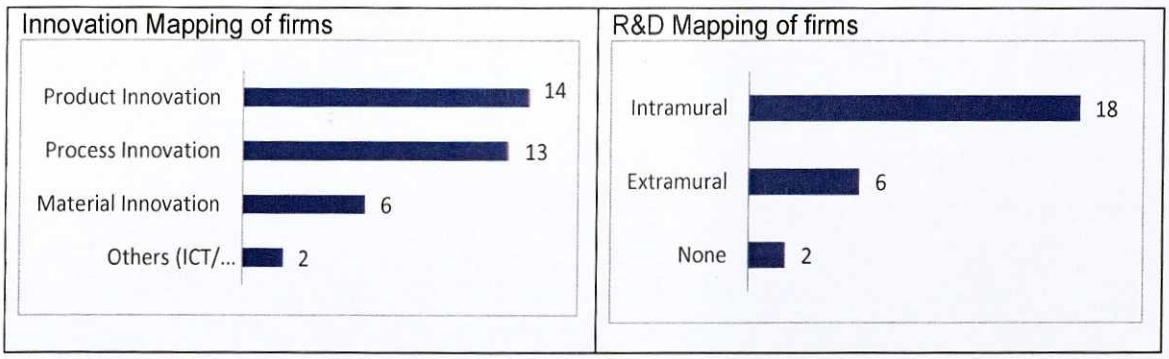
Sectors of high innovation index are engineering and electronics and machinery equipment. Agro based and food processing sector had the highest number of samples in the survey.

Summary of Innovation & R&D Practices

The surveyed firms are showcasing clearly that R&D is an important aspect of innovation. The firms, though restricted to performing R&D in-house at this point of time, have a strong inclination to perform continuous R&D in order to be competitive with the changing market trends.

Innovation is something that these firms are continuously striving to perform. Firms are putting efforts in promoting product and process innovation. Firms working in the food processing and agro based sector have been involved in product and process innovation to cut down the cost of food and come out with products of higher nutrition value. Engineering firms are finding ways to reduce cost of production through R&D led process innovation. Specialty firms like chemicals, glass etc. are coming up with newer products that are changing the B2B trade. Electronics as a sector itself is a sector promoted by high innovation firms, The MSMEs working in this sector too are highly innovative both in product and process.

A summary of Innovation and R&D of the selected firms are given below:



Summary of Impediments

The firms had to undergo a vigorous task of remaining competitive in the market. During the course, these firms faced a number of challenges, some of them are listed as below:

- Provision of adequate materials to conduct research.
- Presence of higher technological products/ brands in the market already offering cost competitive product. Involvement of MNC with strong sales and distribution network.
- Complicated tax structures and fewer means for simplifications.
- Weak R&D support for promoting Innovation. Firms are highly dependent of internal strengths to promote R&D and innovation, there is little scope to gather information or perform R&D outside the firm.
- Lack of knowledge among common people of alternate usage of daily materials that can boost innovation holistically.
- Inconsistency of availability of skilled/ trained manpower as it one of the most critical factor to promote innovation and boost R&D.
- Competition is strong in some sectors making life for innovative firms difficult.
- High gestation period for R&D to yield results – which proves very expensive for MSMEs to outlay that much amount of working capital.
- Fear of change: People in the organization do not want to change the way of their existing working style. People have an attitude – 'Why fix something which is not broken'. People also have a fear of losing job if the organization is adopting automation in system processes. It takes good amount of efforts to gradually make them understand the need for change and training them with any complexities involved. The mentors need to make their employee realize the need for change and benefits of that change for people and the organization.
- Inadequate use of alternate renewable energy that can prove as a strong mean of infrastructure support.
- Lack of knowledge – knowing ways to innovate is half the battle won. The problem is there is limited knowledge floating around that can help enterprises, many of which is lost due to ill communication among peers and weak information platforms.
- Commercialization of innovation and marketing/ reaching out to customers and making them aware of products is one of the common problems faced by firms.
- Recognition of efforts is almost zero. It is still the mind-set that foreign made products are better that Indian made goods. The efforts of innovation does not necessarily breaks the mind-set of people.
- Availability of loans and other means of external funds purely for R&D and innovation is a rare scenario.