

Notes of all Units

Methodist College of Engineering & Technology

Entrepreneurship

Unit I&II

Entrepreneurship:

Characteristics, Importance, Types, and Functions of Entrepreneurship

Entrepreneurial development today has become very significant; in view of its being a key to economic development. The objectives of industrial development, regional growth, and employment generation depend upon entrepreneurial development.

Entrepreneurs are, thus, the seeds of industrial development and the fruits of industrial development are greater employment opportunities to unemployed youth, increase in per capita income, higher standard of living and increased individual saving, revenue to the government in the form of income tax, sales tax, export duties, import duties, and balanced regional development.

Concept of Entrepreneurship:

The word “entrepreneur” is derived from the French verb *entreprendre*, which means ‘to undertake’. This refers to those who “undertake” the risk of new enterprises. An enterprise is created by an entrepreneur. The process of creation is called “entrepreneurship”.

Entrepreneurship is a process of actions of an entrepreneur who is a person always in search of something new and exploits such ideas into gainful opportunities by accepting the risk and uncertainty with the enterprise.

Characteristics of Entrepreneurship:

Entrepreneurship is characterized by the following features:

1. Economic and dynamic activity:

Entrepreneurship is an economic activity because it involves the creation and operation of an enterprise with a view to creating value or wealth by ensuring optimum utilisation of scarce resources. Since this value creation activity is performed continuously in the midst of uncertain business environment, therefore, entrepreneurship is regarded as a dynamic force.

2. Related to innovation:

Entrepreneurship involves a continuous search for new ideas. Entrepreneurship compels an individual to continuously evaluate the existing modes of business operations so that more efficient and effective systems can be evolved and adopted. In other words, entrepreneurship is a continuous effort for synergy (optimization of performance) in organizations.

3. Profit potential:

“Profit potential is the likely level of return or compensation to the entrepreneur for taking on the risk of developing an idea into an actual business venture.” Without profit potential, the efforts of entrepreneurs would remain only an abstract and a theoretical leisure activity.

4. Risk bearing:

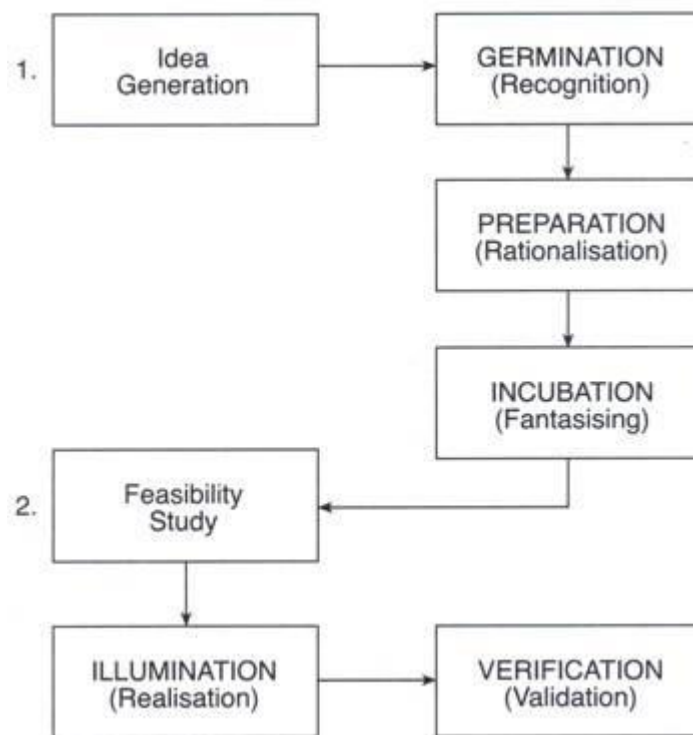
The essence of entrepreneurship is the ‘willingness to assume risk’ arising out of the creation and implementation of new ideas. New ideas are always tentative and their results may not be instantaneous and positive.

An entrepreneur has to have patience to see his efforts bear fruit. In the intervening period (time gap between the conception and implementation of an idea and its results), an entrepreneur has to assume risk. If an entrepreneur does not have the willingness to assume risk, entrepreneurship would never succeed.

Entrepreneurial Process:

Entrepreneurship is a process, a journey, not the destination; a means, not an end. All the successful entrepreneurs like Bill Gates (Microsoft), Warren Buffet (Hathaway), Gordon Moore (Intel) Steve Jobs (Apple Computers), Jack Welch (GE) GD Birla, Jamshedji Tata and others all went through this process.

To establish and run an enterprise it is divided into three parts – the entrepreneurial job, the promotion, and the operation. Entrepreneurial job is restricted to two steps, i.e., generation of an idea and preparation of feasibility report. In this article, we shall restrict ourselves to only these



two aspects of entrepreneurial process.

Figure 4.1: The Entrepreneurial Process

1. Idea Generation:

To generate an idea, the entrepreneurial process has to pass through three stages:

a. Germination:

This is like seeding process, not like planting seed. It is more like the natural seeding. Most creative ideas can be linked to an individual's interest or curiosity about a specific problem or area of study.

b. Preparation:

Once the seed of interest curiosity has taken the shape of a focused idea, creative people start a search for answers to the problems. Inventors will go on for setting up laboratories; designers will think of engineering new product ideas and marketers will study consumer buying habits.

c. Incubation:

This is a stage where the entrepreneurial process enters the subconscious intellectualization. The sub-conscious mind joins the unrelated ideas so as to find a resolution.

2. Feasibility study:

Feasibility study is done to see if the idea can be commercially viable.

It passes through two steps:

a. Illumination:

After the generation of idea, this is the stage when the idea is thought of as a realistic creation. The stage of idea blossoming is critical because ideas by themselves have no meaning.

b. Verification:

This is the last thing to verify the idea as realistic and useful for application. Verification is concerned about practicality to implement an idea and explore its usefulness to the society and the entrepreneur.

Importance of Entrepreneurship:

Entrepreneurship offers the following benefits:

1. Development of managerial capabilities:

The biggest significance of entrepreneurship lies in the fact that it helps in identifying and developing managerial capabilities of entrepreneurs. An entrepreneur studies a problem, identifies its alternatives, compares the alternatives in terms of cost and benefits implications, and finally chooses the best alternative.

This exercise helps in sharpening the decision making skills of an entrepreneur. Besides, these managerial capabilities are used by entrepreneurs in creating new technologies and products in place of older technologies and products resulting in higher performance.

2. Creation of organisations:

Entrepreneurship results into creation of organisations when entrepreneurs assemble and coordinate physical, human and financial resources and direct them towards achievement of objectives through managerial skills.

3. Improving standards of living:

By creating productive organisations, entrepreneurship helps in making a wide variety of goods and services available to the society which results into higher standards of living for the people.

Possession of luxury cars, computers, mobile phones, rapid growth of shopping malls, etc. are pointers to the rising living standards of people, and all this is due to the efforts of entrepreneurs.

4. Means of economic development:

Entrepreneurship involves creation and use of innovative ideas, maximisation of output from given resources, development of managerial skills, etc., and all these factors are so essential for the economic development of a country.

Factors affecting Entrepreneurship:

Entrepreneurship is a complex phenomenon influenced by the interplay of a wide variety of factors.

Some of the important factors are listed below:

1. Personality Factors:

Personal factors, becoming core competencies of entrepreneurs, include:

- (a) Initiative (does things before being asked for)
- (b) Proactive (identification and utilisation of opportunities)
- (c) Perseverance (working against all odds to overcome obstacles and never complacent with success)
- (d) Problem-solver (conceives new ideas and achieves innovative solutions)
- (e) Persuasion (to customers and financiers for patronisation of his business and develops & maintains relationships)
- (f) Self-confidence (takes and sticks to his decisions)
- (g) Self-critical (learning from his mistakes and experiences of others)
- (h) A Planner (collects information, prepares a plan, and monitors performance)
- (i) Risk-taker (the basic quality).

2. Environmental factors:

These factors relate to the conditions in which an entrepreneur has to work. Environmental factors such as political climate, legal system, economic and social conditions, market situations, etc. contribute significantly towards the growth of entrepreneurship. For example, political stability in a country is absolutely essential for smooth economic activity.

Frequent political protests, bandhs, strikes, etc. hinder economic activity and entrepreneurship. Unfair trade practices, irrational monetary and fiscal policies, etc. are a roadblock to the growth of entrepreneurship. Higher income levels of people, desire for new products and sophisticated technology, need for faster means of transport and communication, etc. are the factors that stimulate entrepreneurship.

Thus, it is a combination of both personal and environmental factors that influence entrepreneurship and brings in desired results for the individual, the organisation and the society.

Types of Entrepreneurs:

Depending upon the level of willingness to create innovative ideas, there can be the following types of entrepreneurs:

1. Innovative entrepreneurs:

These entrepreneurs have the ability to think newer, better and more economical ideas of business organisation and management. They are the business leaders and contributors to the economic development of a country.

Inventions like the introduction of a small car 'Nano' by Ratan Tata, organised retailing by Kishore Biyani, making mobile phones available to the common man by Anil Ambani are the works of innovative entrepreneurs.

2. Imitating entrepreneurs:

These entrepreneurs are people who follow the path shown by innovative entrepreneurs. They imitate innovative entrepreneurs because the environment in which they operate is such that it does not permit them to have creative and innovative ideas on their own.

Such entrepreneurs are found in countries and situations marked with weak industrial and institutional base which creates difficulties in initiating innovative ideas.

In our country also, a large number of such entrepreneurs are found in every field of business activity and they fulfill their need for achievement by imitating the ideas introduced by innovative entrepreneurs.

Development of small shopping complexes is the work of imitating entrepreneurs. All the small car manufacturers now are the imitating entrepreneurs.

3. Fabian entrepreneurs:

The dictionary meaning of the term 'fabian' is 'a person seeking victory by delay rather than by a decisive battle'. Fabian entrepreneurs are those individuals who do not show initiative in visualising and implementing new ideas and innovations wait for some development which would motivate them to initiate unless there is an imminent threat to their very existence.

4. Drone entrepreneurs:

The dictionary meaning of the term 'drone' is 'a person who lives on the labor of others'. Drone entrepreneurs are those individuals who are satisfied with the existing mode and speed of business activity and show no inclination in gaining market leadership. In other words, drone entrepreneurs are die-hard conservatives and even ready to suffer the loss of business.

5. Social Entrepreneur:

Social entrepreneurs drive social innovation and transformation in various fields including education, health, human rights, workers' rights, environment and enterprise development.

They undertake poverty alleviation objectives with the zeal of an entrepreneur, business practices and dare to overcome traditional practices and to innovate. Dr Mohammed Yunus of Bangladesh who started Grameen Bank is a case of social entrepreneur.

Functions of an Entrepreneur:

The important functions performed by an entrepreneur are listed below:

1. Innovation:

An entrepreneur is basically an innovator who tries to develop new technology, products, markets, etc. Innovation may involve doing new things or doing existing things differently. An entrepreneur uses his creative faculties to do new things and exploit opportunities in the market. He does not believe in status quo and is always in search of change.

2. Assumption of Risk:

An entrepreneur, by definition, is risk taker and not risk shirker. He is always prepared for assuming losses that may arise on account of new ideas and projects undertaken by him. This willingness to take risks allows an entrepreneur to take initiatives in doing new things and marching ahead in his efforts.

3. Research:

An entrepreneur is a practical dreamer and does a lot of ground-work before taking a leap in his ventures. In other words, an entrepreneur finalizes an idea only after considering a variety of options, analyzing their strengths and weaknesses by applying analytical techniques, testing their applicability, supplementing them with empirical findings, and then choosing the best alternative. It is then that he applies his ideas in practice. The selection of an idea, thus, involves the application of research methodology by an entrepreneur.

4. Development of Management Skills:

The work of an entrepreneur involves the use of managerial skills which he develops while planning, organizing, staffing, directing, controlling and coordinating the activities of business. His managerial skills get further strengthened when he engages himself in establishing equilibrium between his organization and its environment.

However, when the size of business grows considerably, an entrepreneur can employ professional managers for the effective management of business operations.

5. Overcoming Resistance to Change:

New innovations are generally opposed by people because it makes them change their existing behavior patterns. An entrepreneur always first tries new ideas at his level.

It is only after the successful implementation of these ideas that an entrepreneur makes these ideas available to others for their benefit. In this manner, an entrepreneur paves the way for the acceptance of his ideas by others. This is a reflection of his will power, enthusiasm and energy which helps him in overcoming the society's resistance to change.

6. Catalyst of Economic Development:

An entrepreneur plays an important role in accelerating the pace of economic development of a country by discovering new uses of available resources and maximizing their utilization.

To better appreciate the concept of an entrepreneur, it is desirable to distinguish him from an entrepreneur and promoter. Table 4.1 outlines the distinction between an entrepreneur and entrepreneurs, and Table 4.2 portrays basic points of distinction between an entrepreneur and promoter.

Some Myths about Entrepreneurship:

Over the years, a few myths about entrepreneurship have developed. These are as under:

(i) Entrepreneurs, like leaders, are born, not made:

The fact does not hold true for the simple reason that entrepreneurship is a discipline comprising of models, processes and case studies.

One can learn about entrepreneurship by studying the discipline.

(ii) Entrepreneurs are academic and socially misfits:

Dhirubai Ambani had no formal education. Bill Gates has been a School drop-out. Therefore, this description does not apply to everyone. Education makes an entrepreneur a true entrepreneur. Mr Anand Mahindra, Mr Kumar Mangalam Birla, for example, is educated entrepreneurs and that is why they are heroes.

(iii) To be an entrepreneur, one needs money only:

Finance is the life-blood of an enterprise to survive and grow. But for a good idea whose time has come, money is not a problem.

(iv) To be an entrepreneur, a great idea is the only ingredient:

A good or great idea shall remain an idea unless there is proper combination of all the resources including management.

(v) One wants to be an entrepreneur as having no boss is great fun:

It is not only the boss who is demanding; even an entrepreneur faces demanding vendors, investors, bankers and above all customers.

An entrepreneur's life will be much simpler, since he works for himself. The truth is working for others are simpler than working for oneself. One thinks 24 hours a day to make his venture successful and thus, there would be a punishing schedule.

GROWTH OF ENTREPRENEURSHIP IN INDIA

The proper understanding of the growth of entrepreneurship of any country would evolve within the context of the economic history of the particular country becomes the subject matter of this section. The growth of entrepreneurship in India is, therefore, presented into two sections viz.

