

**BHARAT INSTITUTE OF ENGINEERING AND TECHNOLOGY**

**(APPROVED BY AICTE AFFILIATED TO SUTE & VT)**

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**PIN- 760002**



**LECTURE NOTES**

**ON**

**ENTREPRENURSHIP AND MANAGEMENT & SMART  
TECHNOLOGY.**

**CIVIL, 5<sup>TH</sup> SEMESTER**

**PREPARED BY**

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**Th1. ENTREPRENEURSHIP and MANAGEMENT & SMART TECHNOLOGY**  
(Common to all Branches)

<b>Theory</b>	<b>4 Periods per week</b>	<b>Internal Assessment</b>	<b>20 Marks</b>
<b>Total Periods</b>	<b>60 Periods</b>	<b>End Sem Exam</b>	<b>80 Marks</b>
<b>Examination</b>	<b>3hours</b>	<b>Total Marks</b>	<b>100Marks</b>

Sl No.	Topic	Periods
1	Entrepreneurship	10
2	Market Survey and Opportunity Identification(Business Flanning)	8
3	Project report Preparation	4
4	Management Principles	5
5	Functional Areas of Management	10
6	Leadership and Motivation	6
7	Work Culture, TQM & Safety	5
8	Legislation	6
9	Smart Technology	6
	<b>TOTAL</b>	<b>60</b>

**Topic Wise Distribution of Periods**

**RATIONALE**

In the present day scenario, it has become imperative to impart entrepreneurship and management concepts to students, so that a significant percentage of them can be directed towards setting up and managing their own small enterprises. It may be further added that an entrepreneurial mind set with managerial skill helps the student in the job market. The students can also be introduced with Startup and Smart Technology concept, which shall radically change the working environment in the coming days in the face of Industry 4.0. In this subject, the Students shall be introduced/ exposed to different concepts and Terminologies in brief only, so that he/she can have broad idea about different concepts/items taught in this subject. Solving numerical problem on any topic/item is beyond the scope of this subject.

**OBJECTIVES**

After undergoing this course, the students will be able to :

- Know about Entrepreneurship, Types of Industries and Startups
- Know about various schemes of assistance by entrepreneurial support agencies
- Conduct market survey
- Prepare project report
- know the management Principles and functional areas of management
- Inculcate leadership qualities to motivate self and others.
- Maintain and be a part of healthy work culture in an organisation.
- Use modern concepts like TQM
- Know the General Safety Rules
- Know about IOT and its Application in SMART Environment.

## DETAILED CONTENTS

### 1. Entrepreneurship

- Concept /Meaning of Entrepreneurship
- Need of Entrepreneurship
- Characteristics, Qualities and Types of entrepreneur; Functions
- Barriers in entrepreneurs
- Entrepreneurs vrs. Manager
- Forms of Business Ownership: Sole proprietorship, partnership forms and others
- Types of Industries, Concept of Start-ups
- Entrepreneurial support agencies at National, State, District Level( Sources): DIC, NSIC, OSIC, SIDBI, NABARD, Commercial Banks, KVIC etc.
- Technology Business Incubators (TBI) and Science and Technology Entrepreneur Parks

### 2. Market Survey and Opportunity Identification (Business Planning)

- Business Planning
- SSI, Ancillary Units, Tiny Units, Service sector Units
- Time schedule Plan, Agencies to be contacted for Project Implementation
- Assessment of Demand and supply and Potential areas of Growth
- Identifying Business Opportunity
- Final Product selection

### 3. Project report Preparation

- Preliminary project report
- Detailed project report, Techno economic Feasibility
- Project Viability

### 4. Management Principles

- Definitions of management
- Principles of management
- Functions of management (planning, organising, staffing, directing and controlling etc.)
- Level of Management in an Organisation

### 5. Functional Areas of Management

- a) Production management
  - Functions, Activities
  - Productivity
  - Quality control
  - Production Planning and control
- b) Inventory Management
  - Need for Inventory management
  - Models/Techniques of Inventory management
- c) Financial Management
  - Functions of Financial management
  - Management of Working capital
  - Costing (only concept)
  - Break even Analysis
  - Brief idea about Accounting Terminologies: Book Keeping, Journal entry, Petty Cash book, P&L, Accounts, Balance Sheets(only Concepts)
- d) Marketing Management
  - Concept of Marketing and Marketing Management
  - Marketing Techniques (only concepts)
  - Concept of 4P's (Price, Place, Product, Promotion)
- e) Human Resource Management
  - Functions of Personnel Management

- Manpower Planning, Recruitment, Sources of manpower, Selection process, Method of Testing, Methods of Training & Development, Payment of Wages

## 6. Leadership and Motivation

### a) Leadership

- Definition and Need/Importance
- Qualities and functions of a leader
- Manager Vs Leader
- Style of Leadership (Autocratic, Democratic, Participative)

### b) Motivation

- Definition and characteristics
- Importance of motivation
- Factors affecting motivation
- Theories of motivation (Maslow)
- Methods of Improving Motivation
- Importance of Communication in Business
- Types and Barriers of Communication

## 7. Work Culture, TQM & Safety

- Human relationship and Performance in Organization
- Relations with Peers, Superiors and Subordinates
- TQM concepts: Quality Policy, Quality Management, Quality system
- Accidents and Safety, Cause, preventive measures, General Safety Rules, Personal Protection Equipment (PPE)

## B. Legislation

- Intellectual Property Rights (IPR), Patents, Trademarks, Copyrights
- Features of Factories Act 1948 with Amendment (only salient points)
- Features of Payment of Wages Act 1936 (only salient points)

## 9. Smart Technology

- Concept of IOT, How IOT works
- Components of IOT, Characteristics of IOT, Categories of IOT
- Applications of IOT- Smart Cities, Smart Transportation, Smart Home, Smart Healthcare, Smart Industry, Smart Agriculture, Smart Energy Management etc.

**Syllabus to be covered before IA: Chapter 1,2,3,4**

## RECOMMENDED BOOKS

1. Entrepreneurship Development and Management by R.K Singhal, Katson Books, New Delhi
2. Entrepreneurship Development and Management by U Saroj and V Mahendiratta, Abhishek Publications, Chandigarh
3. Entrepreneurship Development and Management by Vasant Desai, Himalaya Pub. House
4. Industrial Engineering and Management by O.P Khanna, Dhanpat Rai and Sons
5. Industrial Engineering and Management by Banga and Sharma, Khanna Publications
6. Internet of Things by Jeeva Jose, Khanna Publications, New Delhi
7. Online Resource on Startups and other concepts
8. <https://www.fundable.com/learn/resources/guides/startup>

## UNIT-1 ENTREPRENEURSHIP

- Concept /Meaning of Entrepreneurship
- Need of Entrepreneurship
- Characteristics, Qualities and Types of entrepreneur, Functions
- Barriers in entrepreneurship
- Entrepreneurs vs. Manager
- Forms of Business Ownership: Sole proprietorship, partnership forms and others
- Types of Industries, Concept of Start-ups Entrepreneurial support agencies at National, State, District Level[ Sources]: DIC, NSIC, OSIC, SIDBI, NABARD, Commercial Banks, KVIC etc.
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### Concept /Meaning of Entrepreneurship

The word entrepreneur comes from the 13th century from a French word "entreprendre" meaning to do something. The concept of entrepreneurship marks its establishment in the 1700s. Entrepreneurship is the ability and readiness to develop, organize and run a business enterprise, along with any of its uncertainties in order to make a profit. The most prominent example of entrepreneurship is the starting of new businesses.

