



Business Incubators – India's growth In Entrepreneurship Development

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Abstract: *The establishment and nurturing of Small and Medium Enterprises is a resourceful input leading to the rapid development of economic and social prospects. A motivated SME's sector establishes a strong foundation to increase the standard of living and reduce poverty. There must be a rigorous and continuous need to improve the factors that furnish a congenial entrepreneurial climate to surpass major obstacles.*

Maintaining technology, business and knowledge as buzzwords, the rapid advancements in the streams of science and technology are leading towards knowledge entrepreneurs and technology driven enterprises. The social and economic indicators has influenced in the abrupt development of Indian economy setting a bright future in country's education and GDP statistics. Knowledge based industries are likely to acquire maximum prominence facilitating support to SME by the government in the next decade. The major essence is to focus Human Resource Development support with the establishment of appropriate mechanisms towards Technology Business Incubators in the era of globalization..

1. INTRODUCTION

The establishment and nurturing of Small and Medium Enterprises (SME's) is a vital input in creating dynamic market economies in the economic and social development of transition countries. Entrepreneurs are the key drivers and inhibitors of economic growth, innovation, regional development and job creation. A strong highly motivated SME's sector provides a strong foundation to increase standards of living and to reduce poverty. Despite being recognized internationally the importance of SME's, they still face major challenges in many especially in developing countries like India today. The challenges of business start ups, its survival and growth are often substantial. The availability of financial resources and lack of capacity to handle complex business management issues as well as a complicated and bureaucratic environment present major obstacles. As a result, there is an urgent and

continuous need to improve the different factors that make up a good entrepreneurial climate [1].

In order to establish strategic plans for small and medium enterprise development, it has been necessary to establish some business development sectors to bridge the gap between private and public sectors, since private sector development relies on a partnership between the private and public sectors. Since, Business and Technology go hand in hand and hence they can be separated. Technology, Business and knowledge are becoming the buzzwords of the new millennium [2]. As the technology is leapfrogging for beyond the expected, enormous activities are in progress in research and development for new and newer technologies day by day, resulting into the emergence of new areas of technology. These rapid developments in the field of science and technology are also leading towards a new class of knowledge entrepreneurs and knowledge/technology driven

enterprises, which important factor for the economic development of nations and a source of value-added employment generation. At the same time, the process of globalization, establishment of World Trade Organization, high quality standards and environmental considerations, imposition of trade barriers by developed countries, information technology revolution continues to adversely affect the conventional/traditional competitive advantage of the small and medium enterprises in the developing countries and a threat for survival in the marketplace [8].

2. INDIAN ECONOMIC SCENARIO

India has made considerable achievements during its sixty years of independence. Economic reform and liberalization measures over the last decade have led to strong economic growth, increased exports, reduced inflation and a positive impact on social indicators. Today, India is the fifth largest economy and second most popular country in the world. Indian Economy has significantly grown in the recent years. Both social and economic indicators have reflected their respective positive impact for the development of the Economy [4]. In the Social sector the best example today is 108 million children attend primary schools in India by making the country's education system the second largest in the world after China. In the economic sector Gross Domestic Product (GDP) in nominal terms of US\$692 billion in 2004, has made the country the world's tenth largest economy. Real GDP grew by 6.9 percent in 2004 – 05 compared to 8.5 percent a year earlier. Prospects for real GDP growth for 2005 – 06 is 6.5 to 7 percent. External position of the economy is becoming significantly stronger. Exports have grown, especially exports of services, which grew by 105 percent in 2004 – 05. Growth in services has largely been fueled by the information technology boom in which India is

emerging as a world leader and is helping in building a strong economy.

3. FUTURE VISION ON INDIAN SME SECTOR

In the present scenario dynamic world “change” is the only permanent thing. The process of change has accelerated in most recent years due to macroeconomic transformation both in house as well globally. In the present situation the two big global economic forces which are competing for world attention are (a) the advent of a new economy due to information and communication technology and (b) due to globalization increased instability and uncertainty. With the formation of WTO, a new trade environment is emerging and a large number of items are now under Open General License (OGL). In the recent times there has been reduction in import duties. These have thrown a challenge before the SME sector which warranted them to be more competitive and efficient to face the international competition successfully. Further, consumer's choice, preference and their quality are varying a lot. To cope up with these changes, the SME sector will have to undergo many internal and external transformations.

