Promoting Innovation In Indian MSMEs : Policy Perspectives

Yogesh Suman, Tabassum Jamal, Sanjib Pohit
Mahesh Kumar Saini, Jyotsana Pandey, Nitesh Kumar Yadav

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ISTIP (Indian S&T and Innovation Policy): First Study of its kind focusing on various dimensions of innovation activity in India; aiming at providing valuable inputs for S&T and Innovation decision making.

A two pronged strategy is needed to make Indian MSMEs more innovative-one part of strategy consists of initiatives which are within the control of individual MSMEs while the other part of strategy consists of the initiatives required to be taken up by the Government to promote innovation

Contents

This Policy Bulletin has been prepared under ISTIP project (funded by CSIR) by Yogesh Suman, Tabassum Jamal, Sanjib Pohit, Mahesh Kumar Saini, Jyotsana Pandey, Nitesh Kumar. Authors are affiliated to CSIR – NISTADS.

1. Introduction

Indian economic growth in recent past has been categorized as jobless growth as it has not been able to create enough jobs in proportion to the growth of employable population. At the same time the deficit between India's import and export has widened to over US$10 billion[1]. One of main reasons for this situation is the stagnation in the country's manufacturing sector. At present share of India's manufacturing sector in GDP is 13-14%[2] which needs to be raised to at least 25% if problem of unemployment and trade deficit have to be dealt with seriously. China is a prime example of how manufacturing can really boost the GDP growth of a country. In 1980 India's GDP per capita of $266 was comparable with China's $307 but at present China's GDP per capita has shot up to $6807 which is 4.5 times higher than India's $1499[3] and one main reason for this is China's highly vibrant and dynamic manufacturing sector.

Micro Small and Medium Enterprises (MSMEs) in India constitute a major part of industrial manufacturing with 45 per cent of country's manufacturing output and 40 per cent of total exports. They are estimated to employ about 60 million persons in over 26 million units throughout the country and manufacture over 6000 products ranging from traditional to high-tech items. Because of their small size and flexibility in decision making they are able to react quickly to the changes in the surrounding environment as they don't have a long chain in decision making but at the same time they suffer from many resource constraints. One of the most significant constraints suffered by MSMEs is the financial constraint. Other constraints include human resource, obsolete technology and challenges in complying with Government regulatory procedures. Generally they

[1]Times of India, 21.12.2014, p.17
[2]Times of India, 14.12.2014, p.17
[3]Economic Times, 16.09.2014, p.15

serve a narrow market by establishing a close contact with customers. MSME sector in India is highly heterogeneous in terms of the size, variety of products & services, and levels of technology.

Keeping in view of the challenges, their diversified nature and important role in manufacturing in India, the current study on manufacturing MSMEs was undertaken with the aim to study emerging patterns in innovation.

As per the Government of India definition Manufacturing MSMEs are categorized as Micro, Small and Medium on the basis of the investments made in plant and machineries. An enterprise having investment in plant and machinery not exceeding Rs. 25 lakhs is categorized as Micro enterprise, whereas an enterprise having investment in plant and machinery more than Rs. 25 lakhs and less than Rs. 5 crores is categorized as Small enterprise; and an enterprise having investment in plant and machinery more than Rs. 5 crores but less than Rs. 10 crores is categorized as Medium enterprise.

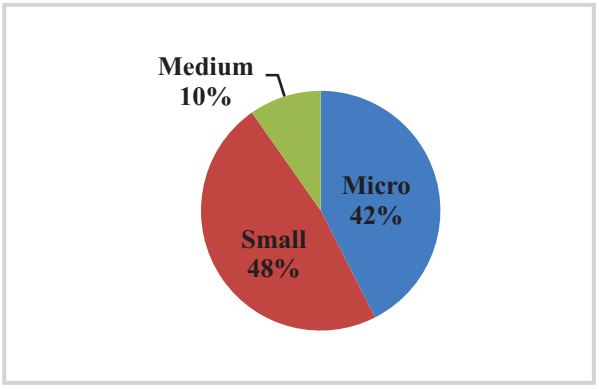
2. Methodology

A three page questionnaire containing questions on various aspects of innovation was sent to 2000 MSME units across the country. Out of these 130 filled questionnaires were received back and 118 questionnaires were found usable. The data was analyzed using these 118 questionnaires. The respondent firms were divided into more and less innovative. The average number of new products introduced during last three years by all the firms was calculated. The firms introducing higher number of new products than this average were categorized as more innovative firms while firms introducing fewer number of new products than this average were categorized as less innovative firms. Patterns emerging from the analysis are shown in the following section.

