FOSTERING SUCCESSFUL ENTREPRENEURIAL VENTURES: INCUBATION AND COMMERCIALISATION IN INDIA

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FOSTERING SUCCESSFUL ENTREPRENEURIAL VENTURES: INCUBATION AND COMMERCIALISATION IN INDIA
1. THE NEED FOR FOSTERING ENTREPRENEURSHIP IN INDIA

Entrepreneurship is vital for job creation in an economy. An entrepreneurial culture also promotes innovation, productivity improvement and human capital development. Globally, new businesses have created disproportionately more jobs than established ones. As per a US-based research paper, existing firms cut 1 million jobs combined per year between 1977 and 2005 in the US, in contrast to new firms (less than one year old), which added an average of 3 million jobs during the same period. Existing firms were net job destroyers in all but seven years during the period under study. In India, statistics indicate that a 35-year old firm’s productivity doubles during the period of its existence, but headcount actually rises by a fourth. Israel’s unemployment rate was seen to fall to 5.5 per cent in 2011 from 9 per cent in 2000 due to a 23 per cent annual growth in new businesses.

India’s large employable population base will require rapid employment generation. Based on United Nations’ forecasts, India’s working age population (15-64 years) is expected to increase by 163 million between now and 2025. The country is expected to account for more than three-fourths of the rise in global working age population over 2012-25. India is expected to need 10-15 million new jobs per year over the next decade.

In this context, fostering entrepreneurial ventures will be critical to leveraging India’s demographic dividend. Large companies are unlikely to generate enough jobs. Employment generation in large private companies will also be limited by rising automation and productivity gains. Agriculture (currently providing 50 per cent of employment in India), too, will see low levels of job creation as productivity improves. The onus of employment generation, therefore, lies on entrepreneurial ventures.

Despite the nascent state of entrepreneurship in India currently, the potential for fostering new ventures is immense. The country’s entrepreneurial environment is showing signs of improvement with the rise in the number of operational micro, small and medium enterprises (MSMEs). There is a potential to build around 2,500 highly-scalable businesses in the next decade, which will require at least 10,000 start-ups to be incubated, given the high failure rate associated with entrepreneurial ventures.

2. INCUBATION AND COMMERCIALISATION INFRASTRUCTURE IN INDIA

Incubators help entrepreneurs develop their ideas to a point where investors can see the viability of the business model. They provide services such as mentoring, advisory, access to technology experts and potentially seed funding. For instance, Villgro Innovations Foundation specifically provides market-based solutions to rural development, and The Startup Centre is an accelerator program for technology start-ups.

Commercialisation has been identified as a major factor in the economic development of any country. For a country, investments in R&D, protection of the R&D output and government commitment have

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1Barbara Pruitt, Kauffman Foundation, July 7, 2010 and Bain Research
2World Development Report 2013
3"Creating a Vibrant Entrepreneurial Ecosystem in India", Report of The Committee on Angel Investment & Early Stage Venture Capital, Planning Commission of India, June 2010
4United Nations
5"Creating a Vibrant Entrepreneurial Ecosystem in India", Report of The Committee on Angel Investment & Early Stage Venture Capital, Planning Commission of India, June 2010
been identified as building blocks of technological commercialisation\(^4\). Besides these basic parameters, there are various factors, such as financing, infrastructure support, regulatory framework and consumption patterns that enable commercialisation. These factors together create the entrepreneurial ecosystem.

![Figure 1: Entrepreneurship ecosystem](image)

### 2.1 Incubation in India: Time to emerge from the nascent phase

Incubators are a very critical part of the entrepreneurial ecosystem. In addition to mentoring, incubators provide physical infrastructure, access to business networks and investors to early stage ventures; so that the latter can form critical mass, which is often required for successful commercialisation. Incubators in India are inadequate, especially when compared to global peers (refer Figure 2). Currently, there are 120 incubators in India, which incubate around 500 companies annually, as compared to 8,000 companies incubated annually in China. The Planning Commission of India estimates the demand for additional incubators at 1,000 over the next 10 years and expects them to cover most of the Tier I and II cities in India. It further projects an investment of ~US$ 55 billion through angel investors, incubators, venture capital funds and banks and financial institutions over the next decade for promoting entrepreneurship in the country.