4. CHANGE IN THE TECHNOLOGICAL REQUIREMENT

The competitiveness of any economy depends on how efficiently all the resources in the process of production are utilized and how efficiently these are marketed, hence the entire chain of production and marketing has to be efficient. Many of the items produced in the small-scale sector are becoming redundant because of the change in consumers choice, preferences and also due to change in new technology. The entry of foreign products/services has given consumers a wide choice of hi-tech and good quality products at

competitive prices. This means that the process of production has to be cost efficient and meet quality needs of the consumers. This improvement can come through the use of latest technology. Hence, the need for change in technology is more relevant for SME's than large units.

4.1 Sourcing of technology - products, processes, designs, machinery, tools, testing, equipment, technical training, consultancy, upgradation, etc. which depend on technology is considered one of the most important factor of industrial process. In the SME sector, technology is mainly sought in the form of processes and product know-how. The different sources from which technology flows into the SME's are government institutions, local suppliers, foreign suppliers, R&D institutions, industries etc. Recent studies on sources of technology for SME's have found that the entrepreneurs obtained technological knowledge mainly from local suppliers. Technology identification, acquisition, transfer, adoption and upgradation are some of key issues in relation to technology management relevant to SME's.

4.2 Monitoring and Measuring SME's - Small Industries Development Organization (SIDO) under Ministry of Industry formulates and monitors policies and programs, provides business services, establishes product-cum-production development centres for SME's. Small Industries Development Bank of India (SIDBI), a special financial Institution offers long term credit facility as well offers assistance in marketing and export promotion to SME's etc., like this many institutions and organizations have offered assistance and advices and at the same time measure and monitor for effective and efficient functioning of SME's [7].

5. GLANCE AT ENTREPRENEURSHIP DEVELOPMENT IN INDIA

Entrepreneurship is a global and multifaceted phenomenon with significant difference between countries. It has positive relationship between entrepreneurship and economic growth that contribute towards the wealth and social development of a nation under the given technological, industrial and political framework. The government support for the small firm sector like funding infrastructure and protection from competition has been withdrawn. Social and cultural norms in India favour stability and security. Capital investment, particularly for early stage development, is a major hurdle faced by most of the entrepreneurs in India. Growth is hampered due to the scarcity working capital, financial institutions do not appreciate the specific nature of entrepreneur's needs [6].

The infrastructure in the country is better but inadequate, as is the supply of professional and commercial services. There is a short fall in skill-based learning and the principles of the market economy in education. While government agencies and educational institutions carry out quality research and development, there is little focus on the commercial aspects of business. Industry investment in research and development is low.

6. DOMINATING AND INFLUENTIAL FORCES TO NURTURE TECHNO-ENTREPRENEURSHIP

In India, the Government has identified the need to support and nurture entrepreneurship through successful methodologies used world over but adapted those which suit local environment and conditions. Among them some of them are discussed below

6.1 National Science and Technology Entrepreneurship Development Board (NSTEDB) - NSTEDB, established by the Government of India in 1982, is the nodal government agency promoting various mechanisms to promote gainful self-employment in the country and to link idle S&T manpower with the under-utilized institutional credit facilities. The Board is being serviced by a government organization named Department of Science and technology (DST) with major objectives being;

- Promoting and developing entrepreneurship through the use of S&T.
- Facilitating various informational services relating to entrepreneurship development.
- Networking central, state government agencies and NGO's in entrepreneurship and self-employment development.
- As an advisory body to the Government agencies in regarding entrepreneurship.

These programs have created awareness among Science and technology persons to take to entrepreneurship as a career. The academicians and researchers have started taking keen interest in such socially relevant roles. There are around more than 100 organizations, most of which are academic institutions and agencies, who have taken the task of entrepreneurship development and employment generation. More programs are being evolved to suit the changing economic scenario and the available scope for entrepreneurship development.

- STEP – Science and Technology Entrepreneurs Park.
- EDC – Entrepreneurship Development Cell.

- EDP – Entrepreneurship Development Program.
- OLPE – Open Learning Program in Entrepreneurship.
- EAC – Entrepreneurship Awareness Camp.
- STEDS – Science and Technology Entrepreneurship Development Scheme.
- FDP – Faculty Development Program.
- TEDP – Technology-based Entrepreneurship Development Program.