3. Patterns emerging from the data

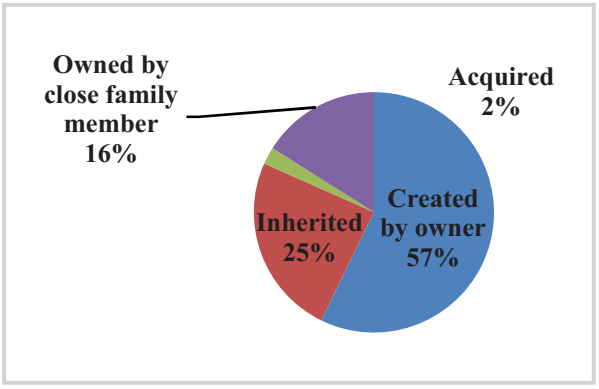
Most of the respondent firms belonged to Micro (42%) and Small (48%) category and most of these firms are created by the owner (57%) and very few are inherited or acquired (Figure 1 and 2).

Figure 1 : Profile of respondent firms



Source: Own survey

Figure 2 : Ownership patterns

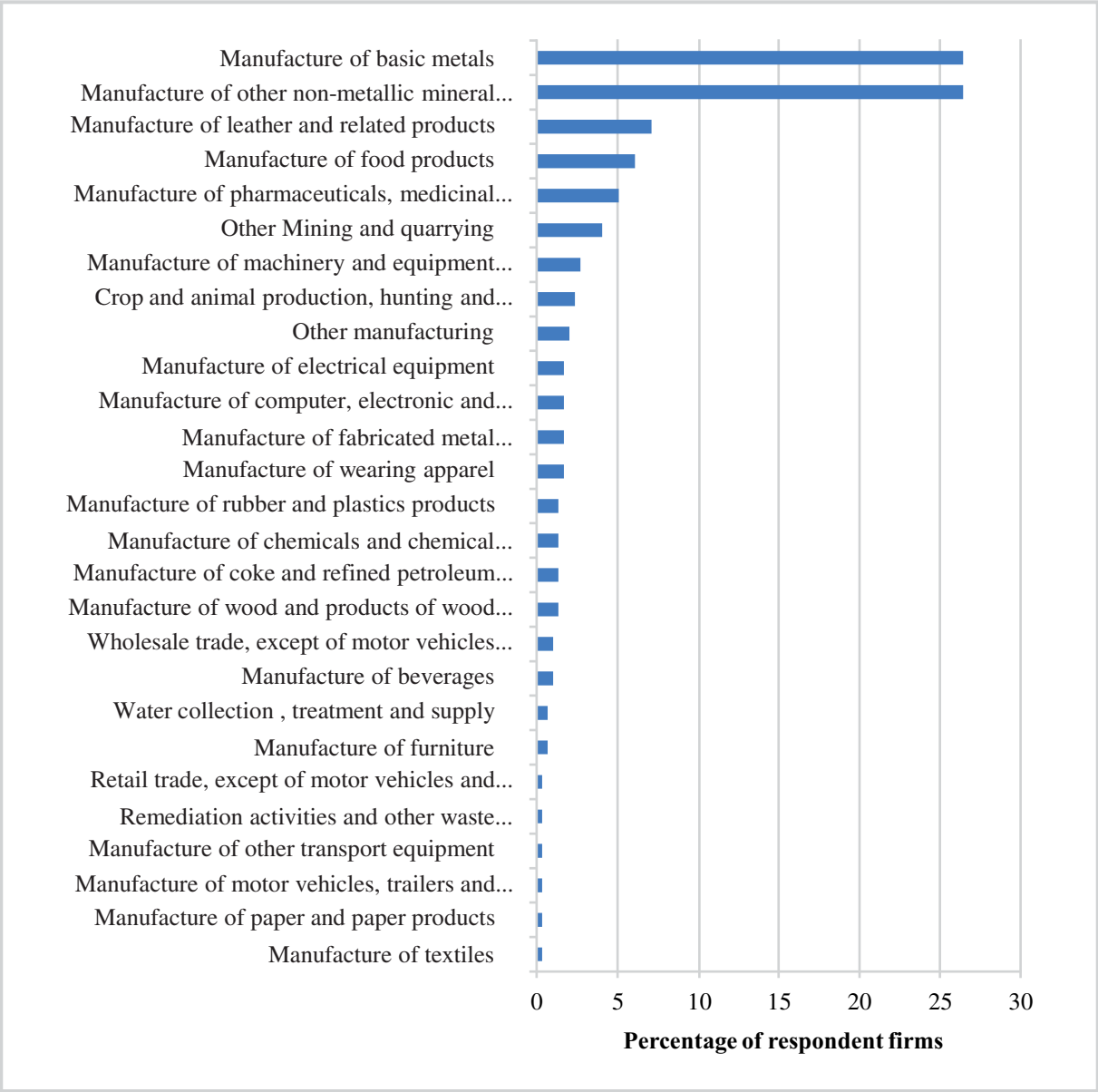


Source: Own survey

Most of the enterprises exist in the form of private limited (43%) or family run business (31%) followed by proprietorship firms (15%) very few are public limited (5%) or a part of larger group (4%). Most of the owners are undergraduate by qualification (33%) or 10th passed (27%) followed by post graduate and 12th pass. In case of employees most of the workers in MSMEs are below graduate level or they are skilled workers without formal training, there are very few graduate engineers. In case of micro enterprises there are no graduate engineers (Figure 4, 5 & 6).