- Entrepreneurship during Pre-Independence
- Entrepreneurship during Post-Independence

ENTREPRENEURSHIP DURING PRE-INDEPENDENCE

The evolution of the Indian entrepreneurship can be traced back to even as early as Rig-Veda, when metal handicrafts existed in the society. This would bring the point home that handicrafts entrepreneurship in India was as old as the human civilization itself, and was nurtured by the craftsman as a part of their duty towards the society. Before India came into contact with west, people were organized in a particular type of economic and social system of the village community. Then, the village community featured the economic scene in India. The Indian towns were mostly religious and aloof from the general life of country. The elaborated cast based division of workers consisted of farmers, artisans and religious priests. The majority of the artisans were treated as village servants. Such compact system of village community effectively protecting village artisans from the onslaughts of external competition was one of the important contributing factors to the absence of localization of industry in ancient India. Evidently, organized industrial activity was observable among the India artisans in a few recognizable products in the cities of Banaras, Allahabad, Gaya, Puri & Mirzapur which were established on their river basins. Very

possibly this was because the rivers served as a means of transportation facilities. These artisan industries flourished over the period because the Royal patronage was to them to support them. The workshops called 'kharkhanas' came into existence. The craftsmen were brought into an association pronounced as 'guild system'. On the whole, perfection in art, durability beyond doubt and appeal to the eye of the individual were the distinguishing qualities inherent in the Indian craftsmanship that brought much everlasting laurels of name and fame of the illustrious India in the past. To quote, Bengal enjoyed worldwide celebrity for Corah, Lucknow for chintzes and Ahmadabad for dupptas, and dhotis, Nagpur for silk boarded cloth, Kashmir for shawls and Banaras for metal wares. Thus, from the immemorial till the earlier years of the 18th century; India enjoyed the prestigious status of the queen of the international trade with the help of its handicrafts. Unfortunately, so much prestigious Indian handicraft industry, which was basically a cottage and small sector, declined at the end of the 18th century for various reasons. These may be listed as

- Disappearance of the Indian royal courts who patronized the crafts earlier.
- The lukewarm attitude of the British colonial govt. towards the Indian crafts.
- Imposition of heavy duties on the imports of the Indian goods in England.
- Low priced British made goods produce on large scale which reduced the competing capacity of the product of the Indian handicrafts.
- Development of transport in Indian facilitating the easy access of British product even to far-flung remote part of the country.
- Changes in the tastes and habits of the Indian, developing craziness of foreign products.
- Unwillingness of the Indian craftsmen to adapt to the changing tastes and needs of the people.

What is the Role of an Entrepreneur in Economic Development?

The entrepreneur who is a business leader looks for ideas and puts them into effect in fostering economic growth and development. Entrepreneurship is one of the most important input in the economic development of a country. The entrepreneur acts as a trigger head to give spark to economic activities by his entrepreneurial decisions. He plays a pivotal role not only in the development of industrial sector of a country but also in the development of farm and service sector. The major roles played by an entrepreneur in the economic development of an economy are discussed in a systematic and orderly manner as follows.

(1) Promotes Capital Formation:

Entrepreneurs promote capital formation by mobilising the idle savings of public. They employ their own as well as borrowed resources for setting up their enterprises. Such type of

entrepreneurial activities lead to value addition and creation of wealth, which is very essential for the industrial and economic development of the country.

(2) Creates Large-Scale Employment Opportunities:

Entrepreneurs provide immediate large-scale employment to the unemployed which is a chronic problem of underdeveloped nations. With the setting up of more and more units by entrepreneurs, both on small and large-scale numerous job opportunities are created for others. As time passes, these enterprises grow, providing direct and indirect employment opportunities to many more. In this way, entrepreneurs play an effective role in reducing the problem of unemployment in the country which in turn clears the path towards economic development of the nation.

(3) Promotes Balanced Regional Development:

Entrepreneurs help to remove regional disparities through setting up of industries in less developed and backward areas. The growth of industries and business in these areas lead to a large number of public benefits like road transport, health, education, entertainment, etc. Setting up of more industries lead to more development of backward regions and thereby promotes balanced regional development.

(4) Reduces Concentration of Economic Power:

Economic power is the natural outcome of industrial and business activity. Industrial development normally lead to concentration of economic power in the hands of a few individuals which results in the growth of monopolies. In order to redress this problem a large number of entrepreneurs need to be developed, which will help reduce the concentration of economic power amongst the population.

(5) Wealth Creation and Distribution:

It stimulates equitable redistribution of wealth and income in the interest of the country to more people and geographic areas, thus giving benefit to larger sections of the society. Entrepreneurial activities also generate more activities and give a multiplier effect in the economy.

(6) Increasing Gross National Product and Per Capita Income:

Entrepreneurs are always on the look out for opportunities. They explore and exploit opportunities, encourage effective resource mobilisation of capital and skill, bring in new products and services and develop markets for growth of the economy. In this way, they help increasing gross national product as well as per capita income of the people in a country. Increase in gross national product and per capita income of the people in a country, is a sign of economic growth.

(6) Improvement in the Standard of Living:

Increase in the standard of living of the people is a characteristic feature of economic development of the country. Entrepreneurs play a key role in increasing the standard of living of the people by adopting latest innovations in the production of wide variety of goods and services in large scale that too at a lower cost. This enables the people to avail better quality goods at lower prices which results in the improvement of their standard of living.

(7) Promotes Country's Export Trade

Entrepreneurs help in promoting a country's export-trade, which is an important ingredient of economic development. They produce goods and services in large scale for the purpose earning huge amount of foreign exchange from export in order to combat the import dues requirement. Hence import substitution and export promotion ensure economic independence and development.

(8) Induces Backward and Forward Linkages:

Entrepreneurs like to work in an environment of change and try to maximise profits by innovation. When an enterprise is established in accordance with the changing technology, it induces backward and forward linkages which stimulate the process of economic development in the country.

(9) Facilitates Overall Development:

Entrepreneurs act as catalytic agent for change which results in chain reaction. Once an enterprise is established, the process of industrialisation is set in motion. This unit will generate demand for various types of units required by it and there will be so many other units which require the output of this unit. This leads to overall development of an area due to increase in demand and setting up of more and more units. In this way, the entrepreneurs multiply their entrepreneurial activities, thus creating an environment of enthusiasm and conveying an impetus for overall development of the area.

Indian Industrial Environment –opportunities and challenges

The Indian economy has survived the global downturn very well. It has posted one of the highest rates of economic growth in the world despite other major industrial giants lagging behind. At the end of 2009, the Indian economy was growing at 7% a year. The strongest growth was coming from the manufacturing and construction sector and the weakest section was agriculture. The strong rate of economic growth boosts prospects for the Indian Rupee in the years to come. The drawback of such a rapid economic expansion is a rise in inflation. The economy of India is the eleventh largest economy in the world by nominal GDP. Post independence the country went into a fast paced economic growth which was further fuelled by the free market principles started

in the 1990's which welcomed foreign investments. It has been predicted by leading Economists around the world that by 2020, India will be among the leading economies of the world.

Four key industrial economic sectors are identified in India. The primary sector, largely extract raw material and they are mining and farming industries. In the secondary sector, refining, construction, and manufacturing are included. The tertiary sector deals with services and distribution of manufactured goods. India's service industry accounts for 57.2% of the country's GDP while the industrial and agricultural sector contribute 28% and 14.6% respectively. Agriculture is the predominant occupation in India, accounting for about 52% of direct and indirect employment. The service sector makes up a further 34%, and industrial sector around 14%. The labour force totals around half a billion workers. Industry accounts for 28% of the GDP and employ 14% of the total workforce.

Economic reforms brought foreign competition in the industrial scenario, led to privatization of certain public sector industries, opened up sectors hitherto reserved for the public sector and led to an expansion in the production of fast-moving consumer goods. Textile industry is the second largest source for employment after agriculture and accounts for 26% of manufacturing output. Information technology is one among the fastest growing sector contributing to one third of the total output of services. The growth in the IT sector is attributed to increased specialization, and an availability of a large pool of low cost, highly skilled, educated and fluent English-speaking workers around the country. Cities like Bangalore, Hyderabad and Pune have established themselves as major IT hubs in the country.

The Indian environment is suffering a great deal due to this industrialization. Pollution, deforestation, and the destruction of flora and fauna continue to skyrocket. But industrialization did have good outcomes. Material well-being and improved health care came to our doorsteps. New goods, new choices and new comforts came about. It also led the way for other ideas such as women's rights, human rights, right to information and child labor laws, etc. Simply stated, industrialization did have its good aspects as well as its bad on India. But indeed the Industrial Revolution was a huge achievement.

India Industry

Over the years agriculture has been the major source of livelihood of the Indian population. However, after Independence the founding fathers saw the nation progressing with a decent industrial base. This triggered the formulation of programs and strategies to construct a proper infrastructure for speedy industrialization.

India has been successful in achieving autonomy in producing different basic and capital products since independence. The productivity of the major Indian industries incorporates aircraft, vessels, automobiles, steam engines, heavy electrical equipment, construction machinery, chemicals, precision equipments, communication instrument, power generation and transmission tools and computers.

Industrialization in India

Since independence to 1980: During this period there was restrictive growth of private sector and government's permission was required to set up any private enterprise in India. Despite this the GDP grew at a rate of 1.4% per annum from 1940 – 1970. Other factors such as poverty and famine lowered India's economic growth rate during this period and with the presence of very few top producers of major industrial goods the absorption of domestic productivity was greater, which lead to monopolistic pricing. India during this phrase lagged behind in terms of economic growth as the rest of world grew and flourished through overseas trade.

1980 to mid-1990s: Post 1980s India saw liberalization and achieved further impetus in Mid-1991. The nation witnessed historical upsurge in per capita GNP. In 1994-95 the industrial output-growth registered 8.4% growth and the exports rose by 27%. This resulted in a 10% drop in inflation in the mid-1990s

1990s to 2000s: Since its liberalization policy, India has opened several public sector enterprises. The exports saw a 17% rise in 1994 and 28% in 1995-96. Over 90% of India's imports are backed by export revenues. At present the current account arrears is less than 1% of GDP and foreign-exchange profits are soaring at \$20 billion. The food stocks have witnessed an all-time increase of 37m tonnes. The private sector, which was neglected by previous governments, contributes to two-thirds of India's GDP. The shift of the state's responsibility from a chief investor to a catalyst of private enterprise has paved way to a new accord on liberalization.

Industries in India

Experts believe that the contribution of India in the world GDP is estimated to increase from 6% to 11% by the year 2025, while on the flip side the contribution of US in world GDP is presumed to decline from 21% to 18%. This indicates towards the emergence of India as the third biggest global economy after US and China. The evaluation is supported by the overall development in all the sectors in India, in which the key sector is the industry sector.

Going by the past records the Industry sector in India registered a growth rate of 6.2% in October 2003 which further increased by 4% in the corresponding month of the next fiscal year.

Major Industries in India

- **Textile Industry**

This industry covers a wide range of activities ranging from generation of raw materials such as jute, wool, silk and cotton to greater value added goods such as ready made garments prepared from different types of man made or natural fibres. Textile industry provides job opportunity to over 35 million individuals thus playing a major role in the nation's economy. It has 4 per cent share in GDP and shares 35% of the gross export income besides adding 14% of value addition in merchandizing sector.

- ***Food Processing Industry***

In terms of global food business, India accounts less than 1.5% inspite of being one of the key food producing nations worldwide. But this on the other hand also indicates the enormous possibilities for the growth of this industry. Supported by the GDP estimates, the approximate expansion of this sector is between 9-12% and during the tenth plan period the growth rate was around 6-8%. Food Processing Industry provides job opportunities to 1.6 mn people and it is estimated to expand by 37 mn by 2025.

- ***Chemical Industry:***

Indian Chemical industry generates around 70,000 commercial goods ranging from plastic to toiletries and pesticides to beauty products. It is regarded as the oldest domestic sector in India and in terms of volume it gives a sense of pride to India by featuring as the 12 largest producer of chemicals. With an approximate cost of \$28 billion, it amounts to 12.5% of the entire industrial output of India and 16.2% of its entire exports. Under Chemical industries some of the other rapidly emerging sectors are petrochemical, agrochemical, and pharmaceutical industries.

- **Cement Industry:**

India has 10 large cement plants governed by the different State governments. Besides this India have 115 cement plants and around 300 small cement plants. The big cement plans have installed competence of 148.28 million tones per annum whereas the mini cement plants have the total capacity of 11.10 million tonnes per annum. This totals the capacity of Indian cement industry at 159.38 million tonnes. Ambuja cement, J K Cement, Aditya Cement and L & T Cement are some of the major steel companies in India.

- **Steel Industry:**

Indian Steel Industry is a 400 years old sector which has a past record of registering 4% growth in 2005-06. The production during this period reached at 28.3 million tones. India steel industry is the 10th largest in the world which is evident from its Rs 9,000 crore of capital contribution and employment opportunities to more than 0.5 million people. The key players in Steel Industry are Steel Authority of India (SAIL), Bokaro Steel Plant, Rourkela Steel Plant, Durgapur Steel Plant and Bhilai Steel Plant.

- **Software Industry:**

Software Industry registered a massive expansion in the last 10 years. This industry signifies India's position as the knowledge based economy with a Compounded Annual Growth Rate (CAGR) of 42.3%. In the year 2008, the industry grew by 7% as compared to 0.59% in 1994-95.

- ***Mining Industry:***

The GDP contribution of the mining industry varies from 2.2% to 2/5% only but going by the GDP of the total industrial sector it contributes around 10% to 11%. Even mining done

on small scale contributes 6% to the entire cost of mineral production. Indian Mining Industry provides job opportunities to around 0.7 million individuals.

- ***Petroleum Industry:***

Petroleum industry started its operations in the year 1867 and is considered as the oldest Indian industry. India is one of the most flourishing oil markets in the world and in the last few decades has witnessed the expansion of top national companies like ONGC, HPCL, BPCL and IOC.

Brief notes on Industrial Policy of India, 1948

After gaining independence on August 15, 1947 it was necessary to give new policy for industrial development, decide priority areas and clear doubts in the minds of private entrepreneurs regarding nationalization of existing industries.

The Government of India announced its Industrial Policy Resolution (IPR) on April 6, 1948 whereby both public and private sectors were involved towards industrial development. Accordingly, the industries were divided into four broad categories:

(a) Exclusive State Monopoly-This includes the manufacture of arms and ammunition, production and control of atomic energy and the ownership and management of railway transport. These industries were the exclusive monopoly of the Central Government.

(b) State Monopoly for New Units-This category included coal, iron and steel, aircraft manufacture, ship building, manufacture of telephone, telegraphs and wireless (apparatus (excluding radio receiving sets) and mineral oils. New undertakings in this category could henceforth be undertaken only by the State.

(c) State Regulation-This category included industries of such basic importance like machine tools, chemicals, fertilizers, non-ferrous metals, rubber manufactures, cement, paper, newsprint, automobiles, electric engineering etc. which the Central Government would feel necessary to plan and regulate.

(d) Unregulated private enterprise-the industries in this category were left open to the private sector, individual as well as cooperative.