\(^4\)BayhDole25, Inc
2.2 Role of educational institutions in incubation

There is a strong connect between thriving entrepreneurial activity and a culture supportive of entrepreneurship. Educational institutes are the key to developing an entrepreneurial mindset, which includes higher risk taking abilities and higher tolerance of failure. As per a survey conducted in 2012, 44,500 students were enrolled in entrepreneurship programs across the country. This number is expected to have increased at a CAGR of 20.4 per cent to have reached 54,700 by end of 2012\(^7\).

**B-schools providing thrust to entrepreneurship in India**

A number of B-schools are offering courses in entrepreneurship, which have become the core activity of entrepreneurship education in India. Some of the B-schools have introduced entrepreneurship education in their curriculum, while most of them provide it as an elective.

**Examples of entrepreneurship courses with top B-schools in India**

- The Indian School of Business (ISB), Hyderabad, is affiliated to non-profit organisation Wadhwani Foundation, which is committed to promoting entrepreneurship
- National Institute of Industrial Engineering (NITIE) was the first college in India to start entrepreneurship education
- National Centre for Student Enterprise’s (NCSE) main purpose is to assist students in entrepreneurship

\(^7\)International Journal of Engineering and Management Research
Many entrepreneurship centres have been set up to coordinate the broad array of activities, programs and resources within B-schools:

- NS Raghavan Centre for Entrepreneurial Learning in Indian Institute of Management (IIM) Bangalore (NSRCEL – IIMB) carries out international collaboration projects

- IIM Kolkata’s entrepreneurship cell holds one of the biggest business plan contests in Asia, i2I (ideas to implementation) with Yale University’s Yale Entrepreneurial Society (YES)

- Indian Institute of Technology (IIT), Kharagpur, is one of the few technical institutes in India running a separate programme on entrepreneurship. IIT Kharagpur’s Science & Technology Entrepreneurs’ Park (STEP) functions as an incubator for student ventures

Educational institutions also provide on-campus incubation programs. These programs perform the vital function of keeping ventures alive before private incubators sponsored by large companies or angel and venture capital funds step in. All four IIT campuses and the Vellore Institute Technology (VIT) run incubators. Successfully incubated ventures include:

- IIT-Bombay’s Society for Innovation and Entrepreneurship – SMS Gupshup, Mobiance Technologies, Voyager2Infotech, Zeus Numeric, Webaroo, Bhugol GIS, Geosyndicate Power, Myzus Technologies, SecLore Technologies, Feast, Powai Labs and Herald Logic

- IIT-Kharagpur’s Technology Incubation and Entrepreneurship Training Society – P2 Power Solutions

- VIT’s Technology and Business Incubator – Param Health Foods

Support by educational institutes has certainly encouraged entrepreneurship. In 2012, 63 students from seven top B-schools in India opted out of the placement process to start their own entrepreneurial ventures. In a recent Universum survey, it was revealed that at least 20 per cent of MBA students in India want to start their own ventures, as compared to 10 per cent in the US and 12 per cent in Germany. Similarly, 26 per cent of IT students and 16 per cent of engineering students surveyed in India expressed the desire to start their own business.
2.3 Policy and regulatory environment: Government initiatives

Government and regulators play a very crucial role in supporting entrepreneurship. Growth of entrepreneurs is largely dependent upon the framework of policies and procedures, as it defines the ease of creating and operating new ventures, as well as financing of ventures.

Over the years, the Indian government has taken several initiatives to drive entrepreneurship in the country and make India a more market-oriented economy. It has also established support mechanisms to foster entrepreneurship in the country.

Supporting the growth of incubators

- The Department of Science and Technology has supported more than 50 incubation centres and is providing funds of up to US$ 100,000 to each start-up supported through their incubators.

- The Department of Information Technology, Ministry of New and Renewable Energy, Ministry of Small and Medium Enterprises and Department of Telecom have all started various schemes to promote entrepreneurship and innovation in their respective domains. These departments are now looking to increase their scale of support and are planning to create as many as 1,000 government-supported incubators.