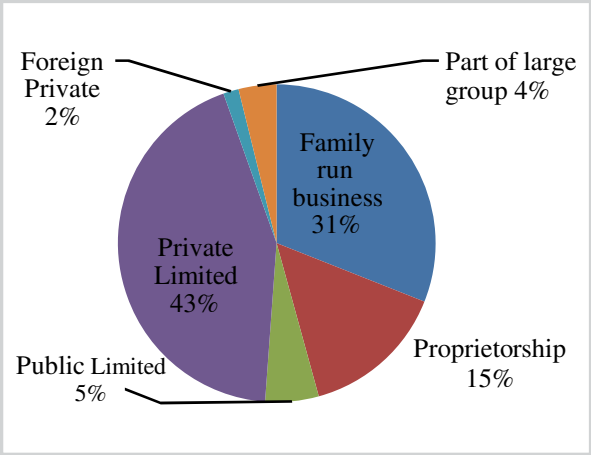
Sector-wise distribution of respondent firms is shown in figure 3.

Figure 3: Sector-wise distribution of respondent firms



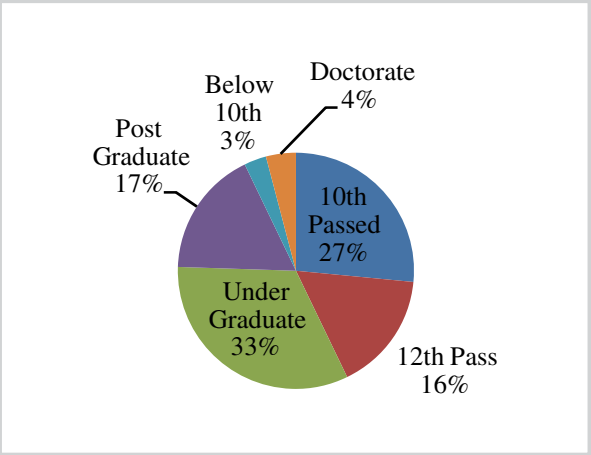
Source: Own survey

Figure 4 : Types of business



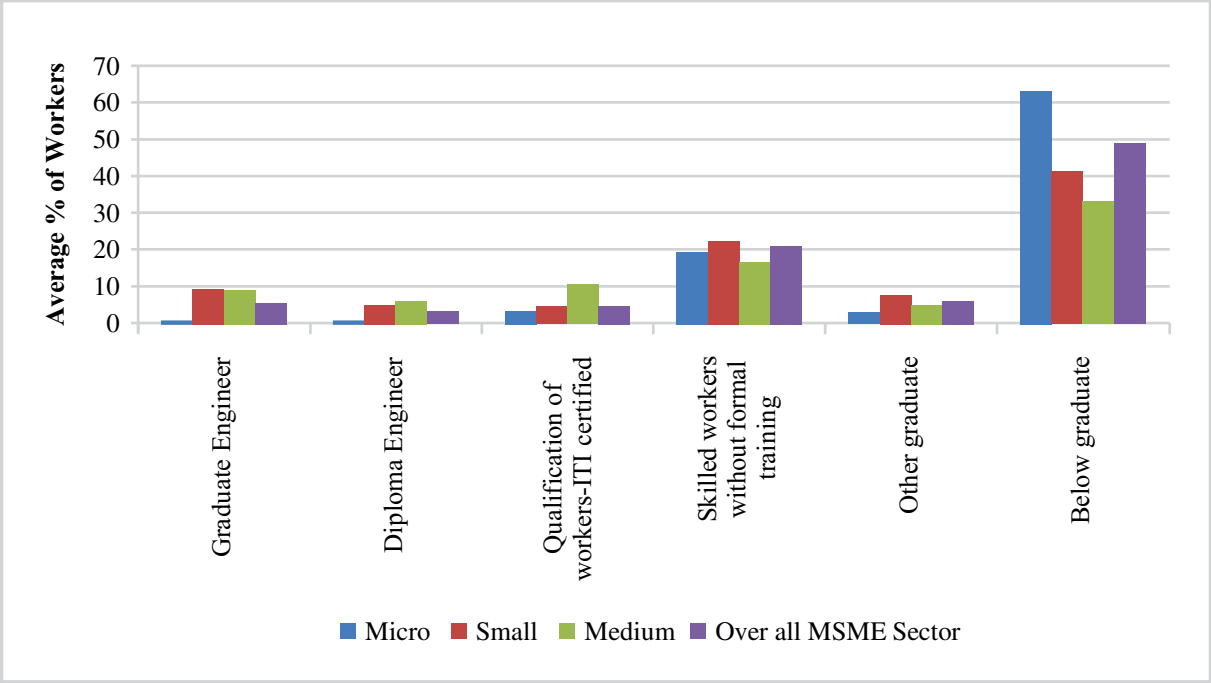
Source: Own survey

Figure 5 : Educational qualification of the owner



Source: Own survey

Figure 6: Qualification level of workers



Source: Own survey

Attrition is maximum among contractual workers in case of micro enterprises. Micro and small enterprises suffer more from attrition of regular workers as compared to medium enterprises (Figure 7).