An entrepreneur is someone who has an idea and who works to create a product or service that people will buy, as well as an organization to support that effort. An entrepreneur takes on most of the risk and initiative for their new business, and is often seen as a visionary or innovator.

### Meaning of Entrepreneur

The entrepreneur is defined as someone who has the ability and desire to establish, administer and succeed in a start-up venture along with risk entailed to it, to make profits. The best example of entrepreneurship is the starting of a new business venture. The entrepreneurs are often known as a source of new ideas or innovators, and bring new ideas in the market by replacing old with a new invention.

It can be classified into small or home business to multinational companies. In economics, the profits that an entrepreneur makes are with a combination of land, natural resources, labour and capital.

**(i) According to Peter F. Drucker** "Entrepreneurship is defined as a systematic innovation, which consists in the purposeful and organized search for changes, and it is the systematic analysis of the opportunities such changes might offer for economic and social innovation".

**(ii) According to Ricardo Cantillon** "Entrepreneurship entails bearing the risk of buying at a certain price and selling at uncertain prices."

**(iii) In the words of Joseph A. Schumpeter** "Entrepreneurship is any kind of innovative function that could have a bearing on the welfare of an entrepreneur."

**(iv) According to Robert K. Lamb** "Entrepreneurship is that form of social decision making performed by economic innovators."

### Need of Entrepreneurship

**Creation of Employment-** Entrepreneurship generates employment. It provides an entry-level job, required for gaining experience and training for unskilled workers.

**Innovation-** It is the hub of innovation that provides new product ventures, market, technology and quality of goods, etc., and increase the standard of living of people.

**Impact on Society and Community Development-** A society becomes greater if the employment base is large and diversified. It brings about changes in society and promotes facilities like higher expenditure on education, better sanitation, fewer slums, a higher level of homeownership. Therefore, entrepreneurship assists the organisation towards a more stable and high quality of community life.

**Increase Standard of Living-** Entrepreneurship helps to improve the standard of living of a person by increasing the income. The standard of living means, increase in the consumption of various goods and services by a household for a particular period.

**Supports research and development-** New products and services need to be researched and tested before launching in the market. Therefore, an entrepreneur also dispenses finance for research and development with research institutions and universities. This promotes research, general construction, and development in the economy.

### Characteristics, Qualities and Types of entrepreneur

Not all entrepreneurs are successful; there are definite characteristics that make entrepreneurship successful. A few of them are mentioned below:

- **Ability to take a risk-** Starting any new venture involves a considerable amount of failure risk. Therefore, an entrepreneur needs to be courageous and able to evaluate and take risks, which is an essential part of being an entrepreneur.
- **Innovation-** It should be highly innovative to generate new ideas, start a company and earn profits out of it. Change can be the launching of a new product that is new to the market or a process that does the same thing but in a more efficient and economical way.
- **Visionary and Leadership quality-** To be successful, the entrepreneur should have a clear vision of his new venture. However, to turn the idea into reality, a lot of resources and employees are required. Here, leadership quality is paramount because leaders impart and guide their employees towards the right path of success.
- **Open-Minded-** In a business, every circumstance can be an opportunity and used for the benefit of a company. For example, Paytm recognised the gravity of demonetization and acknowledged the need for online transactions would be more, so it utilised the situation and expanded massively during this time.
- **Flexible-** An entrepreneur should be flexible and open to change according to the situation. To be on the top, a businessperson should be equipped to embrace change in a product and service, as and when needed.
- **Know your Product-** A company owner should know the product offerings and also be aware of the latest trend in the market. It is essential to know if the available product or service meets the demands of the current market, or whether it is time to tweak it a little. Being able to be accountable and then alter as needed is a vital part of entrepreneurship.

The most prominent entrepreneurs of past and present have had certain personal qualities.

1. **Willpower** is key to success. It is a strong longing to achieve success. Despite many failures, the entrepreneur never loses their will to achieve.
2. **Management** is the ability to make plans, devise targets, and then execute!
3. **Obsession** - The entrepreneur who is obsessed with their goals and ultimate vision will make others believe in them too.

4. **Smarts** - An entrepreneur must have old-fashioned common sense and be able to make good decisions and deal competently with others.
5. **Self-assurance** - The entrepreneur is self-assured, confident in their abilities and knows how to look into the future and plan well. A self-assured person instills further confidence in themselves.
6. **Devotion** - The entrepreneur is devoted to their goals, working long and hard, day and night to achieve them.
7. **Inspiration** - Building a business requires an inspiration and the creativity which will lead to a better product and excellent results. An entrepreneur thinks outside of the box.
8. **Flexibility** - Creating a product that meets the needs of the market requires flexibility. This quality is very important. Stubborn, unflexible people will not make good entrepreneurs.

### Qualities of an Entrepreneur

1. Motivation
2. Creativity
3. Persuasiveness
4. Vision
5. Versatility
6. Risk Tolerance
7. Flexibility
8. Decisiveness
9. Collaboration

#### 1. Motivation

Hard-working business owners are incredibly motivated to succeed. Adopting this mindset—and being able to demonstrate your motivation to an employer—is crucial. You need to bring enthusiasm to everything you do at your job.

Fortunately, showing you're highly motivated is simple: Show up to work every day with a positive attitude. This is among the top characteristics of entrepreneurship. Employers want to see you're passionate about what you do day in and day out.

#### 2. Creativity

No matter what industry you're in, employers want workers with out-of-the-box ideas. They want to hire people to not only carry out assignments, but to also come up with better ways of doing things.

That's why it's important to be creative—to always be thinking of new ways you can improve your company's workflow, productivity, and bottom line.

#### 3. Persuasiveness

Persuasiveness can make you a better negotiator, which gives you an edge when going after a plum assignment, raise, or promotion.

There will come a time when you need to convince a client, a coworker, or your boss to take certain actions, so you need to be persuasive when presenting your ideas.