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**Figure 3**

Number of students opting to start their own entrepreneurial ventures

- ISB, Hyderabad, 46
- IIM (A), 6
- IIM (K), 1
- XLRI, 1
- IIM (B), 8
- S P Jain, 1
- XIM (B), 0

Initiatives to boost entrepreneurship and commercialisation

The Government of India and Ministry of Science and Technology have initiated various programs to support entrepreneurship and commercialisation. These include:

- The Science & Technology Entrepreneurs Parks (STEP) programme was initiated by the National Science & Technology Entrepreneurship Development Board (NSTEDB) in 1984 in collaboration with all Indian financial institutions (IDBI, IFCI and ICICI). STEP enables the setting-up of entrepreneurial ventures and fosters close linkages between universities, academic and R&D institutions on the one hand and industry on the other.

- Various schemes have been launched by technology business incubators (TBIs). TBIs are institutional mechanisms promoted by the Department of Science and Technology (DST). These are established in and around the academic institutions of excellence and select R&D institutions. They offer a fostering environment, networking and linkages to promote entrepreneurs.

- Innovation and Entrepreneurship Development Cell is promoted in educational institutes to create an entrepreneurial culture and encourage innovation amongst students.

- Entrepreneurship Development Program, a training program of 6-8 weeks duration, aims to train students in various aspects of starting an enterprise.

- Open Learning Program in Entrepreneurship is a distance learning programme that helps potential entrepreneurs through study materials and contact programmes, which impart knowledge on end-to-end processes involved in running an entrepreneurial venture.

- Entrepreneurship Awareness Camp is a three-day training programme that exposes students to entrepreneurship as a career option.

- Science and Technology Entrepreneurship Development Scheme aims at socio-economic development of an area by optimising the usage of natural and human resources of the area.

- Faculty Development Program is aimed at training faculty members of S&T institutions; so that they, in turn, can inspire students to take up entrepreneurial career options.

- Technology-based Entrepreneurship Development Program is a 6-week training programme developed jointly in association with R&D institutions, CSIR labs, etc. This training focuses on specific products and technologies.

- Biotechnology parks are being promoted by the Department of Biotechnology (DBT).

- Federation of Indian Chambers of Commerce and Industry (FICCI), in association with the Ministry of Micro, Small and Medium Enterprises (MSMEs), has established an Intellectual Property Facilitation Centre (IPFC) to guide MSMEs regarding the utilisation of IP tools and technologies for better management of their intellectual property related needs.
Various state governments and private agencies are aiming at establishing property-based initiatives such as Info Park, Knowledge Park, Agro Park and Tidel Park; as well as the incubators promoted by the private industrial houses.

**Initiatives announced in Union Budget, 2013**

**Start-ups**
- SMEs are now allowed to list at the two SME exchanges in the country without going through the elaborate process of an initial public offering (IPO).

**Incubators**
- All the funds provided to technology incubators located within academic institutions and approved by the Ministry of Science and Technology or Ministry of MSME are being qualified as CSR expenditure.

**Angel investors**
- Securities and Exchange Board of India (SEBI) would prescribe requirements for ‘angel investor pools’, by which they can be recognised as Category I AIF venture capital funds and thereby receive tax benefits.

**MSMEs**
- An MSME unit would continue to receive non-tax benefits for three years after it graduates to a higher category.
- The refinancing capability of SIDBI was enhanced from the current level of Rs 50 billion to Rs 100 billion per annum.
- An additional Rs 1 billion has been allocated to the India Microfinance Equity Fund, which provides equity and quasi-equity to microfinance institutions (MFIs).
- Around Rs 5 billion has been provided to SIDBI to set up a credit guarantee fund for factoring.
- About Rs 22 billion (with World Bank assistance) has been provided during the 12th Plan period to set up 15 additional tool rooms and technology development centres.

### 2.4 Role of international institutions and investments

Alliances between India and other nations as well as global institutions also play a role in fostering commercialisation. Examples of international collaboration for encouraging commercialisation of entrepreneurial ventures in India include:

- The International Centre for the Advancement of Manufacturing Technology (ICAMT) was established by United Nations Industrial Development Organisation (UNIDO) in cooperation with the Government
of India. ICAMT promotes manufacturing technologies and innovations to enhance industrial competitiveness in India and other developing countries. The Government of India finances the Centre through contributions to the Industrial Development Fund (IDF) of UNIDO. The pilot phase of ICAMT was formally launched in October 1999 followed by two operational phases, starting in August 2002 and in May 2008, respectively. Total budget earmarked for Phase II is US$ 2.5 million, including US$ 400,000 to be mobilised from other organisations and institutions.