6.2 Science and Technology Entrepreneurs Park (STEP) - The Science Park and similar initiatives in the developed countries are the latest in the evolutionary line to create an atmosphere for innovation and entrepreneurship; for active interaction between academics and industries; for sharing ideas, knowledge, experience and facilities for the development of new technologies and their rapid transfer to the end user. STEP provides a reorientation in approach to innovation and entrepreneurship involving education, training, research, finance, management and government. It has been promoted jointly by the DST, state government, financial institutions and the host institutions. The prime objectives of STEP's are to:

- Link between universities, academic and R&D institutions.
- Promote entrepreneurship among science and technology persons.
- Provide R&D support to the small-scale industry.
- Promote innovation based enterprises

The NSTEDB, jointly with all India financial institutions, has so far catalyzed 15 STEP's in different parts India which have promoted nearly 1000 units generating annual turnover of about more than Rs 150 crores and employment nearly 7,000 persons. More than 100 new products and technologies have been developed by the STEP's promoted entrepreneurs. STEP has taken the privilege in setting the TBI nomenclature to discuss social and economic prospects. The following aspects are concentrated by STEP to accomplish the proceedings of TBI.

7. TECHNOLOGY BUSINESS INCUBATION (TBI) MECHANISMS

Various enabling factors crucial for the success of incubating mechanisms in a country are R&D expenditures, new technologies, R&D, Resources, Technology, Production, Costs and Socio-economic conditions. Start up entrepreneurs need various support services like marketing, business facilitation, technical expertise, resources for financing and business management during their initial phase to enhance its survival. Incubators provide a conducive atmosphere and a range of critical support services and needed facilities to nurture and support a start-up. Various mechanisms like science parks, technology parks, innovation centres, technology business incubators are being experimented world over to catalyze growth of technology based new enterprises. Some of the Indian experiments on Technology Business incubation are presented below.

7.1 Technology Business Incubators (TBI) – A TBI helps in incubating knowledge-based start-ups into commercially viable products/services by providing specialized guidance, critical support services, innovative financing and networking support within a conducive environment.

7.1.1 World scenario on TBI - At present, there are around 3,000 incubators of various types operational in the world. In the United States, there are over 800 incubators including about 200 Internet incubators. Europe has about 1,000 incubators including 300 incubators in Germany. Among the developing countries, China leads with about 100 incubators. Among the industrializing countries, Republic of Korea is reported to have about 300 incubators. Earlier (1980s) incubators were essentially offering affordable space and shared facilities to carefully selected entrepreneurial groups [5].

Thereafter, the incubators started varying widely in key respects such as objectives, sectoral focus, and business modes, etc. In some countries the incubators were set up for empowerment, while in others for technology commercialization. In the 1990s, workspace and shared facilities were supplemented with counselling, skills enhancement and networking services to access professional support and seed capital. With the technological progress, the incubators are intended to mobilize information and communication technology (ICT) and provide a convergence of support, towards creating knowledge-based ventures. An incubator combining technology with business is a technology business incubator. Virtual incubator or incubators without walls have also emerged recently, which offers need-based services by networking with the relevant agencies.

7.1.2 Indian scenario on TBI – The techno entrepreneurship initiative was started by the Department of Science and Technology (DST) in 1985 through the establishment of Science and Technology Entrepreneurship Parks (STEP's). The concept revolved around the creation of STEP in academic institutions / research lab of excellence with an objective of opening doors of self

employment for young Science and Technology graduates. With the maturity of STEP's in changing economic scenario, the DST established TBIs in the year 2000. Today there are more than 40 STEP's / TBIs promoted by DST and in addition several other ministry's and private players have established TBIs which today totals to 100.

The TBI's are aimed at achieving the following objectives:

- Enterprise and entrepreneurship development: An appropriate tool for economic development by promoting technology/knowledge-based businesses, culture of technopreneurship and creation of value added new jobs;
- Technology commercialization: To provide a platform for speedy commercialization of the technologies developed in the institutes to reach the end-users;
- To provide an interfacing and networking mechanism between academic, R&D institutions, industries and financial institutions;
- To provide value addition through its services provided to its tenants as well as to the existing technology dominated SMEs;
- To provide R&D for industry: It also enables small industry to take up R&D activity and the technology upgradation activities.

7.2 Working mechanism of TBI - The working mechanism of a typical TBI is shown below.

The various aspects in the successful operation of a TBI are its location, preferably to a knowledge source with some formal links. A well-structured business plan should include the identified focus areas, a good management team, plan for arrangement of financial resources including cash inflow and outflow. It should provide a sophisticated array of services and devise well-defined tenant selection and exit mechanisms. It should be properly networked with the relevant agencies as shown below.