#### 4. Vision

Successful entrepreneurs always keep one eye on the big picture, and this ability can make you a better employee. Vision is primarily about strategic planning.

Can you see what direction the industry is going? Can you identify challenges for your company? Can you tackle your day-to-day job responsibilities, while staying focused on long-term goals and initiatives?

## 5. Versatility

Although you were hired for a specific set of skills, it's important that you can shift as needed. You want to be someone that your boss can go to in a pinch, so be prepared to tackle work that's outside your job description. Among the leading characteristics of entrepreneurship is being an early adopter of new technology and keeping your skills current.

## 6. Risk Tolerance

Every employer wants to grow their business, and that involves embracing change. Translation: Don't be afraid to take risks when pursuing new clients, for example, or testing a new product. (One caveat: Make sure you have your boss' buy-in.)

## 7. Flexibility

Like an entrepreneur, you have to be able to adapt to change and solve problems as they arise. A good team player can shift their priorities to help out whenever the team needs assistance. Thus, flexibility means being receptive to other people's needs, opinions, and ideas and being open-minded to feedback from your manager.

## 8. Decisiveness

Do you exercise sound judgment under pressure? When you're an entrepreneur, you don't have room to procrastinate—and the same is true for employees. You have to be comfortable taking action when needed. This means knowing how to prioritize tasks and make decisions quickly. (It helps to be organized.)

## 9. Collaboration

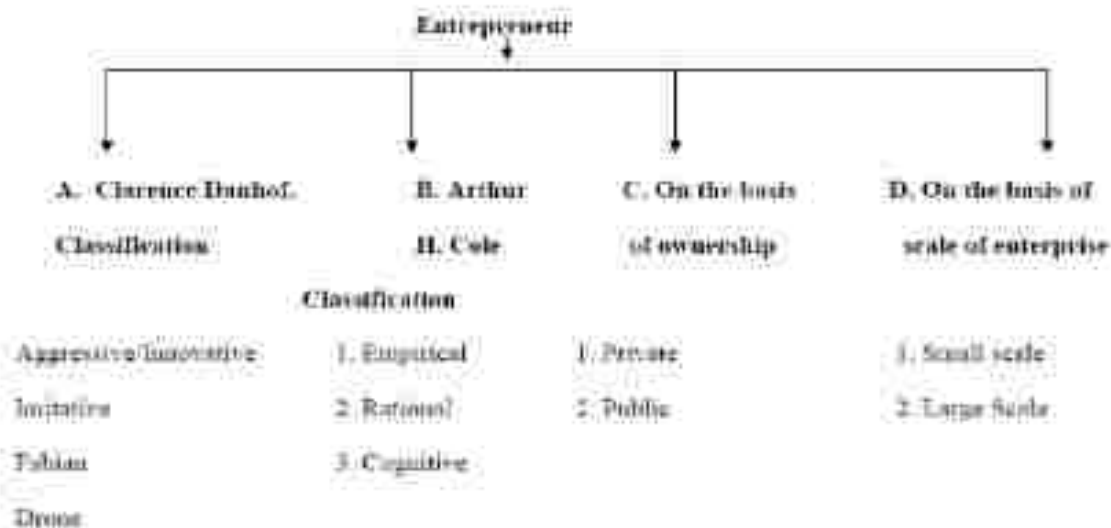
Savvy entrepreneurs are not only brilliant leaders, but also great collaborators, so you have to be an effective team player. Unsurprisingly, 86.3% of hiring managers seek job candidates who demonstrate strong teamwork skills, according to the National Association of Colleges and Employers Job Outlook survey.

Ultimately, using entrepreneurial skills at work entails adjusting to other people's work styles, avoiding office politics, celebrating your peers' successes, meeting your deadlines, and putting your company's goals first.

## Types of entrepreneur

### TYPES/CLASSIFICATION OF ENTREPRENEURS

Following are the classification of entrepreneurs on the basis of common characteristics:





## A.) Clarence Danhof Classification:

In a study of American Agriculture, Based on their working relationship with the business environment they are functioning in, various types of entrepreneurs can be found, Clarence Danhof classifies entrepreneurs into four types- innovative, imitative, Fabian and drone.

1. **Innovating entrepreneurs:** This type of an entrepreneur is more interested in introducing some new ideas into the market, organization or in the nation. They are drawn towards innovations and invest a lot of time and wealth in doing research and development.

Innovative entrepreneurship is characterised by aggressive assemblage of information and the analysis of results derived from sound combination of factors. Persons of this type are generally aggressive in experimentation and cleverly put attractive possibilities into practice. An innovating entrepreneur sees the opportunity for introducing a new technique or a new product or a new market. He or she may raise money to launch an enterprise, assemble the various factors, choose top executives

and set the organisation going. Schumpeter's entrepreneur was of this type.

Such an entrepreneur introduces new products and new methods of production,

opens new markets and re-organises the enterprise.

Among the different types of entrepreneurs, the innovating entrepreneur is the most vigorous type of entrepreneur. Innovating entrepreneurs are very commonly found in developed countries. There is dearth of such entrepreneurs in underdeveloped countries. A country with little or no industrial tradition can hardly produce innovating entrepreneurs. Such entrepreneurs can emerge and work only when a certain level of development is already achieved and people look forward to change and progress. Innovating entrepreneurs played the key role in the rise of modern capitalism through their enterprising spirit, hope of money making, ability to recognize and exploit opportunities, etc.

2. **Adoptive or imitative entrepreneurs:** These are often disparagingly referred to as 'copy cats'. They observe an existing successful system and replicate it in a manner where all the deficiencies of the original business model are addressed and all its efficiencies are retained.

This kind of entrepreneurs are characterised by readiness to adopt successful innovations created by innovative entrepreneurs. These types of entrepreneur are revolutionary entrepreneurs with the different that instead of innovating the changes themselves, they just imitate the technology and techniques innovated by others. These entrepreneurs are most suitable for developing countries because such countries prefer to imitate the technology, knowledge and skill already available in more advanced countries. The Cochin Shipyard is a good example of the result of imitative entrepreneurship. The Shipyard has been constructed using the innovative technology provided by the Mitsubishi Heavy Industries Ltd. of Japan. Imitative entrepreneurs are most suitable for the underdeveloped nations because in

these nations people prefer to imitate the technology, knowledge and skill already available in more advanced countries. In highly backward countries there is shortage of imitative entrepreneurs also. People who can imitate the technologies and products to the particular conditions prevailing in these countries are needed.

Sometimes, there is a need to adjust and adopt the new technologies to their special conditions. Imitative entrepreneurs help to transform the system with the limited resources available. However, these entrepreneurs face lesser risks and uncertainty than innovative entrepreneurs. While innovative entrepreneurs are creative, imitative entrepreneurs are adoptive.