Industrial Policy Resolution 1956

1. Classification of Industries:

The government of India has classified industries into three categories. These categories are as under:

(a) Government Enterprises:

In schedule 'A', 17 industries have been kept. These industries are reserved for public sector. The industries that have been put under this category are of basic and strategic importance. They need enormous capital for development. The government has the exclusive control over these industries. The industries under the Schedule 'A' are as follows:

(i) Arms, ammunitions and allied items of defense equipment; (ii) Atomic energy; (iii) Heavy casting and forging of iron and steel; (iv) Iron and Steel; (v) Heavy plants and machinery required for basic industries; (vi) Heavy electrical plants including large hydraulic and steam turbines; (vii) Coal and Lignite; (viii) Mineral Oils; (ix) Mining of iron ore, manganese ore, gypsum, sulphur, gold and diamond; (x) Minerals for atomic energy; (xi) Mining and processing of copper; (xii) Aircraft; (xiii) Air transport; (xiv) Railway transport; (xv) Ship-building; (xvi) Telephones and telephone cables; (xvii) Generation and distribution of electricity.

(b) Mixed Enterprises:

In the second category, there are twelve industries shown in schedule 'B' which will be progressively state owned and in which the state will generally take the initiative in establishing these new undertakings. At the same time, private enterprise will also have the opportunity to develop in these fields. Under Schedule 'B', the industries are:

(i) All minerals except minor minerals as defined in Section 3 of the Minerals Concession Rules, 1949; (ii) Aluminum and other non-ferrous metals not included in Schedule 'A'; (iii) Machine tools ; (iv) Ferro alloys and tool steels; (v) Basic and intermediate products required by chemical industries like drugs, dye-stuffs and plastics; (vi) Antibiotics and other essential drugs; (vii) Fertilizers; (viii) Synthetic rubber; (ix) Carbonization of coal; (x) Chemical pulp; (xi) Road transport and (xii) Sea transport.

(c) Private Enterprises:

All the remaining industries come under the third category and their development, in general, has been left open though it will be up to the state government to start any industry in this category. The state has proposed to facilitate and encourage the development of these industries in accordance with the programs formulated in successive five year plans. They also ensured the facilities of transport, power and other services and all other appropriate fiscal measures.

2. Role of Cottage and Small Scale Industries:

The Industrial Policy has laid special emphasis on giving every encouragement to cottage and small scale industries. The role of such industries has been approved by the resolution in the development of the national economy since they provide immediate large-scale employment, equitable distribution of the national income and facilitate an effective mobilization of resources and skill which might otherwise remain unutilized.

The new policy supports the idea of establishing the industrial estates and the rural community workshops to eliminate their deficiencies.

The state has been endeavoring to foster by restricting the value of production in large scale industries by giving incentives, facilities of raw material, marketing facilities, cheap electricity and finance etc.

3. Private Sector Assistance and Control:

The policy of 1956 will facilitate and encourage the private enterprise in the development of industries according to the programmes and policies of the successive five-year plans.

Industrial undertakings in the private sector are required to fit into the framework of the social and economic environment of the state.

This will be strictly to the subject of control and regulation of the State Development and Regulation Act 1951 and other relevant legislations.

The policy further added that the state would continue to provide fair and non-discriminatory treatment to both public and private enterprises when both exist side by side in a particular industry.

4. Reduction of Regional Disparities:

The industrial policy resolution stresses the reduction of disparities in levels of development between different regions. It aims at industrialization which may benefit the economy of the country as a whole.

The resolution supports the idea of a balanced and coordinated development of the industrial and the agricultural sectors in each region for attaining higher standards of living. To achieve this aim, transport, power supply and other facilities will be made available to the backward sector.

5. No Water-tight Compartments:

The division of industries into different categories does not imply that they are placed in water-tight compartments. Towards this end, the private sector might produce an item for meeting the requirements of the industry.

Similarly, heavy industries in the public sector may obtain some of their requirements of lighter components from the private sector.

Therefore, the public and private enterprises are expected to operate closely together in spite of the fact that the major partner is the public sector.

6. Technical and Managerial Personnel:

The industrial policy of 1956 emphasizes on the provision of managerial and technical personnel in public services to meet the rapidly growing needs of the public sector and for the development of the cottage and small scale industries.

This includes setting up of technical staff cells in the public sector and to organize apprenticeship schemes on a large scale. They also laid down the stress on the training in business management.

7. Decentralization of Powers:

The industrial policy recognizes that with the growing participation of the state in industry and trade, the management of these activities will assume considerable importance. Thus, government recommends that there should be decentralization of authority and the management of the state undertakings.

In their working, public enterprises should be given the largest possible place of freedom and their success should be judged on the basis of total performance.

8. Labor Participation in Management:

The resolution accepted that in a socialist democracy, labor participation is very essential. Thus, they must be provided a share in management i.e. the facility of joint consultation of workers with management. Some laws governing industrial relations have been enacted. The entrepreneurs in public sector have been asked to set an example in this regard.

9. Attitude towards Foreign Capital:

The attitude regarding foreign capital remained unchanged. The government suggested the directions of Industrial Policy of 1948.

Fair and non-discriminatory treatment for the private sector, encouragement to village and small-scale enterprises, removing regional disparities, and the need for the provision of amenities for labor, and attitude to foreign capital were other salient features of the IPR 1956.

New Industrial Policy 1991:

The government announced a New Industrial Policy on July 24, 1991. This new policy deregulates the industrial economy in a substantial manner.

The major objectives of the new policy are to build on the gains already made, correct the distortions or weaknesses that might have crept in, maintain a sustained growth in productivity and gainful employment, and attain international competitiveness. In pursuit of these objectives, the government announced a series of initiatives in the new industrial policy as outlined below:

1. Abolition of Industrial Licensing:

In a major move to liberalize the economy, the new industrial policy abolished all industrial licensing irrespective of the level of investment except for certain industries related to security and strategic concerns, and social reasons.

Now there are only 6 industries for which licensing is compulsory as amended in February 1999. These are alcohol, cigarettes, hazardous chemicals, drugs and pharmaceuticals, electronics, aerospace and defense equipment, and industrial explosives.

2. Public Sector's Role Diluted:

The number of industries reserved for the public sector since 1956 was seventeen. This number has now been reduced to three. They are arms and ammunition and allied items of defense equipment, atomic energy and rail transport.

The main elements of Government Policy towards Public Sector Undertakings (PSUs) are:

- (i) Bring down government equity in all non-strategic PSUs to 26 per cent or lower, if necessary;
- (ii) Restructure and revive potentially viable PSUs;
- (iii) Close down PSUs which cannot be revived; and
- (iv) Fully protect the interests of workers.

3. Abolition of Phased Manufacturing Programs:

Devaluation of currency and increasing FDI led government to liberalize local content requirement for indigenous firms.

4. MRTP Act:

MRTP Act has been amended to remove the threshold limits of assets in respect of MRTP companies and dominant undertakings.

The new industrial policy also states that the government will undertake review of the existing public enterprises in low technology, small-scale and non-strategic areas. Sick units will be

referred to the Board for Industrial and Financial Reconstruction for advice about rehabilitation and reconstruction.

For enterprises remaining in the public sector it is stated that they will be provided a much greater degree of management autonomy through the system of Memorandum of Understanding (MOU).

5. Free Entry to Foreign Investment and Technology:

The Government is committed to promote increased flow of Foreign Direct Investment (FDI) for better technology, modernization, exports and for providing products and services of international standards.

Therefore, the policy of the Government has been aimed at encouraging foreign investment particularly in core infrastructure sectors so as to supplement national efforts. The salient features of the FDI policy are:

- (i) There are two modalities for FDI approval: a) automatic approval by the Reserve Bank, and b) approval by Foreign Investment Promotion Board (FIPB)/Government.
- (ii) 34 categories/groups of high priority industries identified on the basis of National Industrial Classification qualify for automatic approval up to 50/51/74/100 per cent FDI depending on the nature of activity.
- (iii) Projects for electricity generation, transmission and distribution, and construction and maintenance of roads, highways, vehicular tunnels, vehicular bridges, ports and harbours have permitted foreign equity participation up to 100 per cent under the automatic route.
- (iv) FIPB is required to dispose of applications for FDI within a time frame of six weeks.
- (v) FDI is not permissible in agriculture, real estate and insurance activities.
- (vi) Full repatriation of original investment and returns except for dividend balancing and foreign exchange neutrality conditions in certain sectors.
- (vii) Liberal access to foreign technology. Automatic approval to lump sum payment of up to US \$2 million and royalty at the rate of 5 per cent for domestic sales and 8 per cent for exports subject to a total payment of 8 per cent on sales for a period not exceeding 7 years from the date of commercial production.
- (viii) Easy access to domestic debt. Foreign companies that invest in India can leverage in India by way of domestic debt from domestic financial institutions.

(ix) Liberal external commercial borrowings and debt servicing norms.

(x) No ceiling on raising Global Depository Receipts (GDRs), American Depository Receipts (ADRs), and Foreign Currency Convertible Bonds (FCCBs).

6. Industrial Location Policy Liberalised:

The new industrial policy provides that in locations other than cities of more than 1 million populations, there will be no requirement of obtaining industrial approvals from the center, except for industries subject to compulsory licensing.

In cities with a population of more than 1 million, industries other than those of a non-polluting nature will be located outside 25 kms of the periphery. Since there is 23 cities in India with a population of more than 1 million each, the new industrial policy has dispensed with government clearance for the location of projects except in the case of these 23 cities.

7. Removal of Mandatory Convertibility Clause:

A large part of industrial investment in India is financed by loans from banks and financial institutions. These institutions have followed a mandatory practice of including a convertibility clause in their lending operations for new projects.

This has provided them an option of converting part of their loans into equity if felt necessary by their management. The new industrial policy has provided that henceforth financial institutions will not impose this mandatory convertibility clause.

Evolution of small- Scale industries in India

A significant feature of the Indian economy since independence is the rapid growth of the small-scale industrial sector. Over the past five decades, successive governments have framed policies to protect the interests of the small-scale industrial sector and facilitate its rapid development. In pursuance of their policies, Governments have initiated various support measures from time to time, which include reservation, revision of investment ceilings, modernization of technology, marketing assistance, fiscal incentives etc. The small-scale sector owes its definition to the Industries (Development and Regulation) Act, 1951.

The sector is defined in terms of value of investment in plant and machinery (original value).

1 Profile of small-scale industries

- 95 % of industrial units in the country.

- 39.92 % of value added in the manufacturing sector.
- 34.29 % of national exports.
- 6.86 % of Gross Domestic Product (GDP).
- Employment to 193 lakh persons.

Over 7500 items are produced in the small-scale industrial sector.

- 749 items have been reserved for exclusive manufacture in the small-scale industrial sector.
- 358 Items have been reserved for exclusive purchase from the small-scale industrial s

Industrialization has been a striking feature of Indian economic development since 1951. Industrial production has gone up by about five times, making India the tenth most industrialized country in the world. Small-scale industries play a vital role in the development of the national economy. India is facing the problems of unemployment and paucity of capital resources. “The built in characteristics of small scale industries, such as relatively small size of initial capital requirement, entrepreneurship and employment generation potential, etc., render them the ideal for balanced and decentralized development.”

The employment generated in small-scale factory units is nine times that of large establishments for an investment of Rs.1 lakh in fixed assets. The small-scale industries assume great importance in mitigating the problem of unemployment, in facilitating the growth of the industrial sector and in ensuring all round development of the economy. “Cottage and small scale industries are of very special importance in India. If we lack capital, we do not lack manpower, and we must use this manpower both to add to the wealth of the country and to reduce unemployment”, Jawaharlal Nehru said. Besides, small-scale industries avoid regional imbalances and facilitate decentralized development in various parts of the country, including the remote areas, by effectively utilizing the locally available raw materials and other resources, including work force. 3 Small scale industries have emerged as a vibrant and dynamic sector of the Indian economy that contributes around 40 per cent of the total industrial production and over 34 per cent of the national exports. At present the Small Scale Industrial sector is providing employment to over 250 lakh persons. The captains of our economy are more than aware of the importance of the small scale industries in terms of employment potential, productivity, utilization of indigenous resources, balanced regional development etc. In the words of Dr. ManMohan Singh, “the key to our success of manufacturing in the small scale sector”. The small scale sector is important not only for its contribution to GDP but also for its stellar performance in exports and in generating employment. The small scale industrial sector is endowed with certain special features, which are especially beneficial to our economy such as employment potential, indigenous nature, balanced development of regions etc., when compared with large scale units. This sector facilitates speedy development of the economy by providing employment opportunities to rural and less skilled

masses and caters to the consumption requirements of these people by resorting to indigenous production making use of local resources. The entrepreneurs involved in running small-scale units are generally termed small entrepreneurs. It is evident that small entrepreneurs outnumber large entrepreneurs in every country. The “small sector”, as the name implies, consists of small-scale industries.

We can divide the small-scale industries into the following three categories, viz.

1. Cottage Industries,
2. Agro- based industries,
3. Small industries.

In India, since the inception of planning, industrialization has been given priority and the Second Five Year Plan (1955-60) laid a firm foundation for industrialization. In the subsequent five-year plans, with the aim of achieving self-reliance and sustained economic growth, diversification of industries, both in the private and public sector was envisaged. Small-scale industries were also given importance along with large scale and medium scale industries. The small-scale sector received a boost in the Third Five Year plan (1960-65). The small-scale sector experienced a phenomenal growth then. In terms of employment generation, this sector is next only to agriculture and accounts for about 25 per cent of the total exports of the country. In terms of value added, it contributes about 40 per cent of the manufacturing sector. About one third of the total industrial production is contributed by the small-scale sector. It also provides employment opportunities to 12 million people (Kurien 1991). Thus, small-scale industries constitute a vital area in developing countries like India.

Small-Scale Industries in India: Definition, Characteristic and Objectives!

In Indian economy small-scale and cottage industries occupy an important place, because of their employment potential and their contribution to total industrial output and exports.

Government of India has taken a number of steps to promote them. However, with the recent measures, small-scale and cottage industries facing both internal competition as well as external competition.

There is no clear distinction between small-scale and cottage industries. However it is generally believed that cottage industry is one which is carried on wholly or primarily with the help of the members of the family. As against this, small-scale industry employs hired labour.

Moreover industries are generally associated with agriculture and provide subsidiary employment in rural areas. As against this, small scale units are mainly located in urban areas as separate establishments.

Definition:

The official definitions of a small scale unit are as follows:

(i) Small-Scale Industries:

These are the industrial undertakings having fixed investment in plant and machinery, whether held on ownership basis or lease basis or hire purchase basis not exceeding Rs. 1 crore.

(ii) Ancillary Industries:

These are industrial undertakings having fixed investment in plant and machinery not exceeding Rs. 1 crore engaged in or proposed to engage in,

(a) The manufacture of parts, components, sub-assemblies, tooling or intermediaries, or

(b) The rendering of services supplying 30 percent of their production or services as the case may be, to other units for production of other articles.

(iii) Tiny Units:

These refer to undertakings having fixed investment in plant and machinery not exceeding Rs. 23 lakhs. These also include undertakings providing services such as laundry, Xeroxing, repairs and maintenance of customer equipment and machinery, hatching and poultry etc. Located in towns with population less than 50,000.