- The India, Brazil, South Africa (IBSA) initiative, a coordinating mechanism, aims to enhance trilateral trade and cooperation between the three countries. It includes technological collaboration in pharmaceuticals and healthcare, information and communication technologies (ICTs), civil aviation and defence sectors.

- Techno-Economic Approach for Africa-India Movement (TEAM 9) initiative is focused on enhancing commercial relations between eight West African countries and India. Under TEAM 9, India has invested US$ 500 million in lines of credit (LOC) to finance priority projects in select countries. Besides increasing trade, it also aims to promote technology transfers in sectors such as agriculture, small-scale industries, pharmaceuticals and ICT.

- Millennium Alliance: In July, 2012, India entered into an alliance with the US to promote innovation in India called ‘Millennium Alliance’. This would entail the provision of essential resources such as seed funding, business incubation services, networking opportunities and technical assistance to grassroots innovators in order to resolve development issues. This alliance has been launched as a public-private partnership between the Federation of Indian Chambers of Commerce & Industry (FICCI), the US Agency for International Development (USAID) and the Indian government’s Technology Development Board, wherein FICCI and USAID would be investing US$ 7.7 million each and the Technology Development Board would contribute US$ 5 million. Furthermore, parties to the alliance have set a target to raise an additional US$ 35 million to fund new initiatives by mid-2013; bringing the total amount to at least US$ 50 million.

Foreign Direct Investment (FDI) has emerged as one of the key facilitators of entrepreneurship and technological transfers, especially in developing countries. With a booming Indian economy and tremendous opportunities for entrepreneurship, many non-resident Indian (NRI) entrepreneurs with overseas experience are relocating to India and building companies with cross-border models that leverage technology and skills, while catering to customers across the world. For instance, Naveen Tewari, a Harvard Business School graduate, co-founded InMobi, a technology company for mobile advertising networks that is now the world’s second largest network behind Google’s AdMob.

The government is also promoting NRI investments in entrepreneurial ventures. An exclusive zone for start-up companies that would be promoted by NRI entrepreneurs has been established in the state of Kerala. The facility is to be set up in the public-private partnership mode as a joint initiative of Technopark TBI; Department of Science And Technology, Government of India; Non-Resident Keralites Affairs Department (NORKA) of Kerala and Infopark.

There has been a rising FDI interest in India’s R&D and technological transfers. The increasing interest and participation of investors in India’s R&D gives the desired push to entrepreneurship development in the country. FDI inflows in India have increased from US$ 34.8 billion during 2010-11 to US$ 46.6 billion.
in 2011-12. The Government of India has approved 8,151 foreign technology cases from August 1991 to March 2012. Amongst the approved cases, the electrical equipment sector led the growth, followed by chemicals, other than fertilisers and industrial machinery (refer Figure 5).

**Figure 4**

FDI inflows in India

![FDI inflows in India](image)

Source: Department of Industrial Policy & Promotion
*Till February 2013

**Figure 5**

Foreign technical collaboration approvals

![Foreign technical collaboration approvals](image)

Source: Indo-German Investments and Cooperation - Annual Review 2012
3. EARLY STAGE FINANCING IN INDIA: PARTICIPANTS AND TRENDS

Indian entrepreneurs seeking to start a business typically seek to access funding through six major sources. As per a report by the National Knowledge Commission on entrepreneurship in 2007, around 63 per cent of the businesses were found to be self-financed (family/friends, family business or own savings). Around 22 per cent accessed finance by banks, followed by 9 per cent from state financial corporations, and 3 per cent each from venture capitalists and angel investors:

![Figure 6](image)

3.1 Participants

- **Friends & family**
  - Investments are made at the idea stage with little or no operational business.
  - This assistance helps in converting an idea into a business venture.

- **Incubators**
  - Incubators help entrepreneurs develop ideas to a point where investors can see the viability of the business model.
  - Provide hard infrastructure and services such as mentoring, advisory, access to technology experts and potentially seed funding.
  - For their role, they usually charge a small fee from the entrepreneur and could take up stake in the venture.