Imitative entrepreneurs are also revolutionary and important. The importance of these humbler entrepreneurs who exploit possibilities as they present themselves and mostly on a small scale must not be under-estimated. In, the first place, such adaptation requires no mean ability. It often involves what has aptly been called subjective innovation that is the ability to do things which have not been

done before by the particular industrialist, even though, unknown to him, the problem may have been solved in the same way by others.

By western standards, an imitative entrepreneur may be a pedestrian figure, an adopter and imitator rather than a true innovator. He is more an organizer of factors of production than a creator. But in a poor country attempting to industrialise, he is nevertheless a potent change producing figure. He can set in motion the 'chain reaction' which leads to cumulative progress. This humbler type of entrepreneur is important in under developed countries for another reason. These countries are placing great emphasis in their economic planning on small scale industries and decentralized industrial structure.

**3. Fabian entrepreneurs:** These are entrepreneurs that are very careful in their approaches and cautious in adopting any changes. They are not prone to sudden decisions and try to shy away from any innovations or change that doesn't fit their narrative.

Entrepreneurs of this type are very cautious and skeptical while practicing any change. They have neither the will to introduce new changes nor the desire to adopt new methods innovated by the most enterprising entrepreneurs. Such entrepreneurs are shy and lazy. Their dealings are determined by custom, religion, tradition and past practices. They are not much interested in taking risk and they try to follow the footsteps of their predecessors.

**4. Drone entrepreneurs:** These are entrepreneurs who do not like a change. They are considered as 'old school'. They want to do business in their own traditional or orthodox methods of production and systems. Such people attach pride and tradition to even outdated methods of doing business.

Drone entrepreneurship is characterised by a refusal to adopt and use opportunities to make changes in production methods. Such entrepreneurs may even suffer losses but they do not make changes in production methods. They are laggards as they continue to operate in their traditional way and resist changes. When their product loses marketability and their operations become uneconomical, they are pushed out of the market. They are conventional in the sense that they stick to conventional products and ideas. The traditional industries of Kerala are characterised by drone entrepreneurs. The coir and bamboo industries are still in the hands of laggards who refuse to innovate.

#### **B.) Aruther H. Cole Classification:**

Aruther H. Cole classifies entrepreneurs as

**Empirical:** He is an entrepreneur hardly introduces anything revolutionary and follows the principle of rule of thumb.

**Rational:** The rational entrepreneur is well informed about the general economic conditions and introduces changes which look more revolutionary.

**Cognitive:** Cognitive entrepreneur is well informed, draws upon the advice and services of expert and introduces changes that reflect complete break from the existing scheme of enterprise.

#### **C.) Classification on the Basis of Ownership:**

**Private:** Private entrepreneur is motivated by profit and it would not enter those sectors of the economy in which prospects of monetary rewards are not very bright.

**Public entrepreneurship:** In the underdeveloped countries government will take the initiative to share enterprise.

#### **D.) Classification Based on the Scale of Enterprise:**

**Scale:** The classification is especially popular in the underdeveloped countries. Small entrepreneurs do not possess the necessary talents and resources to initiate large scale production and introduce revolutionary technological changes.

**Large Scale:** In the developed countries most entrepreneurs deal with large scale enterprises. They possess the financial and necessary enterprise to initiate and introduce new technical changes. The result is the developed countries are able to sustain and develop a high level of technical progress.

Other than above mentioned classification, entrepreneurs can also be classified as:

##### **1. Business Entrepreneurs:**

Business entrepreneurs are the one who conceive an idea for a new product or service and then create a business to materialise or convert their idea into reality.

##### **2. Trading Entrepreneurs:**

They are those entrepreneurs who take up trading activities but are not concerned with its manufacturing i.e. they concentrate on marketing and not production.

##### **3. Industrial Entrepreneurs:**

Are those entrepreneurs who identify the potential needs of the customers and manufacture the product or service to meet marketing needs i.e. they concentrate more on Production and not marketing.

##### **4. Corporate Entrepreneurs:**

Are those entrepreneurs who demonstrate the innovative skills by converting the idea into reality organizing and also managing the undertaken business.

##### **5. Agricultural Entrepreneurs:**

The entrepreneurs who take up agricultural activities like raising & marketing Crops, fertilizers, insecticides and other related agricultural products and services are called Agricultural entrepreneurs.

##### **6. Technical Entrepreneurs:**

These are those entrepreneurs who develop new and improved quality of goods. Because of their craftsmanship and concentrate more on production than marketing.

##### **7. Non-Technical Entrepreneurs:**

These are the ones who are not concerned with the technical aspects of the Product. They are more into introducing new styles of advertising, sales promotion etc....

**8. Professional Entrepreneurs:** They are entrepreneurs who are interested in establishing a business but do not like to manage or operate the business once it is established. They prefer to sell the set Business and start another venture with the sales proceeds.

**9. Pure Entrepreneurs:**

The entrepreneurs who undertake business activities for personal satisfaction in terms of status, ego or work and are generally interested in psychological and economic rewards are called as pure entrepreneurs.

**10. Induced Entrepreneurs:**

These are those entrepreneurs who take up the entrepreneur activities as they are attracted by various policy measures of the government in the form of financial assistance, Infrastructure facilities, Concessions, exemptions and incentives.

**11. Motivated Entrepreneurs:**

Entrepreneurs with the desire for self fulfilment are motivated entrepreneurs.

**12. Spontaneous Entrepreneurs:**

Individuals who are bold, confident, have strong conviction, have the ability to take the risk and initiate business and moreover start the business as they are naturally talented or have the inborn talent are called as spontaneous entrepreneurs.

**13. Growth and Super growth Entrepreneurs:**

Entrepreneurs who take up high growth industries are growth entrepreneurs whereas, super growth entrepreneurs show enormous growth of performance in their venture.

**14. First Generation Entrepreneurs:**

The individuals who are the pioneers or who starts a business unit by putting together their innovative skills and technology and produce marketable product or service are first generation entrepreneurs.

**15. Modern Entrepreneurs:**

Entrepreneurs who change with the change for demand in the market and undertake those business which modify with the changing are modern entrepreneurs.

**16. Classical Entrepreneurs:**

They are those entrepreneurs who are concerned with customers and satisfaction of their needs by development and marketing of self-supporting business.

**17. Innovative Entrepreneurs:**

Individuals who are characterized by information, aggression, analytical Skills have the ability to introduce products with new and innovative features such entrepreneurs are innovative entrepreneurs.

**18. Institutional Entrepreneurs:**

These are created by government through various financial and promotional institutions for the development of the nations.