(iv) Small-Scale Service Establishments:

These mean enterprises engaged in personal or household services in rural areas and town with population not exceeding 50000 and having fixed investment in plant and machinery not exceeding Rs. 25 lakhs.

(v) Household Industries:

These cover artisans skilled craftsman and technicians who can work in their own houses if their work requires less than 300 square feet space, less than 1 Kw power, less than 5 workers and no pollution is caused. Handicrafts, toys, dolls, small plastic and paper products electronic and electrical gadgets are some examples of these industries.

Characteristics of Small-Scale Industries:**(i) Ownership:**

Ownership of small scale unit is with one individual in sole-proprietorship or it can be with a few individuals in partnership.

(ii) Management and control:

A small-scale unit is normally a one man show and even in case of partnership the activities are mainly carried out by the active partner and the rest are generally sleeping partners. These units

are managed in a personalised fashion. The owner is actively involved in all the decisions concerning business.

(iii) Area of operation:

The area of operation of small units is generally localised catering to the local or regional demand. The overall resources at the disposal of small scale units are limited and as a result of this, it is forced to confine its activities to the local level.

(iv) Technology:

Small industries are fairly labour intensive with comparatively smaller capital investment than the larger units. Therefore, these units are more suited for economies where capital is scarce and there is abundant supply of labour.

(v) Gestation period:

Gestation period is that period after which teething problems are over and return on investment starts. Gestation period of small scale unit is less as compared to large scale unit.

(vi) Flexibility:

Small scale units as compared to large scale units are more change susceptible and highly reactive and responsive to socio-economic conditions.

They are more flexible to adopt changes like new method of production, introduction of new products etc.

(vii) Resources:

Small scale units use local or indigenous resources and as such can be located anywhere subject to the availability of these resources like labour and raw materials.

(viii) Dispersal of units:

Small scale units use local resources and can be dispersed over a wide territory. The development of small scale units in rural and backward areas promotes more balanced regional development and can prevent the influx of job seekers from rural areas to cities.

Objectives of Small Scale Industries:

The objectives of small scale industries are:

1. To create more employment opportunities with less investment.

2. To remove economic backwardness of rural and less developed regions of the economy.
3. To reduce regional imbalances.
4. To mobilise and ensure optimum utilisation of unexploited resources of the country.
5. To improve standard of living of people.
6. To ensure equitable distribution of income and wealth.
7. To solve unemployment problem.
8. To attain self-reliance.
9. To adopt latest technology aimed at producing better quality products at lower costs.

First Generation Entrepreneurs:

Generation Entrepreneur” are the new leaders and wealth creators. It started from Silicon Valley as a dream for select few. But, now it’s a worldwide movement where everyone thinks differently about business and about life in general. First Generation Entrepreneurs is a synonym for New Entrepreneurs. Before setting up a new **entrepreneurship** an entrepreneur needs to complete various procedural and legal hurdles. The difference between a First Generation Entrepreneur and an established entrepreneur is they have nothing to loose. A new entrepreneur can invest a small amount with the risk of losing it. However, an established business man needs to weigh its decision to invest only in profitable projects with less risk of losing that investment

Requisites:

A First Generation requires to run on an ideology to succeed in the long run. Some of these qualities and listed below:

- **Passion:** An entrepreneur needs to have passion and hunger to succeed with his ideas. Innovative business plans and complete dedication is most essential.
- **Belief:** Optimism is an important aspect of an entrepreneur. He needs to believe in himself to keep the business up and standing.
- **Getting Feedback:** The market trend and customer feedback needs to be taken seriously. As that is the only threshold a new entrepreneur has to improve and grow himself.

- **Networking:** An entrepreneur needs to **make** sure he is meeting the right people. The network developed can get him more and more work by just a spread of word. He need to keep a track on what his customer's want and create products or services according to their demands.
- **Written Business Plan:** A small or a solo business needs a business plan to run on. It needs to be written so that professionals can review it and cover the black areas. Also, a written article makes a plan clearer to help getting on to the next stage of learning, planning and revising.
- **Sufficient Start up Capital:** To establish a successful **entrepreneurship** greatly requires a sufficient amount of start up capital. A new entrepreneur needs to make conservative start up plans in terms of cost. One of the main reasons for a new business to fail is the lack of capital. So a new entrepreneur needs to have sufficient savings or acquired funds to support his business.
- **Marketing tactics:** A new entrepreneur needs to adapt innovative ideas to sell his product when he stands against his competitors dominating the market for long. He should exploit his strengths to sell his product rather than adopting all traditional methods he may not be able to learn.
- **Learner:** As a emerging entrepreneur, huge scope of learning can be done. A new entrepreneur can read books on starting new businesses or refer to online articles to understand the concept.
- **Assemble:** An entrepreneur needs to assemble people for specialized work in the business, which needs to be handled by a professional. For example, a book keeper, web designer, marketing expert, etc. This should be done so that an entrepreneur can focus on things he can manage better than those professionals who have expertise in their respective fields.
- **Customer Standards:** Don't accept a customer outside your niche just to keep your business solvent for a few months. This results in frustration in you, dissatisfaction for the customer and usually would cost a new entrepreneur more than what he would make.

Trainings:

Since these entrepreneurs are very new, they require a lot of hand holding. There are several training programs organized to facilitate their operations. This is to cultivate their latent qualities of entrepreneurship and enlighten them on various aspects necessary for setting up such businesses.

Challenges:

There is a great example I came across today to explain the challenges faced by a first generation entrepreneur. It's the story of Mr.C K Ranganathan, Chairman and Managing

Director for CavinKare. CavinKare started with selling its one product- shampoos, and grew to a company today selling all skin care, hair care and personal products. He was particularly handicapped in the beginning with less experience, less money and moderate education when he started. He realized that the firm could differentiate its products from its competitors only if he could gain competitive advantage by setting its own rules. He also, realised marketing and product design and development are key to success in the FMCG market. Therefore, he decided to outsource the manufacturing part, a strategy which is still followed. To ensure, the quality of production is not hampered, strict quality assurance programmes were set and put in use. Suppliers were given the motivation to get paid before their due date. One most important thing is he could overcome his handicap by his strong will to succeed.

Contributions They Can Make:

- **Develop new markets:** First Generation Entrepreneurs can use the modern concept of marketing by using an innovative business plan. They can create customers and buyers by satisfying their demands. They can also compete fiercely by standing against those businesses who follow the traditional business norms.
- **Creates employment:** Every time a business opens, it has more employment opportunities. Factories, industries, agricultural enterprises can absorb huge amount of labour. Having more people employed would lead to more production. With the growth in production it will, in turn, lead to more employment again.
- **Introduction to new technology:** Innovation is an important aspect of a business. With innovation new and improved ideas develop, which leads to invention of new technology. The new enterprises also enter with diverse ideas to capture some amount of market share.
- **Discovers new sources:** These new entities also develop different network for material supply in comparison to established entrepreneurs, because they have their own traditional sources of supplier. First generation entrepreneurs develop new sources to enjoy comparative advantage.

Summing up, success for a first generation entrepreneur is driven by his own belief and he is the master of his own fate. He needs to seek out opportunities and go ahead fearlessly.

Top woman Entrepreneurs in India

New Delhi: Gone are the days when women were considered no match for all powerful men in this world.

The male dominated world was always reluctant to even acknowledge the fact that women were

as good as men on parameters of hard work, intelligence quotient (IQ) and leadership traits.

The new generation women across the world have overcome all negative notions and have proved themselves beyond doubt in all spheres of life including the most intricate and cumbersome world of entrepreneurship.

Yes, there is a section among women who believe in short-cuts but at the same time there is no dearth of women who are confident, believe in themselves and have enormous fire in their bellies to take on the best in the business and beat them at their own game.

India too has its own pool of such bold and fearless women who have made a mark for themselves both within the country as well as overseas.

Their relentless zeal, incessant quench for success and willingness to walk the extra mile have broken all myths about their inborn limitations that were supposed to be major roadblocks on their success expressways.

Let's meet 15 such Indian women who can be easily termed as role models for every Indian- both males and females:

1. Indra Nooyi

Current position: CFO, Pepsico

Indra Nooyi, 56, is the current chairman and CFO of the second largest food and beverage business, PepsiCo.

Born in Chennai, Indra did her Bachelor's in Science from Madras Christian College in 1974 and a Post Graduate Diploma in Management (MBA) from Indian Institute of Management, Calcutta in 1976.

Beginning her career in India, Nooyi held product manager positions at Johnson & Johnson and textile firm Mettur Beardsell. Nooyi joined PepsiCo in 1994 and was named president and CFO in 2001.

She has been conferred with prestigious Padma Bhushan for her business achievements and being an inspiration to India's corporate leadership.

2. Naina Lal Kidwai

Current position: Group General Manager & Country Head – HSBC, India

Naina Lal Kidwai, 55, is presently the Group General Manager and Country Head of HSBC India.

Naina has a Bachelor's degree in Economics from Delhi university and an MBA from Harvard Business school. In fact, Kidwai was the first Indian woman to graduate from Harvard Business School.

She started her career with ANZ Grindlays. Presently, she is also serving as a non-executive director on the board of Nestle SA. Kidwai is also global advisor at Harvard Business school.

Indian government conferred Padma Shri award on Naina for her contributions in the field of Trade and Industry.

3. Kiran Mazumdar Shaw

Current position: CMD, Biocon

Kiran, 59, is the founder Chairman and Managing Director (CMD) of Biocon Limited.

Born in Bangalore, Shaw completed her Bachelors in Zoology from Mount Carmel College, Bangalore University. She later did her post-graduation in Malting and Brewing from Ballarat College, Melbourne University.

She worked as a trainee brewer in Carlton and United Breweries, Melbourne and as a trainee maltster at Barrett Brothers and Burston, Australia.

She started Biocon in 1978 and spearheaded its evolution from an industrial enzymes manufacturing company to a fully integrated bio-pharmaceutical company.

Today Biocon under Shaw's leadership has established itself as a leading player in biomedicine research with a focus on diabetes and oncology.

Kiran is also a member of the board of governors of the prestigious Indian School of Business and Indian Institute of Technology Hyderabad.

Kiran received the prestigious Padma Shri (1989) and the Padma Bhushan (2005) from the government of India.

4. Chanda Kochhar

Current position: MD & CEO – ICICI Bank

Chanda Kochhar, 51, is currently the MD & CEO of India's largest private bank ICICI Bank.

Rajasthan born Chanda got Masters Degree in Management Studies from Jamnalal Bajaj Institute of Management Studies, Mumbai. She received the Wockhardt Gold Medal for Excellence in Management Studies as well as the J. N. Bose Gold Medal in Cost Accountancy.

Chanda Kochhar is married to Deepak Kochhar, a wind energy entrepreneur and her Business schoolmate.

5. Indu Jain

Designation – Chairperson (former), Times Group

Indu Jain, 76, used to be the chairperson of India's largest and most powerful media house – The Times Group.

A strong votary of women's rights and women entrepreneurship, Indu contributed immensely to the growth of Times group. Now, her two sons Samir and Vineet are running the company.

Indu Jain is also founder President of the Ladies wing of FICCI (FLO).

Indu is also the Chairperson of the Bharatiya Jnanpith Trust, which awards India's most prestigious and highest literary award, the Jnanpith award.

She addressed the United Nations in 2000 at the Millennium World Peace Summit of Religious and Spiritual Leaders, a speech in which she stressed the need for oneness among faiths and went on to chair a special session of the conference.

6. Simone Tata

Current position: Chairperson (Former), Lakme Chairperson (Present), Trent Limited

French by birth and educated in Switzerland, Simone is wife of Naval Homey Jahangir Tata and step mother to Ratan Tata. She is better known as 'Cosmetic Czarina of India'.

She has the distinction of changing a small subsidiary of Tata Oil Mills into the largest cosmetic brand in India – Lakme, that became synonymous with indigenous Indian cosmetics.

In 1996 Tata sold off Lakmé to Hindustan Lever Limited (HLL), and created Trent from the money it made through the sale. Presently, Simone is the chairperson of Trent Limited.

7. Neelam Dhawan

Current position: MD, HP-India

A woman with 'never-say-die' spirit, Neelam Dhawan is presently the Managing Director of Hewlett-Packard (HP), India.

Neelam is an iconic figure in Indian IT industry. She is an inspiration for women working in IT sector. She dared to enter the IT world in early 1980s when there were just a handful of women in this industry.

At the start of her career she yearned to be a part of major players in the FMCG space such as Asian Paints and Hindustan Lever.

Unfortunately, these organizations did not want a woman to be a part of their marketing and sales efforts and hence she was rejected at the time.

But a determined Neelam refused to give up and fought back with laurels galore.

Before joining HP, India as Managing Director (MD) , Neelam was Managing Director (MD) of Microsoft, India.

She had successful and rewarding stints with other leading players like IBM and HCL.

8. Sulajja Firodia Motwani

Current position: JMD – Kinetic Motors

Motwani is the Joint Managing Director of Kinetic Motors.

Sulajja has single-handedly designed and developed marketing strategies to spearhead the company's growth forward. Sulajja worked in a California-based Investment Company before coming to India to join her grandfather's business.

Sulajja's good looks has been recognized by India Today group which named her the 'Face of the Millennium' and she has been selected as the 'Global Leader of Tomorrow' by the World Economic Forum.

9. Priya Paul

Current position: Chairperson, Apeejay Park Hotels

Priya joined the family business at the age of 22 and worked under her father as Marketing Manager at the Park Hotel, Delhi.

After the death of Surrendra Paul, she succeeded him in 1990 as the Chairperson of the Hospitality Division of the Apeejay Surendra Group.

Her contribution to the hospitality industry has got recognition from the government of India which conferred on her Padma Sri award in 2012.

10. Mallika Srinivasan

Current position: Director, TAFE (Tractor and Farm Equipment)

Mallika has an MBA from Wharton School of Business, Pennsylvania.

She joined TAFE in 1986 and has since been responsible for accelerating turnover from 85 crores to 2900 crores within a span of two decades.

Her innovative business ideas and excellent leadership qualities have won her laurels from every quarter.

She was awarded 'Businesswoman of the year 2006' award by ET.

Princeton Creative Research has developed an excellent criteria checklist for evaluating ideas that is particularly well-suited to the entrepreneur.

- ☐ Have you considered all the advantages or benefits of the idea? Is there a real need for it?
- ☐ Have you pinpointed the exact problems or difficulties your idea is expected to solve?
- ☐ Is your idea an original, new concept, or is it a new combination or adaptation?
- ☐ What immediate or short-range gains or results can be anticipated? Are the projected returns adequate? Are the risk factors acceptable?
- ☐ What long-range benefits can be anticipated?
- ☐ Have you checked the idea for faults or limitations?
- ☐ Are there any problems the idea might create? What are the changes involved?
- ☐ How simple or complex will the idea's execution or implementation be?
- ☐ Could you work out several variations of the idea? Could you offer alternative ideas?
- ☐ Does your idea have a natural sales appeal? Is the market ready for it? Can customers afford it? Will they buy it? Is there a timing factor?
- ☐ What, if anything, is your competition doing in this area? Can your company be competitive?
- ☐ Have you considered the possibility of user resistance or difficulties?
- ☐ Does your idea fill a real need, or does the need have to be created through promotional and advertising efforts?
- ☐ How soon could the idea be put into operation?

