Technologies and Innovations-A way for Entrepreneurs to become Digital Entrepreneurs

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Abstract

Micro Small Medium Enterprise's constitute a vibrant and dynamic sector of the Industrial economy of India. This sector has shown consistently good growth in terms of production, creation of additional employment and spectacular performance in exports, year after year.

The post-liberalization era in the Indian economy has enhanced the opportunities and challenges for the small industries sector. With their dynamism, flexibility and innovative drive they are increasingly focusing on improved production methods, penetrative marketing strategies and management capabilities to sustain and strengthen their operations. They are thus poised for global partnership and to absorb latest technologies in diverse industrial fields.

According to the newly enacted Micro, Small and Medium Enterprises Development Act 2006, which will come into effect from October 2, 2006, enterprises are classified into Micro, Small and Medium according to the following criteria:

Keywords: Technology, SMEs, , Digitalization, Digital entrepreneurs.

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Introduction

Type of enterprise Engaged in manufacture or production of goods Engaged in providing or rendering of services Investment in plant and Machinery Investment in equipment.

Micro enterprise

Does not exceed 25 Lakh rupees Does not exceed 10 Lakh rupees.

Small enterprise

More than 25 Lakh rupees, but does not exceed 5 Crore rupees

More than 10 Lakh rupees, but does not exceed 2 Crore rupees.

Medium enterprise

More than 5 Crore rupees but does not exceed 10 Crore rupees

More than 2 Crore rupees but does not exceed 5 Crore rupees.

With the globalization of product and service markets, companies, and in particular small and medium-sized enterprises (SME's) face increasing competition not only for sales but also for technical know-how and skills.

In this environment, competitiveness at the company level depends heavily on the speed with which new products can be brought to the market place and new cost-saving improvements made. Similarly, the creation of newer markets and more customers depend to a very large extent on the speed with which scientific and technological breakthroughs are converted into practical and attractive solutions.

Innovation holds the key to increase in productivity and productivity gains are key to both economic growth and in raising the standards of living. Innovation is a tool that enables SME's to reap rewards of scientific achievement and requires much more than the ability to turn a new idea into a working product. Efficient flows of technology are not enough and ready supplies of finance and business skills are also crucial.

Critical to such a culture of innovation are the SME's which have, in recent years, proved themselves to be the engines of economic growth and principal sources of foreign exchange. And SME's account for a bulk of all Indian businesses and in many fields provides the channels along which new technologies develop.

Objectives of the study:

1. To know the conceptual framework of entrepreneurship and digital entrepreneurship
2. To find the opportunities for SMEs by the use of information technology
3. To check the attention required by the government to upgrade the use of information technology in SMEs

4. To recognise the convenience of information technology to SMEs to carry out their business
5. To assess the barriers of technology transfer in India.

Research Methodology

In this paper we used descriptive type of research is used and the data is collected form secondary data such as textbook, research articles and various websites.

SME's play a pivotal role in the success of the Indian economy due to their ability to exploit new technologies and to respond quickly to changing market needs. Support for the creation of new ventures and spin-offs from research institutions and large companies, as well as the removal of barriers in their way of their rapid growth and support for the transfer of know-how, also deserve to be accorded the highest priority.

SME Market in India is too big to be ignored. And while Indian entrepreneurs are chasing the big enterprise market (and consumer segment), here are a few data points for SME opportunity

- India has the second largest population of small and medium businesses (SMBs) among BRIC countries and the US.
- SME's in India contribute to more than 40% of the total Industrial Output (35% of it is exported).
- SME's Provides employment to 75% of India's workforce.
- In Karnataka alone, there are more than 750 Large to Medium Enterprises with investments of more than 60,000 Crores and employing 4, 00,000 people.
- In comparison, there are more than 3, 80,000 SMEs with investments of just about 10,000 Crores while employing 22, 00,000 people!

SME – Opportunities for Small Players

The challenges that the SMEs face today seem to be primarily in the area of ICT and to quote specifically, ERP. The SMEs lament that when ever they approached the usual ERP firms, the first question they were faced with was that of their turn-over (they are quoted ERP package rates based on their turnover!).