Figure 7: Attrition rate of workers

Source: Own survey

In terms of various channels of sales most of the sales happen through regular customers but it is not contracted.

For finances (Working capital at inception) Micro and Small enterprises mostly rely upon their own savings and immediate family friends, while medium enterprises rely mostly on banks. Venture capital was found to play a negligible role (Table 1).

Table 1: Sources of finance for Working Capital at inception

	Micro Enterprises	Small Enterprises	Medium Enterprises
Rank 1	Own Savings	Own Savings	Banks
Rank 2	Immediate Family Friends	Own Savings	Suppliers and Contractors
Rank 3	Immediate Family Friends	Immediate Family Friends	Banks

Source: Own survey

In terms of destination of sales, while Micro Enterprises sell their products mostly within districts, small enterprises sell their products outside districts but within same state or province. Only medium enterprises were found to sell their products outside states.

When observed for innovating activities most of MSMEs innovate in terms of efficient use of raw material, followed by process improvement; new product development comes at number three; this is followed by use of alternative raw material, substantial product modification, market development/creation/expansion and minor product differentiation. So it can be said that new product development is not the main focus for MSMEs (Table 2).

Table 2: Innovative activities and motivational sources for innovation

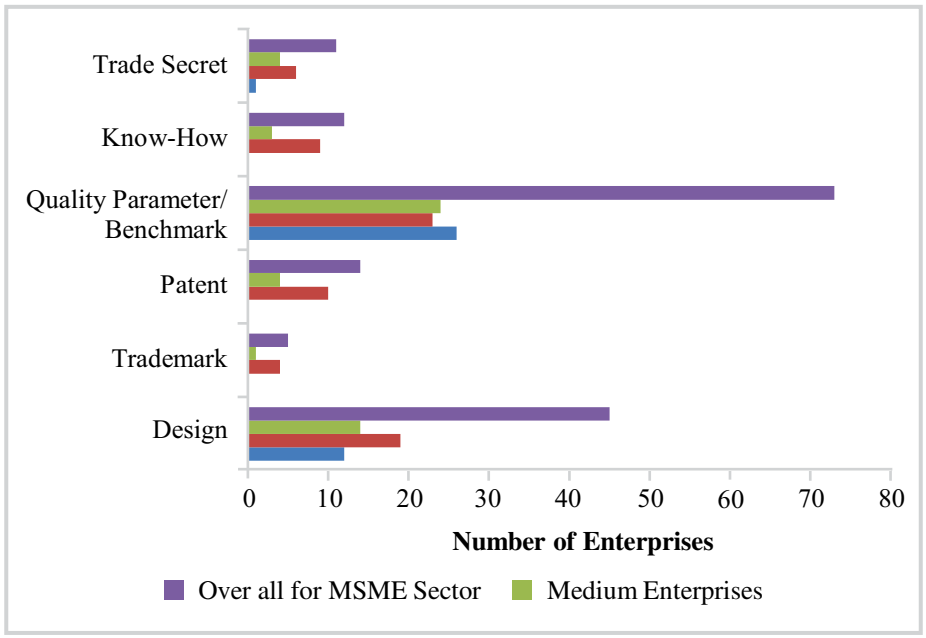
Innovative activities in term of frequency	Sources of motivation for innovation
1. Saving/Efficient use of Raw Material	1. Large Domestic Customers
2. Process Improvement	2. Own Initiative for Quality Improvement-Design
3. New Product Development	3. Transnational Companies Customer
4. Alternative Raw Material with Cost Cutting	4. Other Private Firms
5. Substantial Product Modification	5. Business Association
6. Market Development/Creation/Expansion	6. Public Agency
7. Minor Product Differentiation	

Source: Own survey

In terms of sources for innovation large domestic customers emerged as most important source of innovation. This was followed by own initiative for quality improvement in terms of design, transnational companies customer, other private firms, business association and public agency (Table 2).