- **Angel investors**
  - Angel investors are high net worth individuals (HNWIs), successful serial entrepreneurs or senior professionals.
  - They offer capital, mentor entrepreneurs and provide access to networks.
Essentially, angel investors help scale ideas to a stage where institutional seed and venture funds would typically not invest.

**Venture capitalists (VCs)**
- They are institutional investors, who invest capital in firms with a proven business model that need capital to scale up the business.
- Typically, they follow incubation or angel investments.
- The VC fund is a pooled investment vehicle, where institutional and high net worth individual investors pool in their money, which is then managed by an asset management company (AMC).

**Corporate investments**
- These are led by large businesses that invest in emerging ventures, especially in ones that are related to their work domain.

**Debt**
- Providers include banks and financial institutions along with specialised vehicles, which focus on new ventures.

### 3.2 Start-up financing trends: Early stage attracting investments

Investments in entrepreneurial ventures can be classified into seed stage (typically financed by angel investors), early stage, and growth and late stage (funded by venture capitalists). While investments in early stage companies generally range between Rs 50-200 million, those in growth and late stage typically exceed Rs 1.1 billion.
Angel investors’ participation in India has historically been slow as compared to other countries, primarily due to the nature of investments that entail long payback periods and higher risks. However, recently, there has been a strong growth in angel investments in the country, with angel investors funding early stage companies seeking less than US$ 20 million. There were 114 angel and seed investments worth US$ 60 million during January-November, 2012, as compared to 65 deals worth US$ 19 million during the same period in 2011\(^8\).

Early-stage funding in India has also seen an uptick, with several angel investors moving beyond seed capital and several large VC firms moving from growth-stage funding to early-stage funding. Over the last two years, early-stage funding in India rose to 149 deals worth US$ 397 million by November 2012 from 99 deals worth US$ 334 million in 2010\(^9\). A majority of the investments took place in start-ups in IT-related ventures, and sectors such as clean technology and renewable energy, retail, healthcare and education.

4. COMMERCIAL PARTICIPANTS IN FINANCING ENTREPRENEURIAL VENTURES

4.1 MSME funding a key agenda for government

Micro, small and medium enterprises (MSMEs) play a very important role in the Indian economy. Besides providing employment, MSMEs contribute significantly towards the country’s manufacturing output and exports. MSMEs in India account for around 8.5 per cent of GDP, 45 per cent of manufacturing output and 36 per cent of India’s total exports\(^10\).

\(^8\)VCCEdge
\(^9\)Venture Intelligence
\(^10\)Ministry of Micro Small and Medium Enterprises
Table 1

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<th>Employment (in millions)</th>
<th>Fixed investment (Rs billion)</th>
<th>Production (in billions)</th>
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Source: Ministry of Micro, Small and Medium Enterprises

Figure 8

Support for promoting MSME and MSME financing

- **Legal and regulatory framework**
  - Legal and regulatory framework to define the sector - MSMED Act, 2006
  - Financial regulations to bolster the supply of finance – SARFAESI 2002, Credit Information Companies (Regulation) Act, 2005
  - Inclusion of MSME under the purview of priority sector lending
  - Master circulars on lending to MSMEs

- **Government support**
  - Policies to facilitate multi-pronged support – skill development, market linkages, technology adoption and infrastructure
  - Promotion of cluster development
  - Financial support through apex sector bodies like SIDBI
  - Funding support for credit guarantee schemes to enhance unsecured financing
  - Financial support to increase credit rating penetration

- **Financial infrastructure support**
  - Credit bureaus to track credit history of enterprises
  - Collateral registry for immovable assets
  - Credit rating agencies
  - Asset reconstruction companies
  - Small and medium enterprises (SME) Stock Exchange to facilitate primary and secondary transactions for SME securities
  - RBI recently extended the MSME’s priority sector credit limit to US$ 2.7 billion

Source: International Finance Corporation, World Bank Group
As per a recent study, only one-fourth of the financing demand of India’s MSMEs is met by financial institutions. MSMEs in India are facing a total finance shortfall of over US$ 400 billion. While formal sources are able to fund only around US$ 140 billion, banks provide US$ 70 billion. The Government of India and the regulators have instituted various policies to facilitate the growth of the MSME sector and encourage participation of financial institutions in funding MSMEs. Figure 8 lays down key initiatives and actions undertaken by the government and regulatory authorities to aid MSME financing in the country.