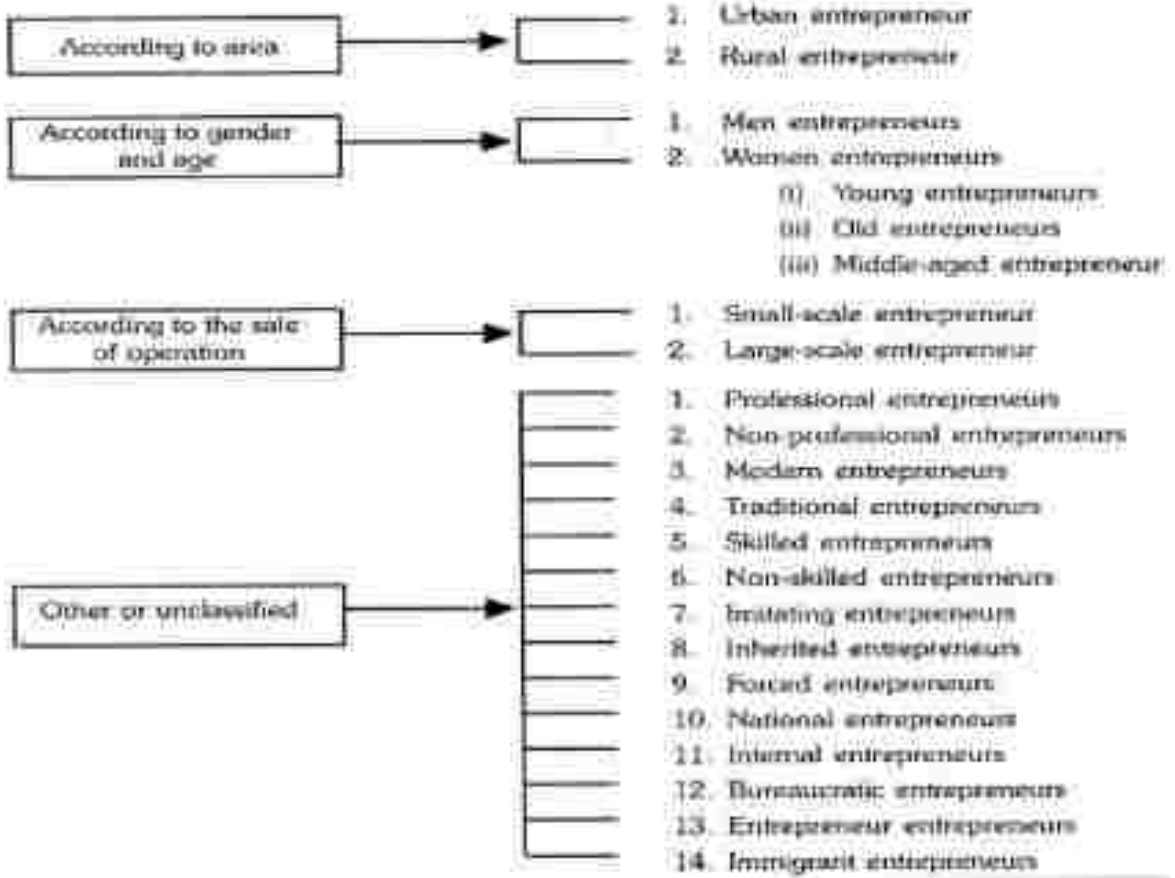
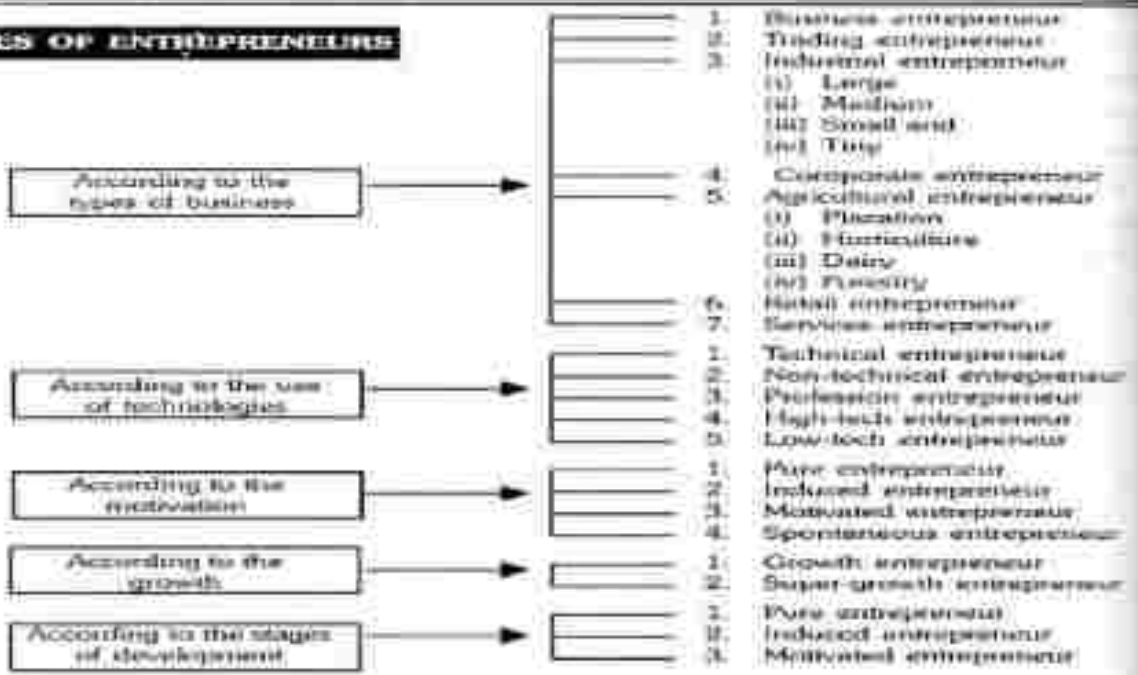
**19. Forced Entrepreneurs:**

These are entrepreneurs who are driven out from other vocations but to satisfy their physiological needs or to run their life are forced to start their business.

**20. Inheritance Entrepreneurs:**

Businesses which are inherited by family members are inherited ventures and the entrepreneur who accepts the business the way it is run by his forefathers are Inheritance Entrepreneurs.

## TYPES OF ENTREPRENEURS



## Functions of Entrepreneurship

(i) **Innovation and Creativity** – Innovation generally refers to changing processes or creating more effective processes, products and ideas. For businesses, this could mean implementing new ideas, creating dynamic products or improving your existing services. **Creativity** is defined as “the tendency to generate or recognize ideas, alternatives, or possibilities that may be useful in solving problems, communicating with others. Creativity and innovation have always been recognized as a sure path to success. Entrepreneurs think **outside of the box** and explore new areas for cost-effective business solutions.