Most of the outputs of innovation activities results in quality parameter or benchmark which mean MSMEs are mostly busy in improving their products and services by achieving some quality parameter. It was observed that Micro enterprises are not behind small or medium enterprises. (Figure 8)

Figure 8: Output of innovative activities



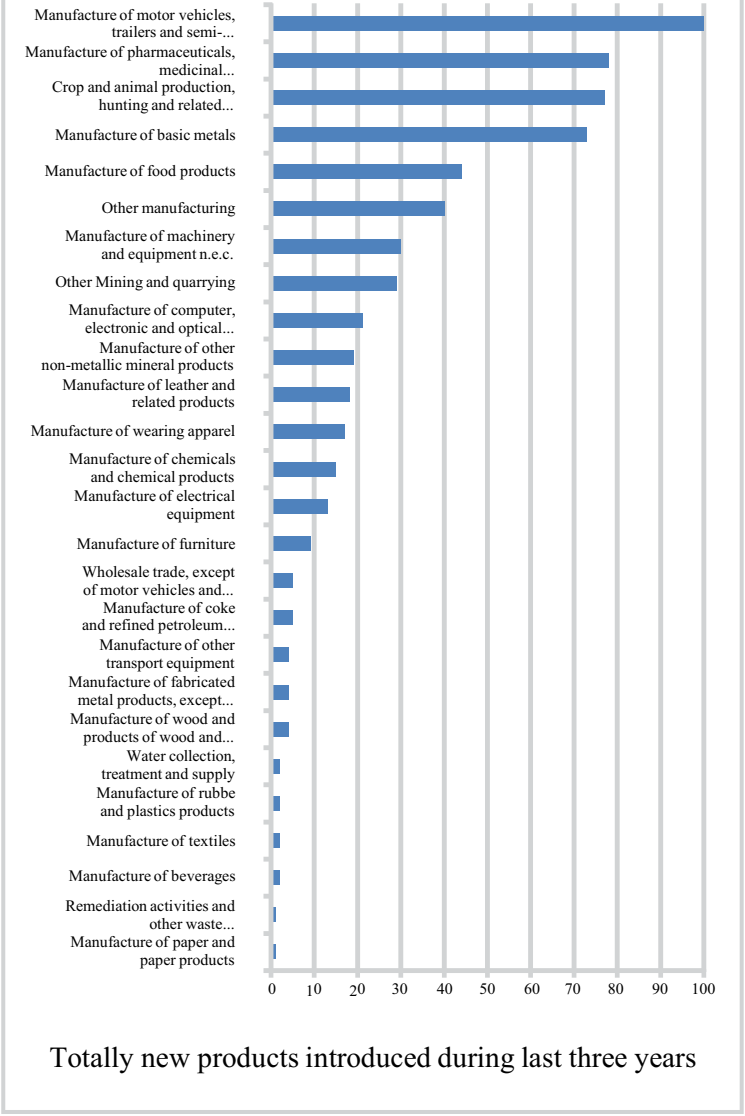
New Product development has not been the main focus for Indian MSMEs and they are mostly busy in improving their existing products.

Source: Own survey

More and less Innovative Firms and Sectors

A sector-wise count based on the number of new products introduced during last three years is shown in the figure 9.

Figure 9: Industrial sectors in terms of number of products introduced during last three years



Source: Own survey

It can be seen from figure 9 that five topmost innovative sectors during last three years are.

- Manufacture of motor vehicles, trailers and semi-trailers.
- Manufacture of pharmaceuticals, medicinal chemical and botanical products.

- Public limited firms were found more innovative than private limited or proprietary firms.
- More innovative firms spend more on in-house R & D, joint R & D with Government research institutions & universities, training of their manpower, financial management softwares, E-security and publicity through website while less innovative firms spend more on joint R & D with large customers & other private sector firms, purchase of standards, copyrights and material transfer, on E-banking and servers.
- For more innovative firms skilled workers (below the level of supervisor) played a more prominent role in innovation than less innovative firms
- Share of banks and venture capital in capital stock and working capital at inception was higher for more innovative firms than less innovative firms.
- More innovative firms sell their products mostly through distributors and formal contracted supply while less innovative firms sell more through retailers and traders
- More innovative firms sell their products mainly outside states while less innovative firms sell more within districts.

- Crop and animal production, hunting and related service activities
- Manufacture of basic metals
- Manufacture of food products

On the other hand the five least innovative sectors have been.

- Manufacture of paper and paper products
- Remediation activities and other waste management services
- Manufacture of beverages
- Manufacture of textiles
- Manufacture of rubber and plastics products

Barriers to Innovation

- *Slow, cumbersome and complex government procedures*
- *Host of old and archaic laws*
- *Hostile tax regimes*
- *Extremely slow processing of patent applications*
- *Low level of collaboration between MSMEs and Government R & D institutions*
- *Large scale dumping of Chinese goods at rock bottom prices turning many Indian manufacturers into traders of Chinese goods*
- *Slow import/export clearances*

4. Barriers to Innovation

Personal interviews were conducted with Micro, Small and Medium entrepreneurs in various parts of the country to get an in depth first hand perspective about the challenges faced by them in carrying out innovations. It was observed that a large portion of their time is consumed in non-productive activities of getting clearances from Government regulatory departments just to keep their enterprise operational[#]. They get very little time to concentrate on the development of new or modified products. They shared their experiences about poor infrastructure in Government offices, lack of adequate power supply, slow speed and large downtime of computer servers. A job of 15 minutes sometimes takes the whole day as there is no power backup in the Government department, so when current goes off, the computers are down and whole office comes to a standstill.