### Trends in SME financing in India

**Traditional lending giving way to factoring:** Factoring services enable the entrepreneurial ventures to raise funds secured on the issuance of new invoices or its receivables. This fund raising service provides flexibility as the amount a company can borrow grows with sales. Factoring is emerging as a lucrative financing option for SMEs in India, as traditional options remain inadequate. Globally, factoring is employed as one of most important routes of accessing working capital for SMEs. Timely payments from customers help SMEs save on interest costs and hence boost profitability. As per a recent study, SMEs can strengthen profits by at least 15 per cent if they get payments on time from their big corporate customers.

**Extending to global avenues:** Developing trade ties between India and other developed nations has led to developed nations offering grants to sunrise and technologically-advanced sectors in India. For instance, several bio-gas or solar power projects have received financial assistance from various overseas trade associations.

### 4.2 Corporate entities supporting start-ups – A win-win situation

Corporate entities, including multinational corporations (MNCs) in India, are increasingly playing a key role in providing solutions and low-cost tools to new ventures. This reflects a win-win situation, as the large company benefits from product innovation and entry into new markets. On the other hand, infrastructure support enables SMEs to introduce their products and upgrades more competitively into a fast changing technology environment. Many companies, such as IBM, Microsoft, SAP, Qualcomm and Google, have stepped in to support Indian start-ups by providing them free tools, applications and technologies. Such collaboration between MNCs and start-up ventures results in various synergies such as:

- **Software support:** Technology MNCs can help tech start-ups by providing free and open source software that enables start-ups to save costs. For instance, Google provides Google App Engine, Maps API, OpenSocial and Google Friend Connect to help start-ups launch online offerings. Microsoft’s BizSpark programme also allows start-ups to access licensed software free of cost.

- **Affiliation:** Being affiliated with an MNC helps start-ups to gain global visibility, whereas the MNCs benefit from exporting innovation to global markets.

- **Overall tech support:** MNCs also provide their business and technology expertise to SMEs in order to improve the overall technology ecosystem in the country.

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11International Finance Corporation, World Bank Group  
12Credit Rating Information Service of India (CRISIL)
5. TYPES OF DEALS

Entrepreneurs may choose to enter into deals with corporate partners/financers via two modes – licensing agreements or joint ventures.

5.1 Licensing agreements

Licensing agreements are used as a method for establishing entrepreneurial ventures when the inventor of the idea, product or service requires funds or some other form of assistance to commercialise the product or service. Under this method, the inventor (licensor), licenses the invention’s patent rights to the company (the licensee). This would comprise rights to produce, market, sell and/or use the invention or idea in exchange for either royalties from product sales or a fixed payment.

Entering into a licensing agreement is suitable when:

- The inventor does not want to invest time, money and risk into manufacturing the product
- It makes more sense to license a product to a company that already makes similar products
- Licensing is ideal for the person or team that wants to keep inventing rather than starting and running a company

Example: Reliance Communications licenses Qualcomm’s CDMA technology

The Government of India has initiated efforts to boost the teledensity in the country via the New Telecom Policy of 1999. This enabled international operators to invest and compete in the domestic cellular market. Reliance Infocomm’s services at that time were restricted to provision of limited-mobility networks in major urban and rural areas under basic telephone service licenses.

In order to penetrate the cellular services market in India, Reliance Infocomm entered into a licensing agreement with Qualcomm in 2002-03 to utilise CDMA chip technology, for which Qualcomm holds patents. Initially, Qualcomm was charging 5 per cent royalty from the telecom operators. However, over a period of time, the royalty rates have reduced owing to rising pressure from telecom operators. Currently, the average royalty rates for Qualcomm have declined to about 3.5 per cent\textsuperscript{13}.

Example: Disposable blood bag technology

Disposable bio-medical plastic bags were developed by Sri Chitra Thirunal Institute for Medical Sciences and Technology, Thiruvananthapuram in 1977-78. These bags were used for collection, storage, transportation and transfusion of blood & blood components. This technology was developed with an investment of US$ 24,667, which was funded by National Research Development Corporation (NRDC). The technology was assigned to NRDC for commercialisation in 1980.