As you can see by the examples mentioned above, there are many methods available with which to evaluate your idea. You should pick and choose the criteria that best suit your needs, depending on the type of company and/or the type of product you seek to evaluate.

Step 1 – Idea Conception and Evaluation

10 Steps to Bring a Product to Market

Congratulations! You have come up with an idea for a great new product. But how do you know if it is worth pursuing? In this step, you will do a quick check to see if you should develop your idea.

Preliminary Patent Search

You can do a preliminary patent search on your own for free. Patent attorneys charge hundreds of dollars for this service, and if you do continue to develop your idea you will eventually want a professional patent search. But for now, you only want to see if your idea is worth pursuing and you can use free search engines like [Google Patent Search](#) or the United States Patent and Trademark Office's [Patent Database](#).

Search for patents similar to your idea. Ideally, you won't find any patent remotely similar to your idea, but you may find a patent very similar to your idea. This does not necessarily mean you can't pursue your idea; it does mean you probably can't get a very strong patent.

Evaluate If Your Product is Worth Pursuing

There are basically four things you need to weigh to determine if your product is worth pursuing.

1. *Is your idea feasible to create based upon your abilities?*

Most, if not all, inventors get some kind of marketing or technical help from professionals, but your product still needs to be reasonably within your grasp. Don't let this intimidate you too much, but if you believe that you can do most of the work associated with your invention then you are in good shape. Just remember that even though most inventors do get help, you still need to do most of the work by yourself.

2. *Can it be produced profitably?*

You will not be able to know your exact costs, but consider the materials you want to use, the complexity of construction and the type of packaging you will need. If you think your costs will be pretty high and you will be competing with relatively low-cost products, your idea will probably not be worth pursuing. There are exceptions to this rule, like if your product is significantly better than competition or you are targeting high-end stores and consumers, but usually this rule holds true.

3. *Is there significant competition?*

A product is always easier to introduce if there is either very little or no competition. More competition generally means lower profits and tougher sales.

4. *Does your product make people say, "Wow"?*

If people are amazed when they hear about your product, then you should pursue your idea. I call this the "wow" factor and this can make up for deficiencies in any of the three areas above. This is perhaps the most important part of evaluating your idea because the "wow" factor is often the biggest contributor to inventors' success.

Step 2 – Determine Your Target Market

10 Steps to Bring a Product to Market

Develop a specific group of people who are your target customers. You want this to be the group most likely to buy your product. For instance, if you have a new kind of fly fishing pole, which is expensive, your target market could be wealthy fly fishermen. You might want further narrow this market to fishermen who fish for a certain fish in a certain kind of creek. Some people want to avoid a narrow market because they think they will sell fewer products, but usually the opposite is true. With a narrow target market you can more effectively market your idea and can have more effective market research. Once you have a target market, you want to then target a type of distribution channel and find the corresponding trade shows, magazines and associations to be a part of.

Targeting the right market at this point is crucial since all of the rest of your steps will be geared toward creating the perfect product, packaging, marketing, image, etc. for that target market.

Getting Involved With Your Target Market

Once you have chosen your target market, you need to get involved with that market. Subscribe to magazines, industry newsletters, read blogs, go to trade shows and anything else you can think of to immerse yourself in this market. You must thoroughly understand your market and be on top of any changes.

Step 3 – Do Meaningful Market Research

10 Steps to Bring a Product to Market

Market Research

You need to conduct meaningful market research for your idea within your target market. Your results need to show how people compare your product to others, what price they think is fair, what product features they like, which they don't and what features they think you should add to your idea. How you do this can vary tremendously but common forms of research are focus groups, surveys and interviews.

Create Something People Can Evaluate

Either create a brochure or a prototype of your product so people have something they can objectively evaluate.

If you create a brochure, you may need to hire a graphic designer or someone who can do technical drawings. You must make sure the brochure is attractively designed. People will be using your brochure to judge the merits of your product and if your brochure is low quality, people will probably think your product is low quality and you will not get the objective response required for meaningful market research.

Building a prototype is also an option. Again, if your prototype will be made out of plywood and duct tape, people probably won't respond positively to your product. You may need to hire a prototype designer if you cannot create an attractive enough prototype.

Generally, creating a brochure is easier and more affordable and many inventors choose that route. For help designing a brochure, contact us at info@onestopinventionshop.net. Prices will vary depending on your needs.

Get an Estimate on How Much Your Product Will Cost to Manufacture

Ask an engineer or an industry insider if they can give you a rough estimate on how much your product will cost to manufacture. You can also look at products made of similar materials with a similar level of complexity and see what they sell for. Usually a product sells at four times its manufacturing cost. So if the product costs \$19.95, the manufacturing costs are probably around \$5.00.

Using your estimated manufacturing cost, estimate your retail price by multiplying your manufacturing costs by four.

Conduct Your Market Research

Create surveys, questionnaires or study groups to compare your product to other existing products. If you are using a brochure, make sure you obtain brochures of competing products so you are not comparing apples to oranges.

You do not want participants to know which product is yours since they will then soften any criticism to not hurt your feelings. You want them to objectively rank each product in the order in which they value each product, or in the order in which they are most likely to buy. You also want them to list strengths and weaknesses of each product.

After doing this, you should have an idea of what customers are willing to pay for your product. For instance, if they rank your product between a product that costs \$24.95 and a product that costs \$20.95, you can charge around \$22.95 for your product. If this price is too low based upon your estimated manufacturing costs, you need to revise your product, either by adding value or by lowering your manufacturing costs.

Also after conducting this market research, you should have at least a few ideas on how to improve your product. Make these changes and repeat the market research until you are satisfied with your

results. You will want your product to consistently be ranked as one of the participants' top two choices.

Remember that whenever you change your product's design, you will want to re-estimate your manufacturing costs.

Step 4 – Make a Looks-Like, Acts-Like Prototype

10 Steps to Bring a Product to Market

Now it is time to make a looks-like, acts-like prototype. You will need this to verify if your idea works the way you think it will. Your prototype doesn't necessarily need to be made from all the same materials as your final product will be, but it needs to be a close approximation of your final product to prove to you, investors and potential partners that your idea does work.

Some inventors get all the way through the product development process, "perfect" their product, invest in a patent, but when they finally try to build the product, it doesn't work. Then they make changes in their product to make it work, but by doing so, sometimes their own product changes invalidate their patent protection. That is why it is so important to make a working prototype before you invest in a patent.

Building the Prototype

Depending on your product, you may or may not be able to build the prototype on your own. Remember that your prototype doesn't need to be made of all the same materials as your final product; it just needs to work and look like your final product will.

If you cannot build the prototype on your own, you may need to hire a professional prototype builder, an engineer or just a capable person.

Paying for Your Prototype

Building a prototype can be the first expensive step in your product development (depending on the complexity of your product). If you don't have a fair amount of savings, or the opportunity to take a small loan, you may need some investments to pay for your prototype.

Family and friends are often the best place to start for some small investments. Some of them may already know about your product, maybe have been encouraging you, and now may be the time to ask for some investments. You want to be upfront about the risk of investing in a new product, especially if you hope to keep good relations with your family and friends. Some may want to invest a lot of money into your product, but we don't believe this is a good idea unless they want to become partners in your business. Investing in new products is risky and you don't want to take advantage of family and friends who are eager to help.

If you need to hire a professional to build your prototype, you may need to take on your first serious investor. Once you start taking on investors beyond your family and friends, you will need to talk to a business lawyer to make sure you aren't breaking any laws with your investors.

Prototypes

Prototype design and construction cost vary depending on the complexity of the product. Generally, the consultation should provide us with enough information to allow the preparation of a fixed price quote for the design and construction of an invention prototype. Most prototypes cost between \$1,500 and \$15,000.

Virtual Prototypes

Virtual Prototypes are very useful for pitching an invention to a potential licensee at a cost that is much lower than that of a physical prototype. A Virtual Prototype is a series of photo realistic images of an invention that can be developed by designing the invention in three dimensions on the computer. The results can be viewed from different angles, and illuminated to create professional virtual photographs of the invention. The invention can also be an Animated Virtual

Prototype and shown as a video. The price for most virtual prototypes is usually between \$1,500 and \$3,500 depending on complexity.

Step 5 – Intellectual Property Protection

10 Steps to Bring a Product to Market

Now that you have your looks-like, acts-like prototype, you know how your final product will work and it is time to take a serious look at your patent options.

Professional Patent Search

Although you have done a preliminary patent search on your own, you will want to have a patent attorney or agent conduct a patent search for you. This will go much further in-depth than your patent search and some of the work (for instance, exploring prior art) will be required for your patent application.

Decide on your Patent Strategy

Once your patent search is completed, you will need to use the results to decide your patent strategy. There are many possible strategies, for instance: trade secret, design patent, utility patent, provisional patent, a series of weak patents or a prolonged patent pending strategy.

You will need to work with your patent attorney or patent agent on which strategy will work for you. Many inventors start with a provisional patent, which is easy to file on your own, but a provisional patent won't work in every circumstance, which is why you want to consult a professional.

Other Intellectual Property Protection Options

There are other forms of intellectual property protection options besides patents, although only a patent will protect your product. Trademarks are often used by inventors to protect their company or product name and logo. You can register your trademark at the [US Patent and Trademark](#)

[Office](#) or just put “TM” after whatever you want to trademark. There are certain advantages to registering your trademark and you can find out about that at the [USPTO website](#).

Paying for Patents

Patents can be *very* expensive and if you haven’t needed to take on investors yet, you probably will need to now. Really, even if you don’t need to take on investors now, you probably should. You don’t want to wait to approach investors until you run out of money because that will make you look like a poor planner. Also, if you have connected with industry insiders or business professionals for advice, this is a good time to approach them about investing. They will understand this is an expensive, but necessary, step and as soon as they invest, they are no longer just well-wishers giving advice, instead they have a stake in your success and will be willing to use their contacts to advance your product.

As mentioned in [Step 4](#), you will need to get in touch with a business lawyer to make sure you aren’t breaking any laws when taking investments

Step 6 – Choose your Business Model

10 Steps to Bring a Product to Market

Now that you have gotten this far, you need to choose how you are going to sell your product, how you are going to profit from these sales, how your business will be organized — in short, you need to choose your business model.

A lot of things go into a business model (see [Business Models Made Easy](#), [Successful Business Models](#), and [The Risk-Free Entrepreneur](#) for a detailed look into building a winning business model), but most inventors choose one of three basic business models: being outsource entrepreneur, licensing or starting their own company.

All three have pros and cons and you will have to decide which model is best for you and your product, based on your own skills and the specific characteristics of your product. To learn more about each model, see below.

Outsource Entrepreneur

An outsource entrepreneur uses outsourcing to quickly bring his or her product to market with low risk and low investment. There are essentially three aspects to bringing a product to market: research and development; manufacturing; and marketing. As the inventor, you perform the task of research and development (inventing and developing the idea) and outsource the manufacturing and marketing to investing partners. The investing partners will provide further development and pay for many of the startup costs. In return they will receive more profits than contracted work and will have some control of the idea.

This is often the fastest way to bring a product to market, is low risk and allows you to move onto new ideas quickly since the other partners will continue to manufacture and market your idea without excessive involvement on your part. This is not for everyone and will require you to have strong deal-making skills, but the low-risk and low-investment aspect makes this appealing for most inventors, who are often strapped for cash.

Licensing

Licensing is when a company takes over your new product idea and pays you a royalty of the sales from your idea. The licensee can be a manufacturer, marketer or a product development company. Since licensees take on all the risk of a product, they are cautious about what products they will license. Most companies will only license an idea if they are fairly certain it will be successful so it is up to you to convince them.

While the earning potential is lower than both the outsource entrepreneurial approach and starting your own company, many inventors choose this strategy because once you license the idea you have no more responsibility to the project.

Similar to licensing are private label agreements. Under a private label agreement, you would need to manufacture your product and then another company would sell it as if it were their own product.

Starting Your Own Company

Starting your own company can offer the biggest returns on your idea, but also can be the biggest loss. This business model will take substantial investment and time and will offer the slowest rate of growth. But if you succeed, the profits are all yours.

In the following steps, we will assume you will contract the manufacturing process and hire sales people or use an established distribution channel, which is not the route everyone takes. With a small target market, some inventors can manufacture and market the product completely on their own, and even earn a substantial profit. Before you start this process consider what skills you have and how much time you are willing to spend on this business, you may need to take on help or partners right away to get started.

Choice of Technology

A Preservation Institute White Paper Choice of Technology From the beginning of the industrial revolution, the rule was to adopt as much new technology as possible as quickly as possible. A few decades ago, we began to control the most deadly technologies. For example, after a killer smog caused thousands of deaths in London in 1952 and 1953, the city of London passed laws to control air pollution, and other countries eventually followed. When DDT threatened to cause extinction of eagles, peregrine falcons, cormorants, and many other species of bird, it was banned internationally. If these limits on deadly technologies have made our lives better, then broader limits on destructive technologies should also make our lives better. We will look at four common-sense criteria for choosing technologies: utility, environment, autonomy and quality. Because we have used technology indiscriminately for so long, it will be easy to explain what these criteria mean by finding examples of technologies that violate them – technologies that are either useless or destructive.

Utility

The first criterion is utility. Is the technology actually useful? The electric can opener is a small example that clarifies what this criterion means. Unless you have arthritis or some other debilitating disease, the old-fashioned wall-mounted, handcranked can opener is just as easy to use as an electric can opener. In fact, the electric can opener is a nuisance because it takes up shelf space, and one manufacturer marketed a wallmounted electric can opener which it said would free

consumers from this problem – a problem they never would have had if they had stuck with their old hand-cranked can openers. Though it is more expensive and has no more utility (maybe even less utility), the electric can opener has replaced the hand-cranked can opener almost completely in American kitchens.

This is one small example of the American fascination with new consumer technology, which helps fuel our shop-till-you-drop economy by convincing people to buy new gadgets, whether or not they are – strictly speaking – useful.