As per their experience it is not easy to be and entrepreneur in India. Even in Mumbai which is considered as financial capital of the country it takes 13 procedures and 30 days to start a business while in advanced countries it takes average 4.8 procedures and 9.2 days to start a business. There are a vast number of other formalities which are to be fulfilled before an entrepreneur can really start or to keep a business up and running. Some of these are listed as below[#]:

- Paying stamp duties online-5 days
- Filing incorporation documents online-5 days

Times of India, 30.10.2014, p.1-In World Bank Report on 'ease of doing business' covering a period of June 2013 to May 2014, India has been ranked 142nd in terms of 'ease of doing business' out of 189 countries. Rank-wise position of the India for performing various business related activities-Getting a construction permit-184th rank; ease of starting a business-158th Rank; getting Electricity connection -137th Rank; registering property-121st Rank.

- Getting PAN Number-12 days
- Registering with Employees Provident Fund Organization(EPFO)-12 days
- Registering with VAT Online-12 days
- Registering for medical insurance-9 days
- Getting a Tax Account Number-7 days

Other difficulties related to tax, manpower etc. are given in detail as below.

- **Hostile Tax Regime**

Various tax related problems were conveyed by the entrepreneurs during the discussions with them. These are described as below.

Advance tax is to be paid by the firm in three installments (in the months of September, December and March) after the end of each quarter but one problem is that shortfall interest is not based on turnover of that quarter only. e.g. if 70% of a firms turnover is in the March 2015 the advance liability is calculated from back date. i.e. with effect from June 2014.

Interest received on refund of surplus tax paid in previous year is added to the taxable income for the current year.

Government keeps on introducing various cess and private sector firms are expected to add each as separate line item. E.g. if there is 2% higher education cess and 1% secondary higher education cess on central excise, service, custom duty etc. then each bill will include service tax 12% education cess 2% secondary higher education cess 1% as separate line figures.

In case of proprietary firms PAN No. is issued in the name of the owner, this might result in misuse of tax credit.

The procedure for inter-state purchase is very complex where seller has to raise invoice in his books of account and print multiple copies, communicating details to the buyer. After this buyer has to make entries in his books of account after receiving the invoice, following this buyer has to feed in details in e-returns. Same details have to be provided by the seller in his e-return independently. After these details are accepted by sales tax authority, buyer has to generate Form C and send a signed copy to the seller, which is submitted by the seller to his sales tax authorities.

For service providers, in some cases the tax is paid by the service providers and also by the service recipient.

Many of the Government websites related to income tax filing and import clearance fall under the category of untrusted or phishing connection which income tax filing firm has to enter at their own risk as these are not https secure. Also these sites are not robust enough to handle high volume of users so they become very slow as number of users increase. The manual forms are also not designed properly while converting them to electronic form and the data is to be filled all over the screen.

Expenditure on in-house scientific research is considered only for computing weighted deductions under the normal provisions of the Income Tax Act and not for computing the Minimum Alternate Tax (MAT) liability.

- **Manpower Issues**

Recently the salary cap to avail Employees' State Insurance (ESI) facilities has been raised from Rs. 15000/- per month to Rs. 25,000 per month. This has increased the number of employees which will be covered under ESI Scheme. This in turn will increase the burden on ESI infrastructure which is already crumbling and also the burden on employers.

There are a huge number of laws dealing with manpower in MSMEs which have only increased corruption and harassment of entrepreneurs at the hands of officials. E.g. there are over 44 central and 100 state labour laws[*] like Industrial Dispute Act-1947, Contract Labour Act-1970, Factories Act-1948 and Apprenticeship Act-1961 containing many archaic and obsolete provisions which need a relook and overhauling. Being an entrepreneur one has to deal with numerous manpower issues like labour unions, strikes, layoffs, work time restrictions for women etc. It is impossible for an entrepreneur to comply with all the provisions laid down in labour laws. Various central agencies carry out approximately 1.75 lakh inspections of MSMEs every year[*] with inspectors having sweeping powers and dealing with them has always been a massive task.

All the major trade unions in India are against globalization and see it as anti-labour. Changing their perspective is a huge challenge but it can go a long way in increasing productivity of MSMEs.

Another problem which has stagnated the manufacturing in MSMEs is the obstacles presented in the way of big projects due to difficulties in acquiring land and environmental clearances. (Since most of the MSMEs get their manufacturing orders from big enterprises, this harms their interests also).