The first technological license was issued to Peninsula Polymers Ltd in 1983 for a license fee of \textsuperscript{13}Trefis
US$ 31,091 and royalty of 3 per cent for 10 years on non-exclusive mode. NRDC and Kerala State Industrial Development Corporation (KSIDC) infused 25 per cent of equity in the venture. The agreement also required NRDC to provide technical support.

The plant was commissioned in 1986 and the production commenced in 1987-88. The company introduced the product at US$ 0.77 a bag, while bags of Japanese origin were available for US$ 2.32. The company faced issues when Japanese bags were dumped in India for a price of US$ 0.62 per bag. However, NRDC was successful in getting an anti-dumping duty implemented to tackle the same.

The technology was also licensed out to M/s Hindustan Latex Ltd in 1991 for a license fee of US$ 92,026 and a royalty of 3 per cent for 10 years on non-exclusive mode. During 1994, two other licenses were given to J Mitra & Company and Electro-Medical and Allied Industries, wherein each licensee paid US$ 0.14 million as fee and 3 per cent royalty for 10 years on non-exclusive mode. The product has been a great success and is now accepted internationally. It is exported to Africa, Southeast Asia and Europe.

5.2 Joint venture

A joint venture entrepreneurship involves establishment of a business venture owned by two or more separate entities with all the partners having investment in the said venture. Furthermore, partners are also required to have active management involvement in the operations of the joint venture.

Entering into a joint venture is suitable when:

- The entrepreneur has insufficient cash or infrastructure to establish the company by himself.
- The established business has insufficient cash to acquire the business at a price acceptable to the entrepreneur.

Example: Biocon

Biocon India was incorporated as a joint venture between Biocon Biochemicals Ltd of Ireland and an Indian entrepreneur, Kiran Mazumdar-Shaw, in 1978. The company was founded in the garage of a rented house in Bangalore.

Biocon started its operations with production of enzymes and supplied them to brewing, textiles, biofuels, animal feed and other such industries across the world. In the mid-1980s, with a loan of US$ 250,000 from ICICI Bank, Biocon was able to build a solid-state fermentation plant, which helped in the growth of its R&D activities.

In 1989, the Irish Biocon was acquired by Unilever. In the mid-1990s, Kiran Mazumdar-Shaw decided to enter the biopharmaceuticals market. However, Unilever, a major shareholder, did not want to be in the biopharmaceuticals business. At that time, Kiran Mazumdar-Shaw’s husband, John Shaw, bought out Unilever’s entire stake in Biocon. Biocon then ventured into the lucrative biopharmaceutical market. In 2007, Biocon divested its enzymes business to Novozymes A/S of Denmark. Today, Biocon has evolved from an enzyme company to a fully integrated biopharmaceutical company. The company’s revenues have gone up from US$ 18.9 million in 1998 to US$ 468 million in 2013.
6. SUCCESS STORIES

The information technology services industry is a showcase of India’s entrepreneurial potential. The industry has been largely driven by first generation, middle-class Indian entrepreneurs. In a span of 20 years, the IT services industry has grown to around US$ 88 billion. In the process, the industry has created 11.7 million jobs – 2.8 million directly and 8.9 million indirectly. The industry now accounts for 25 per cent of India’s exports and 7.5 per cent of the GDP. Similar success has been recorded by the telecommunication industry. Airtel, launched by a first generation entrepreneur, has emerged as one of India’s largest service providers. Two recent successes include jobs portal Naukri.com and e-commerce website Flipkart.com.

6.1 Naukri.com

In 1990s, Sanjeev Bikhchandani came up with the idea of an online job portal and got some workers to reword job advertisements from 29 different newspapers in order to create a job database. He gave his brother a 5 per cent stake in Naukri for offering an angel investment of US$ 25 a month from the US, to a web-hosting firm. Anil Lall, a programmer, was given an 8-9 per cent stake for learning web programming and creating the website. Another friend of Bikhchandani, V. N. Saroja, was given 9 per cent for running the company.

As the business model became popular, venture capitalists started getting interested. However, Bikhchandani turned them down for a long time. In 2000, when JobsAhead, a competitor, was launched and it advertised in a cricket tournament in Sharjah with a budget greater than Naukri’s turnover, Bikhchandani gave ICICI Ventures a 15 per cent stake in Naukri for US$ 1.5 million. In November 2006, Info Edge (India) became the first Indian internet company to get listed on the Indian stock exchange. Besides Naukri.com, it also owns 99acres.com and Jeevansathi.com.