Rather than giving more small examples, let's go straight to the biggest example of how we violate the criterion of utility, our overuse of the automobile and the complex of sprawl and freeways that goes with it. Post-war American city planners designed new development around the automobile. In the post-war suburbs that sprouted around all our cities, densities were very low, so automobiles could be the sole form of transportation without causing congestion. Housing was separated from other land uses, to prevent neighborhoods from being invaded by automobiles. Shopping was surrounded by parking lots. Freeways and major streets were designed purely to maximize the flow of automobile traffic. The low densities could not support good public transportation, and the parking lots, single-use developments, and high-speed roads made walking either Utility: Is the technology actually useful? unpleasant or physically impossible. In these neighborhoods, people drive every time they leave their houses. This auto-oriented sprawl is very expensive: Housing and transportation account for over 50% of Americans' consumption expenditures. Yet these sprawl suburbs are no more livable than the old street-car suburbs built early in the twentieth century, where people could walk to local shopping and to public transportation. In many ways, they are less livable: For example, parents have to waste time chauffeuring their children around, traffic is often nerve racking, and you live with the everyday ugliness of freeways and strip malls. The New Urbanists have shown that neighborhoods are more livable when they are designed like the old street-car suburbs, so they can support a balanced transportation system that includes public transit and walking as well as the automobile. But, because of post-war America's fascination with technology, we built freeway-oriented sprawl for many decades, even though it has no more utility (maybe even less utility) than neighborhood design that supports the low-tech form of transportation called walking.

Environment

The second criterion is environmental soundness, using the word environment in the broadest sense. Does the technology create costs for unwilling third parties? A small example that clarifies what this criterion means is the remote control automobile lock that beeps the horn to reassure the user that the door is successfully locked, which has become ubiquitous. Using remote control instead of a key is a minor convenience for the consumer, and the beeping horn is a minor nuisance for everyone else. We could have the convenience without the nuisance, if cars flashed their lights to show that the door was locked instead of beeping their horns. Currently we just think about cost and convenience to the consumer, not about the nuisance to third parties. We would all be better off if we thought about total cost, including environmental costs. It is easy to come up with bigger examples of the same principle. Off-road vehicles, jet skis, and other "thrill craft" are usually very noisy. They are a minor form of amusement for the consumer and a significant nuisance for every one nearby – particularly for people who took a trip out of the city in to find some peace and quiet. The off road vehicles also tear up the land, and the jet skis dump oil in the water. The biggest example of this principle is our overuse of fossil fuels, which has released so much carbon dioxide

into the atmosphere that global warming will impose huge costs on future generations. Most of America's electricity is generated by burning coal, which emits twice as much carbon dioxide as natural gas. Solar electric power costs about twice as much as power generated using fossil-fuels, but it emits no carbon dioxide. If we took into account all costs, including future environmental costs, we would shift to solar power, even at its current price; after it became widespread, its price would go down.

Autonomy

A third criterion is autonomy. Does the technology make people passive and powerless, or does it help them to do more for themselves? Environment: Does the technology create costs for unwilling third parties? For example, television reduces autonomy by turning people into passive consumers of entertainment. Microcomputers can increase autonomy by letting people join on-line discussion groups, produce publications, record and produce music, and do other productive activities on their own. We cannot always follow this criterion. For example, small-scale production would increase autonomy, but large-scale factory production is usually so much more efficient that it is economically necessary, even though it reduces autonomy. Since the 1970s, the appropriate technology movement has brought the criterion of autonomy to the world's attention by developed small-scale technologies that allow independent local production. These technologies are useful in developing nations where there is little capital and very low wages, but it is not realistic to expect the developed nations to abandon mass production. In the United States, the ideal of appropriate technology is useful as a reminder to avoid technologies that make us passive and powerless. For example, we should control our addiction to the mass media and instead start using our time more constructively. Likewise, we should stop thinking of ourselves as passive consumers of health care and instead start eating well and exercising to improve our own health.

Quality

The fourth criterion is difficult to name, but it might be best to call it quality. Technology lets us do things in ways that are cheaper, quicker, or easier – but that are not the real thing. Is the technology an artificial substitute that is drastically inferior to the real thing? There are many small examples from the modern food industry. During much of the twentieth century, the big bread manufacturers promoted white bread, because its long shelf life allows large-scale production and distribution. It has a long shelf life because it has so little nutritional value that it cannot support the growth of most microorganisms. The bread manufacturers add artificial vitamins and minerals, but these make up for only a small fraction of what they remove. For example, whole wheat bread naturally has over twenty B vitamins; white bread has a few B vitamins added, which are cheap to manufacture. Whole wheat bread is high in fiber; white bread does nothing to make up for the lost fiber. The artificial nutrients that are added are not a real substitute for the natural nutrients that are lost. Likewise, most packaged foods include hydrogenated oils. Hydrogenation increases shelf life by making the oil less likely to become rancid, so it works well for large-scale production and distribution. But recent research has shown that these trans fats increase the threat of heart disease so dramatically that some people say they should be banned. They are not a real substitute for natural oils. A bigger example is our use of drugs to create an artificial substitute for good health. Many Americans are overweight because of bad diet and lack of exercise, and this puts them at risk of heart disease, diabetes, and other illnesses. Our solution is to prescribe statins, which reduce the risk of heart disease; the standards keep changing so the population that doctors recommend statins to increases each year. Doctors say that we should change our lifestyle in addition to taking

these drugs, but obesity rates keep going up, so it is clear that many Americans take drugs instead of changing lifestyle. Yet these drugs only deal with high cholesterol levels, and they leave us overweight, sedentary, and far from optimum health. They are not a real substitute for living healthier lives. Autonomy: Does the technology make people passive and powerless, or does it help them to do more for themselves? Even worse, we have begun to use psychiatric drugs to create an artificial imitation of happiness. Psychiatric drugs can be useful in the case of real mental illnesses, but they are grossly over-prescribed in America. The United States has 90% of the world's cases of ADHD, and it is clear that we prescribe Ritalin to many of these children to adjust them to preschools or to schools that are not suited to their temperaments. Likewise, we prescribe Prozac to adults to help them cope with overwork and stress. It is easy to take a drug that makes you feel good, but it is not a real substitute for changing your life for the better. We cannot always follow this criterion either. For example, if we had all our clothing custom made by tailors, it would fit a bit better than our usual mass-produced clothing, but it would be much more expensive. The quality of mass-produced clothing is adequate, and it is not worth paying the extra cost for custom tailored clothing. This criterion is most important when the high-tech product is completely ersatz and is not a substitute at all for the low-tech product that it replaces – as taking statins to lower cholesterol is not a substitute for eating well and exercising, and as taking Prozac is not a substitute for living a satisfying life.

With and Without Choice

Some choices of technology must be required by law, such as limits on off-road vehicles, and others should be voluntary, such as reduction of the time we spend watching television. Both political and personal choice of technology will come when we finally realize how destructive our failure to choose technologies has been. Because we have failed choose technologies based on utility, we spend so much money on high-tech toys and on automobile-centered neighborhoods that we have to work long hours and do not have time for our families and our own interests. America has longer work hours than any other industrial nation, longer work hours than had three or four decades ago. We should use technologies that save labor, but avoid the technological consumerism that makes us waste our time in useless getting and spending. Because we have failed to choose technologies based on full environmental cost, our quality of life has declined. The group Redefining Progress has compiled the Genuine Progress index, which corrects the Gross Domestic Product for environmental costs, and it has found that both the GDP and our genuine well being increased through the 1960s, but that since the 1970s, our genuine well being has declined, even though the GDP continued to grow as quickly as ever. In the coming century, global warming may cause a drastic decline in our well being. Because we have failed to choose technologies based on autonomy and quality, we spend most of our spare time as passive consumers of entertainment, stultified by the mass media. We do not even take the initiative needed to promote our own health; instead we consume drugs. If we began to choose technology based on these four criteria, we would consume less and have more free time for our families and our own interests. We would get rid of environmental nuisances that degrade our quality of life, and of environmental threats that endanger our future. We would have the free time and the initiative needed to promote our own health and happiness. We have used technology indiscriminately for so long that our lives are cluttered with useless and destructive technologies. We would be much better off if we got them out of our way. Quality: Is the technology an artificial substitute that is drastically inferior to the real thing

Unit III

Project Formulation and Implementation

Need for project formulation

- Selection of appropriate technology
- Influence of External Economics
- Dearth of Technically Qualified Personnel
- Resource mobilisation
- Knowledge about Government Regulations

Significance of a project formulation

- Project formulation is the best passport for obtaining the required assistance from financial institutions.
- it will also be of great assistance for obtaining necessary Government clearances and in meeting the hurdles of procedure formalities.
- it will pinpoint the matters for which government sanctions have to be obtained.
- It will provide an independent assessment of the feasibility of obtaining the sanctions based on the existing government policies.

TAXONOMY OF PROJECTS

- Based on the type of activity
- Based on the location of the project
- Based on the completion time
- Based on ownership
- Based on size
- Based on need

TYPES OF PROJECTS

- Construction projects

- Research projects
- Reengineering projects
- Procurement projects
- Business implementation projects
- Miscellaneous types

Elements of Project Formulation

- Feasibility analysis
- Techno-economic analysis
- Project design and network analysis
- Input analysis
- Financial analysis
- Social cost benefit analysis
- Project appraisal

Project selection

- Economic size
- Status of industry or scope
- Raw material availability
- Cost of production
- Capital cost
- Utility requirements
- Infrastructure facilities needed
- Profitability
- government policy

Planning commission guidelines

- General information

- Preliminary analysis of alternatives
- Project description
- Marketing plan
- Capital requirements and costs
- Operating requirements and costs
- Financial analysis
- Economic analysis
- **RESPONSIBILITIES OF A PROJECT MANAGER**
- To plan thoroughly all aspects of the project
- To control the organization of manpower needed by the project.
- To control the basic technical definition of the project.
- To lead the people and organizations assigned to the project at any given point in time.
- To monitor the performance, costs and efficiency of all elements of the project.
- To complete the project on schedule and within costs.
- To plan thoroughly all aspects of the project, soliciting the active involvement of all the areas involved.
- To control the organization of man power.
- To control the basic technical definition of the project
- To lead the people and organisation assigned to the project at any point in time.
- To monitor the performance, costs and efficiency of all elements of the project and the project as a whole.
- To complete the project on schedule and within costs .

8 Stages involved in the Formulation of a Good Business Plan!

- Normally, micro and small-scale enterprises do not include sophisticated techniques which are used for preparing project reports of large-scale enterprises. Within the small-scale enterprises too, all the information may not be homogeneous for all units.
- In fact, what and how much information will be given in the project report depends upon the size of the unit as well as nature of the production. A general set of information given in any project report is listed by Vinod Gupta (1999) in his study on “Formulation of a Project Report”. We are reproducing it here for your information and knowledge.
- Project formulation divides the process of project development into eight distinct and sequential stages.

- **These stages are:**

- 1. General Information.
- 2. Project Description.
- 3. Market Potential.
- 4. Capital Costs and Sources of Finance.
- 5. Assessment of Working Capital Requirements.
- 6. Other Financial Aspects.
- 7. Economic and Social Variables.
- 8. Project Implementation.

- **The nature of information to be collected under each one of these stages has been given below:**

- **1. General Information:**

- **The information of general nature given in the project report includes the following:**

- **Bio-data of Promoter:**

- Name and address of entrepreneur; the qualifications, experience and other capabilities of the entrepreneur; if these are partners, state these characteristics of all the partners individually.
- **Industry Profile:**
- A reference of analysis of industry to which the project belongs, e.g., past performance, present status, its organisation, its problems, etc.
- **Constitution and Organisation:**
- The constitution and organisational structure of the enterprise, in case of partnership firm, its registration with the Registrar of Firms; application for getting Registration Certificate from the Directorate of Industries/District Industry Centre, etc.
- **Product Details:**
- Product utility, product range; product design; advantages to be offered by the product over its substitutes, if any.
- **2. Project Description:**
- A brief description of the project covering the following aspects is given in the project report.
- **Site:**
- Location of enterprise; owned or leasehold land; industrial area; No Objection Certificate (NOC) from the Municipal Authorities if the enterprise location falls in the residential area.
- **Physical Infrastructure:**
- **Availability of the following items of infrastructure should be mentioned in the project report:**
- **(i) Raw Material:**
- Requirement of raw material, whether inland or imported, sources of raw material supply.

- **(ii) Skilled Labour:**
- Availability of skilled labour in the area, arrangements for training labourers in various skills.

- **Utilities:**
- **These include:**
- **(i) Power:**
- Requirement for power, load sanctioned availability of power.

- **(ii) Fuel:**
- Requirement for fuel items such as coal, coke, oil or gas, state of their availability.

- **(iii) Water:**
- The sources and quality of water required should be clearly stated in the project report.

- **Pollution Control:**
- The aspects like scope of dumps, sewage system and sewage treatment plant should be clearly stated in case of industries producing emissions.

- **Communication System:**
- Availability of communication facilities, e.g., telephone, telexes etc. should be stated in the project report.

- **Transport Facilities:**
- Requirements for transport, mode of transport, potential means of transport, distances to be covered, bottlenecks etc., should be stated in the business plan.

- **Other Common Facilities:**
- Availability of common facilities like machine shops, welding shops and electrical repair shops etc. should be stated in the report.

- **Production Process:**

- A mention should be made for process involved in production and period of conversion from raw material into finished goods.

- **Machinery and Equipment:**

- A complete list of items of machinery and equipment's required indicating their size, type, cost and sources of their supply should be enclosed with the project report.

- **Capacity of the Plant:**

- The installed licensed capacity of the plant along with the shifts should also be mentioned in the project report.

- **Technology Selected:**

- The selection of technology, arrangements made for acquiring it should be mentioned in the business plan.

- **Research and Development:**

- A mention should be made in the project report regarding proposed research and development activities to be undertaken in future.

- **3. Market Potential:**

- **While preparing a project report, the following aspects relating to market potential of the product should be stated in the report:**

- **(i) Demand and Supply Position:**

- State the total expected demand for the product and present supply position. This should also be mentioned how much of the gap will be filled up by the proposed unit.

- **(ii) Expected Price:**

- An expected price of the product to be realised should be mentioned in the project report.

- **(iii) Marketing Strategy:**

- Arrangements made for selling the product should be clearly stated in the project report.
- **(iv) After-Sales Service:**
- Depending upon the nature of the product, provisions made for after-sales service should normally be stated in the project report.
- **(v) Transportation:**
- Requirement for transportation means indicating whether public transport or entrepreneur's own transport should be mentioned in the project report.
- **4. Capital Costs and Sources of Finance:**
- An estimate of the various components of capital items like land and buildings, plant and machinery, installation costs, preliminary expenses, margin for working capital should be given in the project report. The present probable sources of finance should also be stated in the project report. The sources should indicate the owner's funds together with funds raised from financial institutions and banks.
- **5. Assessment of Working Capital Requirements:**
- The requirement for working capital and its sources of supply should be carefully and clearly mentioned in the business plan or project report. It is always better to prepare working capital requirements in the prescribed formats designed by limits of requirement. It will minimise objections from the banker's side.
- **6. Other Financial Aspects:**
- In order to adjudge the profitability of the project to be set up, a projected Profit and Loss Account indicating likely sales revenue, cost of production, allied cost and profit should be prepared. A projected Balance Sheet and Cash Flow Statement should also be prepared to indicate the financial position and requirements at various stages of the project.

- In addition to above, the Break-Even Analysis should also be presented in the project report. Break-even point is the level of production/ sales where the industrial enterprise shall earn neither profit nor incur loss. In fact, it will just break even. Break-even level indicates the gestation period and the likely moratorium required for repayment of loans.