- **Import/Export Clearances**

Classification of good in the Harmonized System (HS) Codes[4] has been misused to the disadvantage of the indigenous manufacturers. E.g. custom duty may be less for a finished imported product while it may be higher for a component which is supposed to be used by the manufacturer for indigenous manufacturing of the same type of product in the country. This hampers the achievement of self reliance in manufacturing.

Many a times there is sudden change in the HS Code of an item creating problems for the firm importing that item.

In one case an entrepreneur was regularly importing one item but suddenly during one of such import he got communication from the custom department that the item couldn't be imported and this communication was given only after the consignment had arrived at Indian port.

In another case it took three months for a firm to get the item cleared from the customs and it had a deadline of completing an export order using that imported component as a result of which it couldn't meet the deadline due to delay in release of their imported component.

- **Intellectual Property Rights (IPR) issues**

The patent offices in the country work very slowly and MSMEs are able to get patents only after considerable delay. In some case it has taken almost five years for a patent to be granted. This hampers the introduction of new products developed by MSMEs into the market.

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[*] Times of India, 18.10.2014, p.10

[4] The Harmonized Commodity Description and Coding System, or the Harmonized System (HS) of tariff nomenclature is an internationally standardized system of names and numbers to classify traded products in order to facilitate import/export of goods among countries.

- **Problems in Collaborations with Government R & D Departments**

While dealing with Govt. R & D departments for technical collaborations and research grants it is observed that there are long delays in getting clearances. Generally there are expert committees to review the feasibility of the proposals but it is observed that there is a single committee to review many kinds of proposals.

- **Threats from China**

Chinese goods arriving in India are not tested for safety and other standards compliance while Indian goods are tested thoroughly for such compliance. Another problem arises from large scale import/ dumping of items manufactured in China which is available at rock bottom prices. As a result of this many of Indian manufacturers have just turned into traders of Chinese goods. This has set a decline in the country's manufacturing capabilities.

5. Recommendations Based on Survey Findings

Manufacturing sector is important sector for industrial and economical growth for any country. Since manufacturing MSMEs make bulk of overall manufacturing sector, promotion of innovation in manufacturing MSMEs is key factor for growth of manufacturing in them. Indian MSMEs have immense potential to grow but this potential has to be unleashed by bringing the reforms in Government regulatory procedures. There are a vast number of Government agencies engaged in helping the MSMEs in terms of various business operations right from production to marketing but functioning of these agencies have to be fine tuned and their activities have to be made more visible, transparent and simplified from the perspective of entrepreneurs for their benefits to really reach to the target group. Other aspects include improvement in infrastructure and power supply which may go a long way in enhancing the productivity of their enterprises.

Based on the questionnaire survey and interviews conducted during the current study following suggestions emerged which could help in promoting innovation among manufacturing MSMEs. These suggestions are classified into two categories-firm level suggestions and suggestions for Government.

a) Firm level suggestions - These include initiatives on the part of individual firm which could result in promotion of innovation. These include:

- Promote in-house R & D: Instead of spending on acquisition of external knowledge the firm should focus on in-house R & D and knowledge generation within the firm.
- Increased role of Venture Capitalist-Involve venture capitalists as a source of finance in the initial stages of arranging capital stocks, this will increase the flow of new ideas and venture capitalist will create a sustained pressure for innovation in the firm.
- Take joint R & D with Government R & D institutions and universities-Taking up joint R & D projects with Government R & D institutions and universities will help firm in getting benefitted from the research experiences available in academia and research institutions.
- Spend more on training of manpower - This will increase the capabilities of the manpower and help in generating new ideas.

- Increase use of financial management softwares and electronic security systems.
- Involve junior level staff in the process of new idea generation.

b) Suggestions from Entrepreneurs - These suggestions call for the initiatives on the part of Government which could help entrepreneurs in developing new and innovative products. A major problem is India's bureaucracy which keeps pushing files around without getting to final conclusions. Government should decrease number of formalities required to start a business and promote venture capital. Various suggestions also emerged during the discussions with the entrepreneurs. These mainly included suggestions on tax, intellectual property rights (IPR), manpower and finances. In view of the entrepreneurs if these suggestions are implemented, it can make life easy for entrepreneurs and enable them to divert some of their energy for innovative activities. These suggestions are listed in the following section.

What firms should do to be more innovative.

- Promote in-house R & D
- Increase role of Venture Capital
- Undertake joint R & D with Government R & D institutions and universities
- Spend more on training of manpower
- Increase use of financial management software and Electronic security systems
- Engage junior level staff in new idea generation

- Tax liability for a particular quarter may be calculated on the basis of the profit earned in that quarter and it should be limited to that period only.
- All the entries representing separate items may be replaced by a single line entry in the bills.
- PAN No. database should be linked to proprietary firms database.
- While making payments through RTGS and NEFT there should be a cross checking of account number against the name of the party.
- Inter-state sale purchase can be simplified by having a common Government website where seller can feed in the details of the items to be sold; these details are made visible to the buyer and sales tax authority.
- Charging of tax from the recipient of the service may be done away with as most of the small firms don't have systems to take care of such complex rules.
- The form for filing tax returns online should have two columns, where questions are on the left hand side and answers are filled on right hand side. Indian standards should be used for data format e.g. for date Indian standard is dd/mm/yyyy while software takes date in mm/dd/yyyy format which creates confusion other option in this case may be '06-Oct-2014' kind of format. While entering numerical figures commas should properly come after hundreds, thousands, lakhs and crores instead of millions which are suitable for Europe or USA but not for India.