Further, most do not even qualify to be served by these firms since they don't measure up in terms of turn-over. Most of the practitioners wanted more simple solutions which could be used by the SME work-force that is largely rural, with education levels being at most at Diploma levels, (in exceptional cases Engineering).

- Only 12% of the SMEs use Computers and 90% for Word Processing – The terms used today was "Typewriter".

- One of the most startling take away was that in the last 55 years, the India SME manufacturing sector has clocked a steady GDP of 15% to 18%. No geo-political reason, economic downturns nor Policy changes etc seems to have affected this.
- And to put this in perspective, the Indian IT companies are happy if they are 1% or 2% higher than the nation's GDP!
- SME's spending on IT is only 30 percent of India's total IT spending.

The Small and Medium Enterprises (SME) sector for any country is a major support for broad-based economic growth. In a country like India, the potential of the SME to garner revenue, hold the economy stable while playing a key role in India's competitiveness in the global markets is considerable. That said, the segment is plagued with issues, which restrict it from discovering its own potential. This is applicable especially to hiking productivity and gaining from opportunities in the global markets.

So what stops them from moving up to the mutual benefit of themselves and the nation to achieve equitable and inclusive growth? What are the areas where they need to cover to offset their size and possible limited experience in business?

Attention required

Some of the support-needed areas for SMEs that have emerged in the Indian context include, but not limited to, are as follows:

Technology Up gradation: Growing from micro to small or medium to big needs an open mind to invest in accessible technology. Preparedness to reinvent processes and methods needs to be facilitated through government initiatives to increase availability of latest technology in various segments.

Government support would be required for

- Funding of technology Up gradation
- Enhancement of R&D activities, testing facilities, design centres etc.
- Development of special zones/parks to fill in the gaps in infrastructure, delays in component deliveries, quality control and standardization of processes.
- Financial support for going through technology transfer including license fees, legal expenses, training expenses etc.
- Technology benchmarking missions to countries that have established themselves in particular sectors.

Induction and familiarization with Information Technology: Bringing in the convenience of IT is still resisted by SMEs to leverage their development process. Holding them back is:

- Affordability and to a large extent, prioritizing ICT and knowledge tools
- Training for utilizing business processes

- Acceptance of the need for education and training contributing to the task environment and general environment.

Workforce competency: Besides technology, the next area of neglect is the recruiting appropriate manpower and further retaining it. Most SMEs manage human resource on a lose basis, giving up on a chance for organizational development and performance. Fostering entrepreneurship through the informal mode that is user friendly, uncomplicated and efficient is important in the Indian SME scenario. Jargon tangled formal work environments definitely need to be kept out.

Hand holding from the Government needs to come from its initiatives like National Manufacturing Competitiveness Programmed, wherein a consultant pool would associate with small SME clusters and guide them for say a year or so.

Safety of the workers is another concern in the SME sector which is largely unorganized. Strict implementation of safety norms will keep the work force safe and improve retention, so benefiting the company.

Widening outlook

Taking the initiatives to ease FDI norms to the SME level, the Indian government has formed 'Invest India' to help foreign investors at every step of Foreign Direct Investment. The company comes as a joint venture between the Government of India, Federation of Indian Chambers of Commerce and Industry (FICCI) and the State Governments. Invest India as the first reference point for any investor interested in India a. Further, with the consolidation of the FDI policy into one single document has eased out several processes.

As India Inc grows, those Indian SMEs that are forward looking and prepared to adapt to changing environment, will have plenty of opportunities. Bringing about a modification of mindset in the entrepreneurs in the sector and encouraging optimum utilization of human and economic resources are essential. Also important is updating the SMEs with global developments to give a direction to skill development will empower the sector for the benefit of all.

Status of SME's in India

Number

3.5 Million (80% of total enterprises) know

Contribution to Industrial Output

50%

% of Total Exports

34%

% of Private Enterprise Employment

50%

Products

(about 8000)

(Consumer items, capital and intermediate goods)

Year	Number (Million)	Employment **(mil)**	Exports (Rs. billion)	%of Total Exports
1992	2.1	13.0	139	31.5
1993	2.2	13.4	178	33
1994	2.4	14.0	253	36
1995	2.6	14.7	241	35
1996	2.7	15.2	365	34
1997	2.8	16.0	312	33
1998	2.9	16.7	444	35
1999	3.1	17.2	490	35
2000	3.2	17.2	542	34
2001	3.3	18.6	698	34
2002	3.4	19.2	712	34
2003	3.6	20.0	860	34