6.2 Flipkart

Flipkart was founded in 2007 by Sachin Bansal and Binny Bansal with a modest investment of ~US$ 8,000. The company adopted the cash-on-delivery model, which proved to be of great significance, since credit card and net banking penetration is very low in India. In its initial years, Flipkart focused on online sales of books and added media, mobile phones and accessories in 2010. It later expanded to electronic goods, apparel and a variety of other products.

After its initial investment of US$ 8,000, Flipkart raised funds from venture capital firms Accel India in 2009 and Tiger Global (US$ 10 million in 2010 and US$ 20 million in June 2011). The company raised its 4th round of US$ 150 million from MIH (part of Naspers Group) and ICONIQ Capital. Flipkart has been rated among the top 20 Indian websites and is India’s largest online bookseller with over 11 million titles on offer\(^\text{14}\).

\(^{14}\text{Alexa traffic rankings}\)
7. OPPORTUNITIES: EXPANDING BEYOND IT

A majority of India’s entrepreneurial success till date have been hinged on the IT/ITeS sector. Yet, besides IT, there are massive investment and growth opportunities in various sectors that are gradually coming to the fore. As per a 2005 study by Hangroves and Smith, the world has witnessed five waves of innovation since 1745.

In view of the increasing energy consumption and environmental challenges, the world is now poised for new innovations in the environment and healthcare areas. India has a unique opportunity to embrace these opportunities to and reap the benefits of a more sustainable development model as compared to the West.

![Figure 9: Proposed sixth wave of innovation driven by ecological sustainability challenges](image-url)
India has vast potential to develop entrepreneurship and innovation in various sectors of the economy due to its young population, increasing education levels, rising social awareness and rapidly improving access to global intellectual and financial capital. The country is witnessing a rapid increase in entrepreneurial activity in lifestyle and wellness (gym, spa, and salons), healthcare (speciality clinic, clinical trials), and education (playschools, online education) sectors, amongst others. We expect these sectors to continue to grow at a brisk pace. Planning Commission of India has identified manufacturing, technology, healthcare, utility, infrastructure and education as the sectors that currently hold strong potential to attract entrepreneurial interest.

<table>
<thead>
<tr>
<th>Figure 10</th>
<th>Potential sectors for entrepreneurship growth in India</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Manufacturing and allied services</strong></td>
<td>• Auto components, electronics, chemicals and metals</td>
</tr>
<tr>
<td><strong>Healthcare and related services</strong></td>
<td>• Medical equipment, hospitals, diagnostic centers, pharma and medical tourism</td>
</tr>
<tr>
<td><strong>Luxury and personal care services</strong></td>
<td>• Gyms, spas, hotels and restaurants</td>
</tr>
<tr>
<td><strong>Infrastructure</strong></td>
<td>• Infra services (operations and maintenance of highways, railways, ports, airports etc.), alternative energy solutions (renewable power generation, water and waste management and other clean-tech solutions)</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>• Content services, test preparation and vocational training</td>
</tr>
</tbody>
</table>

Source: Planning Commission of India
8. CONCLUSION

India’s demographic transition, with 50 per cent of the population below the age of 25, is considered as the driving force behind the country’s economic growth. Given the inadequacy of the public and private sectors to create jobs for this huge demographic, the need for entrepreneurship has never been more evident. After the economic reforms of the 1990s, various guidelines were introduced to facilitate VC funding in the country. Along with economic reforms, the establishment of an SME-specific central government department has led to positive developments in the country’s entrepreneurial landscape. This has resulted in an increase in the number of SMEs and their rising contribution to the country’s production, exports and employment, amongst others.

Entrepreneurship in India is also being supported by an incubation network at educational and government institutions, an improved regulatory framework, and expansion of financing opportunities. These factors have encouraged the funding of businesses, especially in the IT and telecom space over the past two decades. The continuously evolving ecosystem is providing entrepreneurs with a far more enabling environment on all fronts. Going forward, entrepreneurship is also expected to be fostered in sectors beyond IT such as manufacturing, healthcare, utility, infrastructure and education due to the lucrative potential that these sectors command going forward.
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