- **Break-even point (BEP) is calculated as follows:**

- $$\text{BEP} = \frac{F}{S-V} \times 100$$

- where, F = Fixed Cost

- S = Sales Projected

- V = Variable Costs

- Thus, the break-even point so calculated will indicate at what percentage of sales, the enterprise will break even i.e., no profit, no loss.

- **7. Economic and Social Variables:**

- In view of the social responsibility of business, the abatement costs, i.e., the costs for controlling the environmental damage should be stated in the project. Arrangements made for treating the effluents and emissions should also be mentioned in the report.

- Besides, the socio-economic benefits expected to accrue from the project should also be stated in the report itself.

- **Following are the examples of socioeconomic benefits:**

- (i) Employment Generation.
- (ii) Import Substitution.
- (iii) Ancillarisation.

- (iv) Exports.
- (v) Local Resource Utilization.
- (vi) Development of the Area.

- **8. Project Implementation:**

- Last but no means the least, every entrepreneur should draw an implementation scheme or a time-table for his project to ensure the timely completion of all activities involved in setting-up an enterprise. Timely implementation is important because if there is a delay, it causes, among other things, a project cost overrun.
- In India, delays in project implementation have become a common feature. Delay in project implementation jeopardizes the financial viability of the project, on the one hand, and props up the entrepreneur to drop the idea to set-up an enterprise, on the other. Hence, there is a need to draw up an implementation schedule for the project and then to adhere to it to complete the project in time.

- **Following is a simplified implementation schedule for a small business project:**

An Illustrative Implementation Schedule

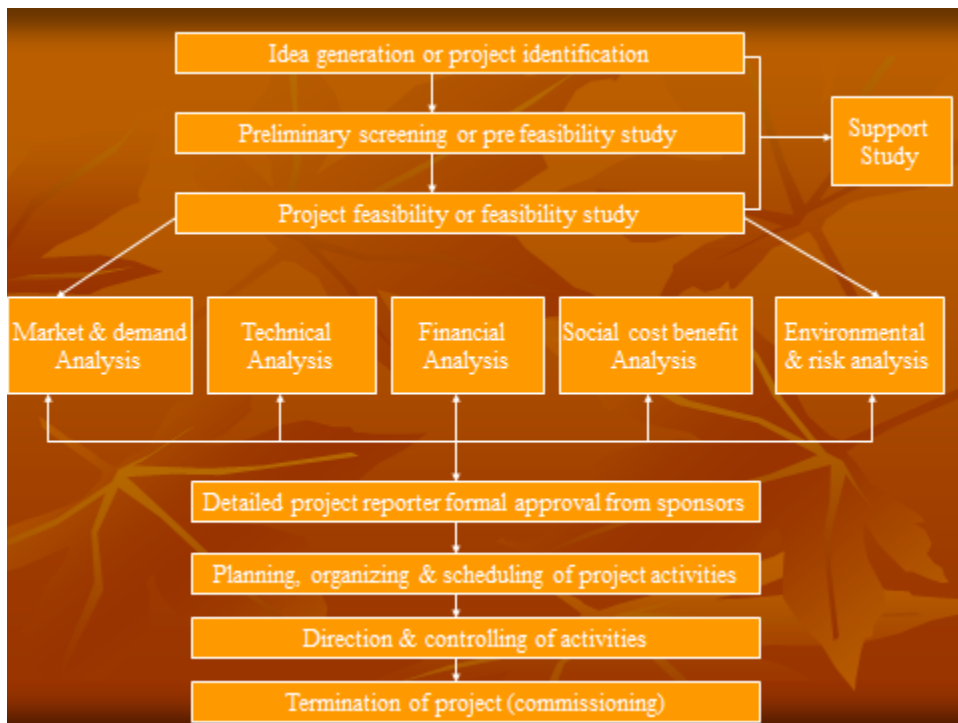
<i>Tasks / Months</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Formulation of Project Report														
2. Application for Term-Loan														
3. Term-Loan Sanction														
4. Possession of Land														
5. Construction of Building														
6. Getting Power and Water														
7. Placing Order for Machinery														
8. Receipt and Installation of Machinery														
9. Manpower Recruitment														
10. Trial Production														
11. Commencement of Commercial Production														

- The above schedule can be broken up into scores of specific tasks involved in setting up the enterprise. ‘Project Evaluation and Review Technique (PERT)’ and ‘Critical Path

Method (CPM)' can also be used to get better insights into all activities related to implementation of the project.

HOW TO START A NEW VENTURE

- Idea generation
- Primary screening or pre-feasibility study
- Project feasibility or detailed feasibility study
- Support study
- Detailed project report (DPR)
- Design or planning
- Implementation or execution
- Termination of project



IDEA GENERATION OR IDENTIFICATION OF INVESTMENT OPPORTUNITIES

- Idea generation is the process of grouping logical thoughts based on some factors.

SOURCES OF IDEA GENERATION

- Performance of existing industry
- Examining the inputs and outputs of various industries
- Review of imports and exports
- Availability of cheap materials & labor locally
- Price trend, to find demand – supply gap
- Government guidelines
- Analysis of economic and social trends
- Study of new technological developments
- others

PRELIMINARY SCREENING OR PRE-FEASIBILITY STUDY

- Preliminary screening is done with a view to avoid unnecessary cost and efforts in detailed study, if idea is not looking worthwhile in first instance
- **DEFINITION :** Preliminary screening can be defined as a series of steps to know whether or not a complete detailed feasibility study should be made.

What Is Market Demand Analysis?

Companies use market demand analysis to understand how much consumer demand exists for a product or service. This analysis helps management determine if the company can successfully enter a market and generate enough profits to advance its business operations. While several methods of demand analysis may be used, they usually contain a review of the basic components of an economic market.

Market Identification

- The first step of market analysis is to define and identify the specific market to target with new products or services. Companies will use market surveys or consumer feedback to determine their satisfaction with current products and services. Comments indicating dissatisfaction will lead businesses to develop new products or services to meet this consumer demand. While companies will usually identify markets close to their current product line, new industries may be tested for business expansion possibilities.

Business Cycle

- Once a potential market is identified, companies will assess what stage of the business cycle the market is in. Three stages exist in the business cycle: emerging, plateau and declining. Markets in the emerging stage indicate higher consumer demand and low supply of current products or services. The plateau stage is the break-even level of the market, where the supply of goods meets current market demand. Declining stages indicate lagging consumer demand for the goods or services supplied by businesses.

Product Niche

- Once markets and business cycles are reviewed, companies will develop a product that meets a specific niche in the market. Products must be differentiated from others in the market so they meet a specific need of consumer demand, creating higher demand for their product or service. Many companies will conduct tests in sample markets to determine which of their potential product styles is most preferred by consumers. Companies will also develop their goods so that competitors cannot easily duplicate their product.

Growth Potential

- While every market has an initial level of consumer demand, specialized products or goods can create a sense of usefulness, which will increase demand. Examples of specialized products are iPods or iPhones, which entered the personal electronics market and increased demand through their perceived usefulness by consumers. This type of demand quickly increases the demand for current markets, allowing companies to increase profits through new consumer demand.

Competition

- An important factor of market analysis is determining the number of competitors and their current market share. Markets in the emerging stage of the business cycle tend to have fewer competitors, meaning a higher profit margin may be earned by companies. Once a market becomes saturated with competing companies and products, fewer profits are achieved and companies will begin to lose money. As markets enter the declining business cycle, companies will conduct a new market analysis to find more profitable markets.



Market Survey

Market Survey is a technique that is aimed at gathering all possible information (primary data) by conducting interviews

Steps under Market Survey

- + Defining the Target Market
- + Selecting the Sample
- + Developing the Questionnaire
- + Training the Surveyors
- + Recording the Information
- + Interpreting the Information

Market Descriptions

- ❖ Competition in Market
- ❖ Study of Market Segments
- ❖ Price
- ❖ Methods of Distribution
- ❖ Sales Promotion
- ❖ Consumers Interest
- ❖ **Demand Forecasting**

NEED FOR DEMAND FORECASTING

All business planning starts with forecasting Capital investment, like procurement of raw materials and production planning, has to relate to demand forecasting. High volume high technology mass production systems have further high-lighted the importance of accurate demand forecasts. Even in a batch type production, any major mismatch between forecast and manufacture will lead to higher capital tied up in finished products which are slow in selling.

UNCERTAINTIES IN DEMAND FORECASTING

Demand forecasting is the estimate of future demand. As the future is always uncertain, forecasting cannot be completely fool proof and correct. However, the very process of forecasting demand in future involves evaluating various forces and factors which influence demand. This exercise is very rewarding in itself as it enables the personnel to know about various market forces, currents, cross-currents and under-currents relevant to the demand behavior.

LEVELS OF DEMAND FORECASTING

Demand forecasting can be at the level of a firm or an industry or at the national or national or international level:

a) Firm Level 36 Project Formulation and Appraisal If the exercise aims at forecasting demand of firm' s products locally at state, region or national level, it is a micro-level of demand forecasting. Sometimes, forecasts are required for company' s products in specific industry or market segment.

d) Industry Level Such a demand forecasting exercise focuses on an industry as a whole for the region and/or national level. These forecasts may be undertaken by a group of companies or by industry/trade associations.

National Level Demand forecasts at national level include parameters like national income, expenditure, index of industrial and/or agricultural production etc. Estimating aggregate demand

of products at national level facilitates governmental decisions for imports, exports, pricing policy etc.

International Level

Companies operating in multinational markets would require similar forecasting of demands for its products, trends in consumption etc at international level Managerial Economists play a leading role in masterminding these forecasts at firm, industry, national and international levels. Time horizon of these demand forecasts usually varies from 1 to 5 years and in rare instances upto 10 years.

METHODS OF FORECASTING- DEMAND

To facilitate proper and reliable appraisal of investment proposal, we require a reasonably accurate forecast of demand. Starting with qualitative methods like survey of collective opinions, buyers' intention, Delphi approach and its variant, a number of quantitative methods are used for compiling and computing demand forecasts as detailed below:

- a) **Collective Opinion Survey** Sales personnel are closest to the customers and have an intimate feel of the market. Thus they are most suited to assess consumers reaction to company's products. Herein each salesperson makes an estimate of the expected sales in their respective area, territory, state and/or region, These estimates are collated, reviewed and revised to take into account changes in design/features of products, changes in selling prices, projected advertising and sales promotion campaigns and anticipated changes in competitors :marketing policies covering product, people, price, promotion and place. Opinions of all managers involved at various levels of sales organisation are also included in the survey.
- b) **Survey of Customers Intention** Another method of demand forecasting is to carry out a survey of what consumers prefer and intend to buy. If the product is sold to a few large industrial buyers, survey would involve interviewing them. If it is a consumer durable product, a sample survey is carried out for questioning a few representative consumers about what they are planning or intending to buy. It is neither realistic nor desirable to query all consumers either through direct contact or through printed questionnaire by mail. These surveys serve useful purpose in establishing relationships between:
 - demand and price • • • • i) ii) iii) iv) v)demand and income of consumers demand and expenditure on advertisement etc This method is preferred when bulk of the sales is to institutions and industrial buyers and only a few of them have to be contacted. Disadvantages are that customers may not know total requirements; in some cases they are not certain about quantity to be purchased. Besides during shortages there is a tendency to inflate their requirements. Survey method is not useful for households - interviewing them is not only difficult out but also expensive. They are not able to

give precise idea about their intentions particularly when alternative products are available in the market.

c) Delphi Method of Demand Forecasting

Delphi method is a group process and aims at achieving a 'consensus' of the members. Herein experts in the field of marketing research and demand forecasting are engaged in analyzing economic conditions carrying out sample surveys of market conducting opinion polls. Based on the above, demand forecast is worked out in following steps: Co-ordinator sends out a set of questions in writing to all the experts co-opted on the panel who are requested to write back a brief prediction. Written predictions of experts are collated, edited and summarized together by the Co-ordinator. Based on the summary, Co-ordinator designs a new set of questions and gives them to the same experts who answer back again in writing. Co-ordinator repeats the process of collating, editing and summarizing the responses. Steps 3 and 4 are repeated by the Co-ordinator to experts with diverse backgrounds until consensus is reached. If there is divergence of opinions and hence conclusions, Co-ordinator has to sort it out through mutual discussions. Co-ordinator has to have the necessary experience and background as he plays a key role in designing structured 'questionnaires and synthesising the data. Direct interaction among experts is avoided nor their identity is disclosed. Procedure also avoids inter-personnel conflicts nor strong-willed experts are able to dominate the group. This method is also used for technology forecasting.

d) Nominal Group Technique

This is a further modification of Delphi method of forecasting. A panel of seven to ten 39 Market and Demand Analysis i) ii) iii) iv) v) vi) e) experts is formed and allowed to interact, discuss and rank all the suggestions in descending order as per the following procedure: Experts sit around a table in full view of one another and are asked to speak to each other. Facilitator hands over copies of questionnaire needing a forecast and each expert is expected to write down a list of ideas about the questions. After everyone has written down their ideas, Facilitator asks each expert to share one idea out of own list with the group. The idea shared is written on the 'flip chart' which everyone can see. Experts give ideas in rotation until all of them are written on the 'flip chart'. No discussion takes place in this phase and usually 15 to 25 ideas emerge from this format. In the next phase, experts discuss ideas presented by them. Facilitator ensures that all ideas have been adequately discussed. During discussions similar ideas are combined and paraphrased appropriately. This reduces the number of ideas. After completing group discussions, experts are asked to give in writing ranks to ideas according to their

perception of priority. Simple Average Method Among the quantitative techniques for demand analysis, simple Average Method is the first one that comes to one's mind. Herein, we take simple average of all past periods - simple monthly average of all consumption figures collected every month for the last twelve months or simple quarterly average of consumption figures collected for several quarters in the immediate past. Thus, Sum of Demands of all periods Simple Average : Number of periods

e) Moving Average Method

Method of Simple Average is faulted on account of the fact that all past periods are given same importance whereas it is justifiable to accord higher importance to recent past periods. Moving Average Method takes a fixed number of periods and after the elapse of each period, data for the oldest time period is discarded and the most recent past period is included. Whatever the period selected, it must be kept constant - it may be three, four or twenty periods by once it decided, we must continue with same number of periods. Sum of Demands of Chosen periods Simple Average : Number of chosen periods

f) Weighted Moving Average

In Moving Average Method, weighted given to the selected number of periods is same. This has been refined to include the Weighted Moving Average which allows varying weightages for demands in old periods. Depending upon the age of the period, with-age can be varied: Weighted Moving Average = $W_1 \times D_1 + W_2 D_2 + \dots + W_n \times D_n$ where W_1, W_2, \dots, W_n are the weightages for the different periods in percentages so that $W_1 + W_2 + \dots + W_n = 1$ This method has the advantage that it allows forecaster to compensate for some known trend in demand or seasonality of demand by carefully fitting appropriate coefficients of weighted to those periods. The weightages have to be decided by the forecast analysts and this decision is critical to the accuracy of demand forecast.