(ii) **Risk taking and Achievement** – Entrepreneurship is a process in which the entrepreneur establishes new jobs and firms, new Creative and growing organization which is associated with **risk**, new opportunities and achievement. It results in introducing a new product or service to society. In general, entrepreneurs accept four types of risks namely Financial Risk, Job Risk, Social & Family Risk & Mental & Health Risk, which are as follows:

(a) **Financial Risk** – Most of entrepreneurs begin by using their own savings and personal effects and if they fail, they have the fear of losing it. They take risk of failure.

(b) **Job Risk** – Entrepreneurs, not only follow the ideas as working situations, but also consider the current risks of giving up the job & starting a venture. Several entrepreneurs have the history of having a good job, but gave it up, as they thought that they were not cut out for a job.

(c) **Social and Family Risk** – The beginning of entrepreneurial job needs a high energy which is time consuming. Because of these undertakings, he/she may confront some social and family damages like family and marital problems resulting on account of absence from home and not being able to give adequate time to family.

(d) **Mental Health Risk** – Perhaps the biggest risk that an entrepreneur takes it is, the risk of mental health. The risk of money, home, spouse, child, and friends could be adjusted but mental tensions, stress, anxiety and the other mental factors have many destructive influences because of the beginning and continuing of entrepreneurial activity. This can even lead to depression, when faced with failure.

(iii) **Organization and Management** – The entrepreneurial organization is a simple organizational form that includes one large operational unit, with one or a few individuals in top management. Entrepreneurial management means the skills necessary to successfully develop and manage a business enterprise. A small business start-up under an owner-manager is an example of an **entrepreneurial organization**. Here, the owner-manager generally maintains strict control over business operations. This includes directing the enterprise's core management functions. According to Mintzberg, these include the **interpersonal roles, informational roles and decision-making roles**. The smaller the organization, the more concentrated these roles are in the hands of the owner-manager. The entrepreneurial organization is generally unstructured.

(iv) **Research** – An entrepreneur is a practical dreamer and does a lot of ground-work before taking a leap in his/her ventures. In other words, an entrepreneur finalizes an idea only after considering a variety of options, analysing 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/she applies the ideas in practice. The selection of an idea, thus, involves the application of **research methodology**.

(v) **Overcoming Resistance to Change** – New innovations are generally opposed by people because it makes them change their existing behaviour patterns. An entrepreneur always first tries new ideas at his/her level. It is only after the successful implementation of these ideas that an entrepreneur makes these ideas available to others for their benefit. His/her will power, enthusiasm and energy help him/her in overcoming the society's resistance to change.

(vi) **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. Today, when India is a fast developing economy, the contribution of entrepreneurs has increased multi-fold.

### **Barriers in entrepreneurship**

Every entrepreneur aims to follow their passionate approach and convert it into a successful business by earning more and more profits and creating goodwill in the market. But many barriers can block the path to the success of entrepreneurship. So there is no other option for an entrepreneur to be successful without solving or removing these major barriers in their respective field.

The list of some such major barriers that may arise while starting or running a new business is given below:

#### **1. Managing Finances**

A great barrier that arises while starting a new business is managing the finances that can make things difficult for the entrepreneurs. There are lots of ideas that come to the entrepreneurs' minds but converting those ideas into the business needs enough amount of finance. There should be a stable and regular source of finance to keep the production process smooth. If this first and the most critical barrier can be solved easily then the future barriers can also be tackled.

#### **2. Inadequate Market Experience**

One of the most common barriers that are faced by many entrepreneurs is not having adequate knowledge about the respective field of their business. An entrepreneur must have enough experience related to the industry by working in the required sector. So, before starting a new venture, it is required to collect enough knowledge about the market conditions, nature of the business firm, demand and supply of that particular good or service, etc., instead of rushing into the business by seeing the success of others.



Other than this, if an entrepreneur has adequate expertise then it will be helpful for him/her to get success in their career. Although, we know there is always a certain risk involved in a business and the required set of knowledge reduces this risk by creating a strong base.

### 3. Human Resource Problem

A person can't perform all the tasks by himself/herself even if he/she has enough knowledge. In the same manner, an entrepreneur can't do all the jobs alone to run the organization. A business needs to have a strong base of skilled and knowledgeable human resources or employees. Employees are the most important assets for an organization. They help in the growth of the business. The organizations may have similar fixed and current assets but these are the human assets that make the organization different from its competitors. But for this purpose, the employees must be enough experienced and dedicated to the organization so that top-level productivity and efficiency can be achieved.



An entrepreneur has a large set of applicants who can do a particular job but choosing the best from them is not an easy task. Other than this, the entrepreneur should also see that the candidates who are applying need to have a vision that suits them in the favor of the organization.

When a new venture is started, the management of finance is also a very herculean task because of the limited availability of capital. So, the entrepreneur should never pay a huge salary for the sake of an experienced employee in the beginning.

Because of all these reasons, it is ideal to remove the barrier of human resources so that the business can be run smoothly and the employees can perform their jobs adequately.

### 4. Non-strategic Planning

Having inadequate planning regarding strategies can also create a great barrier in the path of success of entrepreneurship. There are lots of entrepreneurs who started a business just as a hobby without having a long-term vision and plan. Bad strategies and planning may lead to the failure of the business or can cause a huge loss to the business. It is the prime reason why most entrepreneurs give up in the first year of business operation.

A person should have a solid passion and dedication for being a successful entrepreneur and to create a strategic vision to achieve the goals.

A perfect strategic plan is based on the target customers, market conditions, consumers' tastes, and preferences, proper use of human, financial, and other resources, future goals, etc. All these things are required in the perfect combination for a business to be successful.

### 5. Lack of Capacity



Many entrepreneurs can't use the opportunities perfectly because of their limited capacity. It can be a major hurdle in the success of entrepreneurship. This hurdle can be arising due to the lack of education, knowledge, willingness, and other important aspects. In simple terms, the absence of zeal and motivation may lead to the failure of most of the new ventures.

Apart from knowing the issues related to market risks and competitions, tons of hard work and passion is also what a business demands to deal with different problems and circumstances that arise in the organization. This is very useful in the growth and development of the business and in increasing the company's turnover and goodwill.

## **6. Political Barriers**

The politics of a country or region can also become a barrier to the success of entrepreneurship. So an entrepreneur should check out the policies of the government and the incentives offered by the government to the entrepreneurs. This is because every government does not provide socio-economic facilities to entrepreneurs. Other than this, it is also required to take the interest in economic development seriously.

Some governments provide special security to the new ventures to protect them from the market competition and so that they can survive in the market. Hence, an entrepreneur must evaluate the political factors carefully before set-up the business firm. It is very helpful in the long-term survival and growth of the business.