- Expenditure on R&D activities should also be taken into account while computing the MAT liability. This will encourage firms to report their R & D expenditure.
- There should be fewer and simpler labour laws which could actually benefit the labour force and employers alike instead of exploitation of one and harassment of the other. A portal may be developed containing provisions and benefits of labour laws that can be helpful in better enforcement. This new portal can also contain information about EPFO and ESI details of employees. While a beginning has been made by the current Government, and Union cabinet has approved changes in Factories Act, in Apprenticeship Act and Labour Laws Act like doubling the provision of overtime, removal of mandatory provision of absorption of at least half of the apprentices and exempting all the companies with 10-40 employees from provisions of labour laws. But deeper initiatives are needed to boost manufacturing.
- The condition of notice period both by employer and employee should be implemented effectively.
- Sudden changes in HS Codes should be timely updated on Directorate General of Foreign Trade (DGFT) website.
- Delays in custom clearances for import/export must be avoided. Information technology (IT) can play an important role in this by bringing in transparency in the clearance processes but some of the vested interests don't allow things to flow smoothly.
- Patent granting process must be expedited. It is suggested that MSMEs should be provided consultancy and financial support for filing patents.
- The committees in Government R & D institutions for vetting and reviewing research proposals received from MSMEs should also have members from industry who are aware with the market situation with regard to that particular technology or product.
- In certain areas like defence sector more Government procurement should be from indigenous manufacturers.
- There should be time gap between loan disbursement and starting of loan recovery as the new product takes some time to catch up with the market.
- There are numerous Government agencies established to provide financial assistance to MSMEs. Refining and fine tuning of these agencies with able leadership in place can be very helpful for the MSMEs. Since most of the entrepreneurs especially the micro entrepreneurs are not very well educated, they find these procedures almost impossible to understand; sometimes they are not able to even understand the language of the forms they need to fill up to apply in these schemes.
- Promoting venture capital is another important measure which could spur manufacturing in the country. Recently Government has initiated Rs. 10,000 crore fund for early stage ventures. Apart from this Government has also started working on entrepreneur friendly legal bankruptcy framework which will help failed start-ups to shut down operations. But one problem with this is the Income Tax provision which counts money received as Angel Investment as income for the start-up receiving it.

6. Issues that need immediate attention from policy perspective.

Although there is a long list of issues facing Indian MSMEs, current study brings forth following issues which need immediate attention from policy perspective.

- Promoting in-house R & D in MSMEs
- Increasing role of Venture Capital as a viable source of finance
- Promoting joint R & D between MSMEs and Government R & D institutions
- Skill up-gradation of manpower through training
- Increasing use of financial management softwares and electronic security systems
- Involvement of junior level staff in the process of new idea generation
- Making tax regime more flexible and reasonable
- Fewer and simpler Government procedures
- Expediting import-export clearances
- Expediting patent awarding process in Indian Patent Office
- Learnings from chinese best practices

Disclaimer : *The views in this bulletin are those of the author, and do not represent those of the CSIR - National Institute of Science Technology and Development Studies (CSIR-NISTADS)*

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For suggestions/feedbacks, please contact: yogesh.nistads@gmail.com

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About ISTIP Project

The India Science Technology and Innovation Policy (ISTIP) project is a five year project(2012-2017) being funded by Council of Scientific and Industrial Research(CSIR) under 12th five year plan. The project focuses on Indian S&T– Mapping and National Innovation Policy. It aims to investigate capability, capacity and the outcomes of multiple forms of knowledge in India and other relevant countries; and intends to bring out the national knowledge status vis a vis that of major global institutional players. Keeping in view the Government's thrust on innovation as the key driver of economy the project aims to underscore Indian knowledge capability. To achieve its objectives the project will undertake detailed mapping of the status of innovation in the country and sectoral analysis. It will explore the various policy measures that strengthen the innovation activity in the country and interventions that can provide stimulus for lab to market translation. Innovation profile in key sectors, promoting green technologies, and areas of pressing developmental challenges will be one of the key outcomes of the project. Another major focus of the project would be to survey Micro Small and Medium Enterprises (MSMEs) in different sectors, the policies that have been articulated to strengthen their capabilities and outcomes. Survey analysis will be complimented through workshop, interviews and secondary data analysis; roadmaps will be drawn for strengthening innovative capacity of MSME in different sectors.