7.3 TBI mechanism for India – Experiences show that a single model does not exist to all locations. Suitable models are being developed keeping the local needs, climate and the objectives in view. India being diversified in nature, a single and a uniform model may not be suitable. For each local need different models are worked out after examining the local infrastructure availability and overall framework of objectives to be achieved [3].

TBI's initially targeted academic institutions/R&D institutions of excellence with areas of focus being information technology, biotechnology, Materials management, agriculture, design, instrumentation and much more. The services rendered by TBI's involve;

- Managing business and professional services necessary for nurturing and supporting early stage growth of technologies and technology-based enterprises.
- Providing workspace, communication facilities, phone, fax, Internet and other shared services including secretarial assistance.
- Business skill development, Business planning and development.

- Business management and networking with stakeholders.
- Other specialized services like Design, R&D, testing, legal, etc.

A TBI is also expected to assist the start-up firms with financial support such as venture capital, funding from angel investors and other financing mechanisms and equity participation.

7.4 Venture Capital funders in India – In India the impact of venture in the new enterprises are low. The first origin of modern day venture capital in India can be traced to the setting up of a Technology Development Fund (TDF) in the year 1987-1988, through the levy of a cess on all technology import payments. In 1988, Technology Development and Information Company of India (TDICI) [presently known as ICICI (Industrial Credit and Investment Corporation of India) Ventures] and Gujarat Venture Finance Ltd, (GVFL) were formed. In 1996, Stock Exchange Board of India (SEBI) came out with guidelines for venture capital funds, which paved the way for foreign venture funds to enter India. Some of the Venture Capital funding currently in practice includes; private equity funds; raising funds through public; regional VC funds; Incubators.

With the outburst in IT boom, the Venture Capitals are focusing mainly on biotechnology, telecommunication, entertainment, education and new materials sectors, etc. At present, there are more than 100 established VCs operating in India at the national level as well at state level mainly from the Government (financial institutions) and private sector. The total pool of Indian venture capital today, stands over Rs 50 billion.

8. CONCLUSIONS AND SUGGESTIONS

In next 10 years, knowledge-based industries are likely to acquire greater prominence and SME's are likely to come up in the industry. The role of the Government is to facilitate support to SME's in the era of globalization and to focus on providing human resource development support along with establishment of suitable support mechanisms and nurture technology oriented enterprises.

Some of the suggestions where there is a need to cater includes;

- Availability of Technology database.
- Panel of experts and consultants for guidance and assistance for SME's.
- Organizing workshops, exhibitions and seminars to increase SME awareness of new technologies.
- Periodical assessment of SME sectors.
- Strengthening interaction between SME's with R&D sectors and academic Institutions.
- Increase Venture Capital funding and facilitate access to venture capital scheme and other innovative financing mechanisms.
- Effective networking with other R&D institutions for making the TBI a focal point for technology.
- Define roles and responsibilities of TBI's and Host Institutions.
- Identify key drivers and inhibitors of the Technology Business Incubation Eco system.
- Establishing an analytical model as an aid for the TBI's to self evaluate their performances in

accelerating the growth of start up companies, Incubators and entrepreneurs.

9. REFERENCES

[1] Agrawal, S.P. “Strengthening Technology Incubation System for Creating High Technology-based Enterprises in Asia and the Pacific” 2001.

[2] Bischoff, J. “An overview of successful international technology business incubator programs”, paper presented at the First International Workshop on Technology Business Incubators in India, Bangalore, 29-31 January 2001.

[3] Gupta, A. and B.K. Jain “Technology business incubators: Opportunities and challenges for India”, Asia Pacific Tech Monitor, vol. 19, No. 4, July-August 2002.

[4] Menon, P.K.B “Technology business incubation systems In India”, paper presented at the First International Workshop on Technology Business Incubators in India, Bangalore, 29-31 January 2001.

[5] NBIA, Proceedings of the National Business Incubation Association’s 16th International Conference on Business Incubation: Explore Your World, Enrich Your Community, Toronto, 28 April – 1 May 2002.

[6] Raetz, Gerhard “Technology incubation: An instrument to support new enterprises”, Asia Pacific TechMonitor, Jan-Feb 2001.

[7] Global Entrepreneurship Monitor 2001 Executive Report (London, GEM).

Woo-Geun Song “Report of the Regional Consultative Meeting on Strengthening Technology Incubation System for Creating High Technology-

Based Enterprises in Asia and the Pacific”, in Strengthening Technology Incubation System for Creating High Technology-based Enterprises in Asia and the Pacific 2001.