## **7. Lack of Practical knowledge**

Many youngsters believe that an entrepreneur must have an adequate educational background to make the business successful, but the reality is completely different. Most of the schools and colleges focus on bookish knowledge instead of providing practical knowledge to the students. Every entrepreneur may have the same bookish knowledge but it is their practical knowledge that makes them unique in this highly competitive market. Lack of this practical knowledge can also become a barrier in the path to the success of a business.

Entrepreneurship is an art that is more based on practical knowledge instead of theoretical. So, every entrepreneur must gain enough practical knowledge of the market conditions and other relevant things before trying their hands in the business.

## **8. Not Having the Right Team**

Business is not the work of an individual. It is teamwork in which every person has different skills and jobs which are based on those skills. So, it can be said that a business is run by the contribution of all the individuals. The right team or teammates or can say employees are the most important aspect for the success of a business. It is one of the biggest barriers for a start-up to find good employees. It is often seen that most of the new ventures work on a small scale which makes it more difficult for them to get experienced, skilled, and good employees. To solve this problem, an entrepreneur should make the required measures so that he/she can assign the jobs to those employees who can boost the business by their effective and efficient performance.

## **9. Corrupt Business Problems**

One of the most common problems with a business especially with new ventures is the corrupt environment. If the environment of the country is corrupt then it does not inspire the young employees and entrepreneurs. In many countries or regions, the unhealthy and non-supportive government creates lots of issues. That's why it is suggested to check out the regulations and stringent compliance before starting a new venture. This corruption of the government can become a major

hurdle in the success of a business on a pretty higher level. So, an entrepreneur needs to take things seriously.

### **10. Difficulty in Reaching to More People**

One more barrier that an entrepreneur can face is the difficulty in reaching more people or attracting more customers to inform them about the products or services in which the firm is dealing. A business can lose its path of success if it will not be able to advertise its products and reach the required community in the target market. A successful foundation can only be set up if there will be no barrier between the audience and experts. So, there is the need of having a strong foundation to achieve the planned goals. This problem can be solved by developing effective jobs so that good marketing and advertising strategies can be formed. This will be further helpful in providing information to a large number of people about the organization and its products.

### **11. Fear of Failure**

To get the profit, an entrepreneur has to bear some sort of risk also and it is the entrepreneurs' capacity of bearing the risk which decides the amount of profit that the business can earn. So, it can be said that it is the state of mind which helps an entrepreneur in getting a clear vision so that the risk can be faced without fear. But when a new venture is set up then there is always a fear about the arrangement of initial funds, investors, and many other things. This fear creates pressure on the minds of the entrepreneurs and increases their tension of being failed. The fear of failure can become a huge barrier in starting a new business or running it smoothly. So it's all up to the attitude of the entrepreneurs how they deal with their fear and overcome it to become successful.

### **12. Few Opportunities**

When a new business is started, there are very fewer opportunities available for the entrepreneur. It is also not easy for an entrepreneur to figure out these limited opportunities in the beginning. To get more opportunities, a business must start growing. Limited opportunities can be a hurdle to entrepreneurship. There is almost zero possibility of being successful without having opportunities. Opportunity is also one of the major factors of SWOT analysis.

### **13. No Training**

There is always a great demand in the market for a trained employee. A company always searches for such employees who are trained in their particular job. But for an entrepreneur, it is not enough to have the knowledge or training of a particular field. He/she must be the package of knowledge in all the fields. However, it does not mean that the entrepreneur should be a jack of all trades, master of none because it can also create a barrier in starting entrepreneurship. If the entrepreneurs will not have perfection in a particular field then they will not be able to decide what business they should start. So in this way, it can be said that an entrepreneur should be trained in all works related to the business environment but must have mastery in a particular field also.

### **14. No Backup Plan**

Before starting a new thing, we must have a backup plan in the case of the failure of our main plan otherwise it can create huge trouble for us. In the same manner, when an entrepreneur starts a new venture then he/she must be ready to face the failure, and to deal with them the entrepreneur must have a backup plan or can say plan B. But most entrepreneurs start their business without having a backup plan which can create a barrier for them as they are always at a high risk of failure. Plan B is not only required for the failure of a project but also for the failure of the whole business plan.

### **15. Limited Technical Skills**

Nowadays, most business ideas are based on technology. In such an era, it is easy to start a business for a technical guy but if you have a lack of technical knowledge or skills then it can be a great barrier to you. Limited technical skills can cause a loss to the business. The entrepreneur may hire a particular person to get advice on the issues related to the technical field but it is not always beneficial for the business. Also, it demands additional costs to the organization.

### 16. Lack of Motivation

The biggest motivation for any business is Money. When an entrepreneur starts a business then it takes some time to make the market value of the business. During this period the profit earned by the business is not so high which may reduce the motivation of the entrepreneur as well as of the employees of the organization.

### 17. Psychological Pressure

In countries like India, another barrier is psychological pressure in the mind of entrepreneurs. This pressure can be because of any reason such as parental pressure, societal pressure, financial pressure, carrier pressure, etc. One of the biggest examples of these pressures is the pressure created by the family and society to be successful in the carrier. This creates the fear of being failed which gives birth to mistakes and then these mistakes can cause huge losses to the firm.

<https://www.easymangementnotes.com/entrepreneurship-meaning-process-functions-and-barriers/>

### Entrepreneurs vrs. Manager

Parameters	Entrepreneur	Manager
Meaning	An entrepreneur is a person who builds a new organisation by gathering data (i.e. land, labour and capital) for manufacturing purposes.	By the term 'manager' we mean a person who gets the things done through his assistants, with the purpose of achieving business goals efficiently.
Focuses on	Setting up a business	Running the daily operations
Status in organisation	Owner	Employee
Kind of benefit applicable	Profit earned from running business	Salary earned from managing daily business operations
Decision making	Intuitive	Calculative
Driving force	Creativity and Innovation	Preserving status quo
Risk orientation	Risk taker	Risk averse

<b>Primary motivation:</b>	Achievement	Power
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<b>Entrepreneur vs Manager</b>	
<b>Entrepreneur</b>	<b>Manager</b>
Entrepreneur is visionary and bears all financial risks	Manager works for salary, and does not have to bear any risks
Focuses on starting and expanding the business ideas	Focus on daily smooth functioning of business
Key motivation for Entrepreneur is achievements	Managers motivation comes from the power that comes with their position
Reward for all the efforts is profit he earns from the enterprise	Remuneration is the salary he draws from the company
Entrepreneur can be informal and casual	Manager's approach to every problem is very formal

### **Forms of Business Ownership: Sole proprietorship, partnership forms and others**

There are three basic forms of business ownership: sole proprietorship, partnership, and corporation. The form that is chosen can affect the profitability, risk, and value of the firm.