❖ Market Planning

This steps under Market and Demand Analysis is not related to actual analysis, but related to Market plans of new firm (if idea under consideration is selected). Under this step, four P's of Marketing viz Product, Price, Place and Promotion should be well designed to achieve the expected level of Market Penetration

Objective of Technical Analysis

Primary Objective:

- First and foremost important objective of technical analysis is to see whether the project idea is feasible or not from technical point of view or not

Secondary Objective

- To find out the most optimal formulation of the project technology, size, location etc.
To find out the cost of project, so that profitability can be calculated

Activities in Technical Analysis

- Technology selection
- Material and utilities input requirements
- Flexibility in product-mix
- Plant capacity
- Location and size of the project
- Machinery and equipment

Technology Selection

- 🌐 Plant Capacity
- 🌐 Material and utilities input requirements
- 🌐 Investment Outlay and production costs
- 🌐 Use by other units
- 🌐 Flexibility in Product mix
- 🌐 Latest Developments
- 🌐 Appropriateness of technology.

Materials and Utilities Input Requirements

- ✂ Raw-materials
- ✂ Processed Industrial materials and components
- ✂ Auxiliary materials and factory supplies

- ✎ Utilities

Product Mix Flexibility

Another area to be analysed under the technical analysis is flexibility of technology and plan regarding product mix.

Plant Capacity

- ✎ Technological requirements
- ✎ Input constraints
- ✎ Market conditions
- ✎ Investment cost & resources of firms

Location and Site selection

- 🏆 Nearness to raw-materials and market
- 🏆 Availability of infrastructure
- 🏆 Labour situations
- 🏆 Government policies
- 🏆 Other factors

Machinery and Equipments

Technical analysis of a project idea should include the study of required machinery and equipment to run the project. The machinery and technology required depends on the plant capacity and type of technology selected.

Charts and Layouts

- ★ Material Flow Diagram
- ★ Production Line Diagram
- ★ Transport Layout
- ★ Utility Consumption Layout
- ★ Communication Layout
- ★ Organisation Layout

- ★ Plant Layout

Work Schedule

- ⌘ To anticipate problems like to arise during the installation phase and suggest possible means for coping with them
- ⌘ To establish the phasing of investments taking into account the availability of finances
- ⌘ To develop a plan operations covering the initial period (the running - in period)

Cost of Project

- ⊗ Land and site development
- ⊗ Building and civil works
- ⊗ Plant and machinery
- ⊗ Technical Know-how and Engineering fees
- ⊗ Expenses on foreign technicians and training of Indian technicians abroad
- ⊗ Preliminary and capital issue expenses.
- ⊗ Pre-operative expenses
- ⊗ Margin money for working capital
- ⊗ Initial cash losses

Means of Financing

- ➔ Share Capital
- ➔ Term Loan
- ➔ Debenture Capital
- ➔ Deferred Credit
- ➔ Incentive Sources
- ➔ Miscellaneous Sources

Financial analysis of Project

Definition: Process of raising the funds (money) for an economically separable project, where providers of the fund look primarily cash flows and revenue of that project as a source of interest (dividend) payment and capital repayment.”

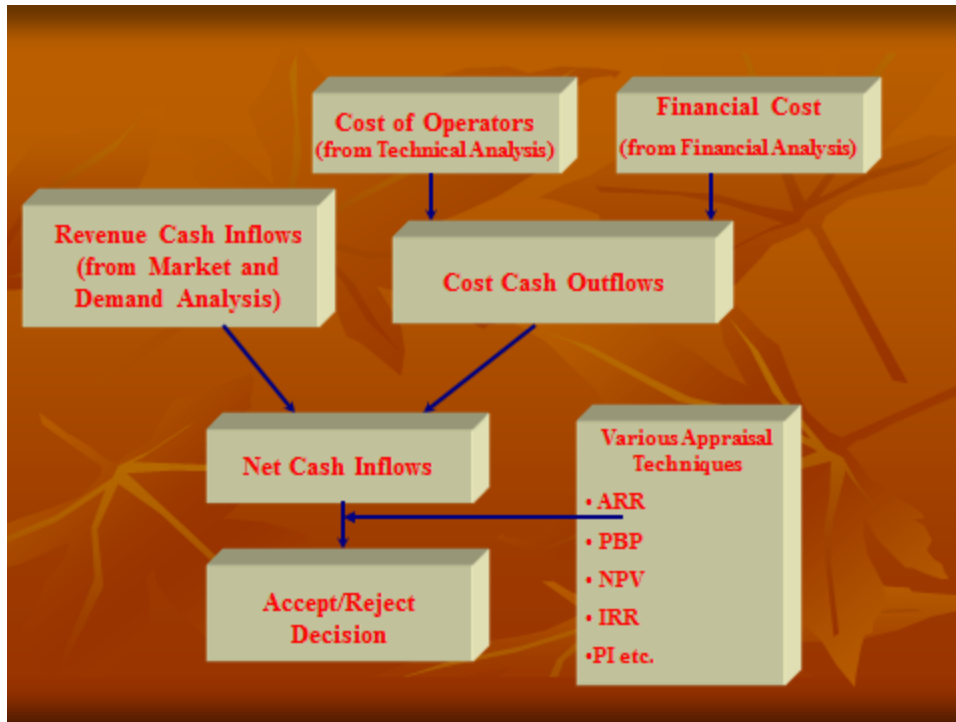
Source of Finance

1. Equity shares
2. Preference shares
3. Debentures
4. Bonds
5. Term Loans from financial institutions
6. Un-secured Loans
7. Lease financing
8. Deferred Credit
9. Capital Investment subsidy
10. Bridge finance (Bridge Loan)
11. Internal accruals (in case of Expansion Projects).

Main Activity

Financial Evaluation of Project

Financial Evaluation is a Planning Process used to determine whether a firm's long term investment in project is financially feasible or not. On the basis of expected inflows and outflows in future



Project Appraisal:

“It is a detailed study of several aspects of given project before recommending it.”

Various aspects of Project Appraisal

- A. Technical appraisal
- B. Commercial appraisal
- C. Economic appraisal
- D. Financial appraisal
- E. Management appraisal.

Risk Analysis

A process of identifying and quantifying the risks involved in a project and developing measures to avoid and manage such a risk”

Types of Risks

- Completion risks
- Technical risks
- Economic risks
- Social risks
- Political risks
- Production risks
- Marketing risks
- Financial risks

Activities involved in Risk Analysis

- Risk assessment
- Risk management

Implementation Monitoring & Control of Project

- ❖ Project Scheduling
- ❖ Project Team-management
- ❖ Project Monitoring and implementation

Project Financing In India

Project Finance is one of the key focus areas in today's world because of continuous growth and expansion of the industries at a rapid rate. Project finance is a centuries-old form of financing high-risk, development-oriented projects.

Project finance is the long-term financing of infrastructure and industrial projects based upon non-recourse or limited alternative of financial structure where project debt and equity used to finance the project are paid back from the cash flow engendered by the project.

They are most ordinarily non-recourse loans, which are fortified by the project assets and paid entirely from project cash flow, rather than from the general assets or creditworthiness of the project sponsors, a decision in part braced by financial modeling.

Methods of Project Financing

A survey said that 90% of respondents identified money as the greatest obstacle to implementation of any project.

The various sources of finance can be broadly divided into two categories, viz. equity capital and debt capital (borrowed capital). The combination of equity and debt should be judiciously chosen, and it will vary according to the nature of the project. The project manager can choose any one or a combination of two or more of these methods to finance the project.

1. Share capital – equity capital and preference capital.
2. Term loan
3. Debenture capital
4. Commercial [banks](#)
5. Bills discounting

Some more types of financing available are

Seed Capital

In consonance with the Government policy which boosts a new class of entrepreneurs and also aims wider spreading of ownership and control of manufacturing units, a distinct scheme to complement the resource of an entrepreneur has been presented by the Government. Assistance in this scheme is accessible in the nature of seed capital which is generally given by way of long term interest free loan. Seed capital aid is provided to small as well as medium scale units promoted by eligible entrepreneurs.

Government subsidies

Subsidies drawn-out by the Central as well as State Government form a very significant type of funds presented to a company for implementing its project. Subsidies may be available in the nature of absolute cash grant or long-term interest free loan. In fact, while settling the means of finance, Government subsidy forms an key source having a vital bearing on the putting into practice of many a projects.

Stages in Project Financing

Pre- finance stage

It includes the following

a)Project identification

A Project or Projects selected should be integrated with the Strategic Plan of the Organisation. The project plan should match the goals of the organization. It should be realistic to be implemented.

b) Identifying risk and minimizing

“The right project at the right time at the right place and at the right price”.

There should be adequate amount of resources available for the project to be implemented.

c) Technical and Financial feasibility

An organization before starting any new project or expanding an existing one must look into analyzing each and every factor which is essential for the project to be feasible. It must be financially as well as technically feasible.

Financing stage

a)Arrangement of equity/debt/loan.

b)Negotiation and Syndication of the same.

c)Documentation and checking all the rules and regulations or policies relating to the starting of the project.

d) Payment.

Post Financing

a)Monitoring and review of project from time to time. The project manager must keep a check on the proper working of the project.

b)Project closure – It is ending the project

c)Repayment and monitoring

The amount taken in the form of loan, equity and debt must be repaid back and proper monitoring and control of the project must be carried.

Framework and Guidelines

The list of major contracts for project consist of

Concession agreement, license or mineral lease, construction contract or a development management agreement, supply agreement, sales agreement, operating agreement, other major contracts may occur in any specific project depending on the structure accepted.

The borrower may have to get certain statutory and non – statutory clearances essential for the projects like techno economic clearance, pollution, environment and forest clearance, company registrations, financing and land availability/ concessions etc.

The promoter while making the application to the financial institutions records the copies of documents most vital of which are: i) copy of letter of allotment of plot/ sale deed in good turn of the borrower of the plot. ii) Detailed plan of project approved by the local body. iii) Partnership deeds/ articles of association in case of a company.

Boom of Project Financing in India

A study placed India on top in the global project finance market in 2009, ahead of Australia, Spain and the US. The key market for project finance in 2009 was the domestic Indian market, which rose up \$30 billion (Rs 1.38 lakh crore), accounting for 21.5 per cent of the global project finance market. This was up from \$19 billion in 2008.

The global project finance market was buttressed up in 2009 by government-linked projects such as social infrastructure and renewables and by the detail that 20 per cent of the market is in India, which poured to become the biggest and busiest market last year, knocking down Australia from the previous year's top position

Given the credit crunch and the collapse of major banks in the West, the global Project Finance figures were not as strong as in the previous couple of years. According to PFI data, globally, the Project Finance loan figure positions at \$139.2 billion in 2009 compared to the overwhelming \$250 billion in 2008 and \$220 billion in 2007. Totalling the figures for project bonds at \$8.2 billion, down from \$11.9 billion in 2008, the global Project Finance market volume stood at \$147.4 billion. That was a descent of 44 per cent from 2008, but to put it in framework, the overall global Project Finance market set upright at \$114.5 billion in 2004 and at \$166 billion in 2005.

SBI settled 36 deals amounting to \$20 billion of debt – 35.2 per cent of the total volume for the Asia-Pacific region. This comprised some major contracts such as financing for the Sasan ultra mega power project, projects of Adani Power and Sterlite Energy, and resources for Vodafone and Unitech in the telecom sector.

The power sector sustained to decree lending and generated a record volume. More than \$22.3-billion loans in 53 transactions in the sector were signed globally all through the year, accounting for almost 40 per cent of the entire PF market. Also, a major contribution came from social infrastructure development patterns launched by the government lately.

In all, 224 financial institutions were ranked. Only prime arranger mandates are credited for the league table, while involvement in syndications is not credited. Also, PFI tables do not include property or real estate sector transactions. In addition, the Project Finance tables do not comprise corporate loans and those guaranteed by sponsors or governments.

2013 Project Finance volume by top 15 nations

Rank	Nationality	Value (US \$m)	Deals	% change
1	India	26,129	75	7%
2	United states	22,145	34	28%
3	Australia	14,116	30	-52%
4	Saudi Arabia	13,520	6	88%
5	United Kingdom	13,166	28	13%
6	Vietnam	9,000	1	1263%
7	Brazil	8,098	34	-4%
8	UAE	6,371	5	957%
9	Nigeria	6,120	9	700%
10	Canada	4,421	11	47%
11	Germany	3,637	6	-5%
12	Belgium	2,843	2	104%
13	Italy	2,780	11	-18%
14	South Korea	2,761	6	-28%
15	Malaysia	2,753	5	-70%
	Total	1,73,131	389	-11%

An Example of Project Financing

World Bank keen to finance solar projects in India
The World Bank has hurried consultations with the ministries of finance and new and renewable energy for financing solar projects in phase II of the National Solar Mission. The World Bank is really enthralled with the performance of phase I of the National Solar Mission in which, the mounted capacity has increased to 2,000 Mw from 30 Mw.

The World Bank was tied up with the ministry of new and renewable energy during phase I in working out the policy and positioning in place essential guidelines but had not provided funds. Though, in the course of phase II, the World Bank is quite ardent to finance solar projects. The total prerequisite of funds is of the directive of Rs 80,000 crore (\$13 billion) of which, as high as Rs 54,000 crore (\$9 billion) will be debt based on a 70:30 debt equity ratio. The World Bank has conveyed that it was profound to a degree finance debt requirement. The total debt prerequisite of Rs 54,000 crore, is much necessary to come from the scheduled commercial banks.

In the course of the first phase, commercial banks had lent \$700 million and they need to scale up to the levels foreseen. In order to make investment in solar power more striking for scheduled

commercial banks, the government will need to tactically use limited public resources to leverage commercial financing, report structural barriers that preclude commercial banks from contributing and expedite appropriate technology deployment.

The role of enabling public funding in leveraging commercial lending on a constant basis through [risk](#) plummeting instruments as well as innovations in financing is important and authoritative for moving solar development to a largely non-recourse financing mode in India. The World Bank in its report titled, “Paving the way for a Transformational Future: Lessons from Jawaharlal Nehru National Solar Mission Phase I”, recommends that the government could offer multiple financial way out involving viability gap fund, generation-based incentives, credit guarantees, credit lines to banks at a concession to cut interest rates and secondary public finance to spread the tenor of loans. According to the World Bank, by means of public financing for lengthening the tenor of a loan and providing subordinated debt is least expensive amid all other options, with the objective of decreasing the solar tariff to Rs 5.50 per unit.

Conclusion

India required an investment of over \$1 Trillion for infrastructure development in the 12th Five year plan which goes from 2012-2017. Government is putting a better prominence on infrastructure development and the successive need for much advanced levels of capital to fund these projects. However the knowledge & skill sets essential in these areas is absent and as a outcome there has been a rebirth of interest in PFI and PPP project finance deals.

The need for vigorous knowledge with respects to structuring and re-financing projects is greater now than ever before.