Building Up Indegenous Techological Capacity (ITC's)

- In India, most of the SME's are building up ITC's through the process of learning by doing.
- The process of 'learning by doing' is central to 'incremental innovation' and 'technological change'.
- Proper linkages between the managerial staff, including engineers and workers at the shop floor within an enterprise. two way information flow

- The studies show that learning by doing and entrepreneurial capabilities have been instrumental in strengthening human ware and techno ware at the enterprise level. India (bowonder and miyake, 1988; kharbanda and Jain, 1997).

Number of technologies developed by industries through partnership with R&D agencies in 10 years till 2005

Type / Discipline	Name of Industry	R&D Investment (% of Annual turnover)	New Tech developed through Partnership in last 10 yrs	Tech inducted / commercialised from R&D agencies in last 10 yrs.
Pharma	Nicholas Piramal India Ltd.	>100 Cr.	----	---
Biotech	Shantha Biotechnics Ltd., Hyderabad	10-15%	2	0/1
Drugs	J. Mitra & Co. Ltd., Delhi	Rs. 1.55 Cr. during 2003-04	3	3 / 3
Biotech	Dalmia Centre for R&D, Coimbatore	Rs. 100 lakhs	15	15 / 10
Microbiological & Chemical Sc.	Arbro Pharmaceuticals Ltd., New Delhi	17.59 lakhs	----	NA
Biopharma / Biotech	Millipore India Pvt. Ltd., Bangalore	NA	NA	NA
Agriculture	Sungro Seeds Ltd., Delhi	----	100 new products	100 / 100
Petrochemical	Indian Petro-chemicals Corp. Ltd.,	Rs. 10 Cr.	8	8 /8

Production	Vadodra			
Chem (Agro)	Rallis Research Centre, Bangalore	Rs.10 Cr.	Nil	Nil
Chemical	Godavari Sugar Mills Ltd., Mumbai	Rs.80 lakhs	2	
Chemicals, drugs	Rubamin Limited, Vadodra	--------	------	-------
Chemicals & Paints	Mathur Corr-Tech (P) Ltd, Coimbatore	Rs 3 lakhs	6	------

Type / Discipline	**Name of Industry**	**R&D Investment (% of Annual turnover)**	**New Tech developed through Partnership in last 10 yrs**	**Tech inducted / commercialised from R&D agencies in last 10 yrs.**
Steel	Tata Steel Mines Division, Jharkhand	~ Rs 150 Cr.	1	1/0
Engineering	Tata Refractories Ltd., Orissa	~Rs.15 Cr. (T/O Rs. 400 cr.)	Nil	Nil/Nil
Electro-chemical	High Energy Batteries India Ltd, Pudukottai	~Rs 434.01 lakhs as on 31.3.2005	3	1/1
Consumer Electronics	Ahuja Radios, New Delhi	Rs.44 lakhs	Many	Nil/Nil
Electronics	Omtek Electronics (P) Ltd., Bhubaneswar	Rs. 50 lakhs (T/O Rs.1.50 cr.)	Nil (36 Self developed Tech.)	36 / 13
Engineering	Basic Technology	Rs. 20 lakhs	10	6 / 4

	(P) Ltd., Kolkata			
Mines	Satna Cement Works, Satna	~Rs.1.5 lakhs	Nil	Nil/Nil
Engineering	St. Josephs Tiles, Ernakulam	--------	1	1/1
Engineering & Infrastructure	Shriram Energy Systems Ltd. Hyderabad	------	1	Nil/Nil
Engineering	Abaqus Engg. India, Chennai	Nil	Nil	Nil/Nil
Engineering	Ador Fontech. Ltd., Bangalore	Nil	Nil	Nil/Nil
Atomic Energy	Indira Gandhi Centre for Atomic Res., Kalpakkam	----	----	----

(Source: BANSAL, Rama Swami (2005): 'R&D Agency – Industry Partnership for Technology Development and Transfer in Indian Context'. PhD Thesis, Birla Institute of Technology and Science, Pilani, Rajasthan)

Clusters approach developments in India 138 Industrial clusters

A large number of small firms engaged in specialized industries such as:

- Locks at Aligarh,
- Leather footwear at Agra and Kanpur; Agra cluster makes .15 million pairs of shoes per day with a production value of 1.3 m us$ and exporting shoes worth us $ 57.14 million per year.
- Cotton hosiery at Calcutta and Delhi;
- Blankets in panipat;
- Power looms at bhiwadi;
- Diamond polishing in Surat.
- woollen garments,
- bicycle and bicycle parts,
- sewing machine parts and machine tools in Ludhiana; Ludhiana clusters make 95% of country's woolen knitwear; 85%

of sewing machines and 60% of bicycle and bicycle parts.

- Printing and printing goods, water pipes and bathroom fixtures in jallandhar;
- Foundries in batala, etc.
- Knitwear cluster in tiruppur, Tamil nadu is responsible for 85% of Indian market and its export earnings have expanded from us$ 25 million in 1986 to us$ 636 million in 1997. What is interesting about tiruppur cluster is that it is organized in a web of small work places through which the entire town works like a living industrial organization
- Diesel engine cluster-Rajkot, Gujarat, India Rajkot diesel engine industry is the leader in Indian diesel engine market with more than 60% of India's total diesel engine production. The industry is made up of small-scale manufacturers and has about 400 foundry units in the city. It employs more than 40,000 workers. India continued to rely on the indigenized diesel engines, and is also able to export to developing countries

BARRIERS TO TECHNOLOGY TRANSFER IN SMEs

From various Research has shown that the indigenous technological capabilities of developing countries are generally weak and that, in the import of technology, a number of obstacles render the technology acquisition process less effective or a failure economically and/or technically (Awny, 2005). The general problems of the SME sector, apart from capacity-building in technology as reflected in various studies, highlight the inadequacy of SMEs in legislation, business networks (particularly international), and various support services – financial, legal, and marketing. Even more pertinent is the lack of access to crucially needed venture capital for the creation of new SMEs and the continuance of existing operations. With interest rates on loans being quite high, and repayment periods relatively very short, SMEs cannot be expected to flourish. Currently, the progress of SMEs is hampered by weak infrastructure, insufficiency of electric power, and high costs of energy, water, and industrial space. The other drawbacks, such as the inability of SMEs to keep pace with the rapid development in global finance and economy, and the inadequacy of their management and organizational practice, add to their burgeoning problems. The continuance of the enterprise reform process and the strengthening of SMEs are largely dependent on aid from international agencies and foreign countries.

Conclusion

SMEs play a pivotal role in the success of the Indian economy due to their ability to exploit new technologies and to respond quickly to changing market needs. Support for the creation of new ventures and spin-offs from research institutions and large companies, as well as the removal of barriers in their way of their rapid growth and support for the transfer of know-how, also deserve to be accorded the highest priority. Despite this, with SMEs facing a financial crunch, they are unable to invest in innovations and R&D. Investing in R&D to innovate in technology by SMEs has to be encouraged. However a focused approach on advanced technology products which is of the utmost importance is missing. And without all these SMEs stand to lose a great deal. Sadly government intervention including public investment which can act as a catalyst for SME growth is still a Utopian dream.

References

1. https://en.wikipedia.org/wiki/Housewife
2. www.nsic.co.in
3. india.smetoolkit.org/india
4. techsmall.com
5. test.dnb.co.in
6. Jose P., Ajith Kumar. & Paul T.M., (1994) Entrepreneurship Development, Himalaya Pubilishing.
7. Medha Dubhashi Vinze (1987) Women Entrepreneurs In India: A Socio-Economic Study of Delhi - 1975-76, Mittal Publications, New Delhi.
8. Renuka V. (2001) Opportunities and challenges for women in business, India Together, Online Report, Civil Society Information Exchange Pvt. Ltd.
9. Starcher, D. C. (1996). *Women entrepreneurs: Catalysts for transformation*. Retrieved July 6, 2001
10. S.S. Kanaka (2004), “Entrepreneurial Development”, S. Chand & Co Ltd, PP 18-23.
11. Dr.Poornima M Charantimath(2009), “entrepreneurship development and small business

enterprises”, Dorling Kindersley(India) Pvt, Ltd. PP 106-126.