#### **Sole Proprietorship**

Sole Proprietorship in simple words is a one-man business organization, it is the type of entity that is fully owned and managed by one natural person (not a legal person/entity) known as the sole proprietor. The business and the man are the same, it does not have a separate legal entity.

A sole proprietorship usually does not have to be incorporated or registered. It is the simplest form of business organizations and the ideal choice to run a small or medium scale business. Let us look at some important features of a proprietorship.

#### **Features of Sole Proprietorship**

##### **1] Lack of Legal Formalities**

A sole proprietorship does not have a separate law to govern it. So there are not many special rules and regulations to follow. It does not require incorporation or registration of any kind. In most cases, only a license is required to carry out the desired business.

And just like in its formation, there is hardly any legal process involved in its closure. Overall it allows for ease of doing business with minimum hassles.

##### **2] Liability**

Since there is no separation between the owner and the business, the liability of the owner is also unlimited. So if the business is unable to meet its own liabilities, it will fall upon the proprietor to pay them. All of his personal assets (like his car, house, other properties etc) may have to be sold to meet the liabilities of the business.

##### **3] Risk and Profit**

The owner is the only risk bearer in a sole proprietorship. Since he is the only one financially invested in the company, he must also bear all the risk. If the business fails or suffers losses he will be the one affected.

However, he also enjoys all the profits from the business. He does not have to share his profits with any other stakeholders since there are none. So he must bear the full risk in exchange for enjoying full profits.

#### **4] No Separate Identity**

In legal terms, the business and the owner are one and the same. No separate legal identity will be bestowed upon the sole proprietorship. So the owner will be responsible for all the activities and transactions of the business.

#### **5] Continuity**

Just as we saw above the business and the owner have one identity. So a sole proprietorship is entirely dependent on its owner. The death, retirement, bankruptcy, insanity, imprisonment etc will have an effect on the sole proprietorship. In most of such cases, the proprietorship will cease to exist and the business will come to an end.

#### **Advantages of Sole Proprietorship**

- A proprietor will have complete control of the entire business, this will facilitate quick decisions and freedom to do business according to their wishes.
- Law does not require a proprietorship to publish its financial accounts or any other such documents to any members of the public. This allows the business a great deal of confidentiality which is sometimes important in the business world.
- The owner derives the maximum incentive from the business. He does not have to share any of his profits. So the work he puts into the business is completely reciprocated in incentives.
- Being your own boss is a great sense of satisfaction and achievement. You are answerable only to yourself and it is a great boost to your self-worth as well.

#### **Disadvantages of Sole Proprietorship**

- One of the biggest limitations of a sole proprietorship is the unlimited liability of the owner. If the business fails it can wipe out the personal wealth of the owner as well and affect his future business prospects too.
- Another problem is the limited capital a sole proprietor has access to. His own personal savings and money he can borrow may not be enough to expand the business. Banks and financial institutions are also wary of lendings to proprietorships.
- The life cycle of a sole proprietorship is undecided and attached to its owner. If the owner is incapacitated in any way it has a negative effect on the business, and it may even lead to the closure of the business. A sole proprietorship cannot carry on without its proprietor.
- A sole proprietor also has a limited managerial ability. He cannot be an expert in all the fields of the business. And limited resources may mean that he cannot even hire competent people to help him out. This may lead to the business suffering from mismanagement and poor decisions.

#### **Partnership**

In India, we have a definite law that covers all aspects and functioning of a partnership, The Indian Partnership Act 1932. The act also defines a partnership as "the relation between two or more persons who have agreed to share the profits from a business carried on by either all of them or any of them on behalf of/acting for all"

So in such a case two or more (maximum numbers will differ according to the business being carried) persons come together as a unit to achieve some common objective. And the profits earned in pursuit of this objective will be shared amongst themselves.

The entity is collectively called a "Partnership Firm" and all the individual members are the "Partners". So let us look at some important features.

#### **Features of a Partnership**

### 1] Formation/Contract

A partnership firm is not a separate legal entity. But according to the act, a firm must be formed via a legal agreement between all the partners. So a contract must be entered into to form a partnership firm.

Its business activity must be lawful, and the motive should be one of profit. So two people forming an alliance to carry out charity and/or social work will not constitute a partnership. Similarly, a partnership contract to carry out illegal work, such as smuggling, is void as well.

### 2] Unlimited Liability

In a unique feature, all partners have unlimited liability in the business. The partners are all individually and jointly liable for the firm and the payment of all debts. This means that even the personal assets of a partner can be liquidated to meet the debts of the firm.

If the money is recovered from a single partner, he can, in turn, sue the other partners for their share of the debt as per the contract of the partnership.

### 3] Continuity

A partnership cannot carry out in perpetuity. The death or retirement or bankruptcy or insolvency or insanity of a partner will dissolve the partnership. The remaining partners may continue the partnership if they so choose, but a new contract must be drawn up. Also, the partnership of a father cannot be inherited by his son. If all the other partners agree, he can be added on as a new partner.

### 4] Number of Members

As we know that there should be a minimum of two members for a partnership. However, the maximum number will vary according to a few conditions. The Partnership Act itself is silent on this issue, but the Companies Act, 2013 provides clarity.

For a banking business, the number of partners must not exceed ten. For a business of any other nature, the maximum number is twenty. If the number of partners increases it will become an illegal entity or association.

### 5] Mutual Agency

In a partnership, the business must be carried out by all the partners together. Or alternatively, it can be carried out by any of the partners (one or several) acting for all of them or on behalf of all of them. So this means every partner is an agent as well as the principal of the partnership.

He represents the other partners in some cases so he is their agent. But in other circumstances, he is bound by the actions of any of the other partners making him the principal as well.

### Types of Partners

Not all partners of a firm have the same responsibilities and functions. There can be various types of partners in a partnership. Let us study the types of partners and their rights and duties.

- **Active Partner:** As the name suggests he takes active participation in the business of the firm. He contributes to the capital, has a share in the profit and also participates in the daily activities of the firm. His liability in the firm will be unlimited. And he often will act as an agent for the other partners.
- **Dormant Partner:** Also known as a sleeping partner, he will not participate in the daily functioning of the business. But he will still have to make his share of contribution to the capital. In return, he will have a share of the profits. His liability will also be unlimited.
- **Secret Partner:** Here the partner's association with the firm is not public knowledge. He will not represent the firm to outside agents or parties. Other than this his participation with respect to capital, profits, management, and liability will be the same as all the other partners.
- **Nominal Partner:** This partner is only a partner in the name. He allows the firm to use the name of his firm, and the attached goodwill, but he in no way contributes to the capital and hence has no share in the profits. He does not involve himself in the firm's business. But his liability too will be unlimited.
- **Partner by Estoppel:** If a person makes it out to be, through their conduct or behavior, that they are partners in a firm and he does not correct them, then he becomes a partner by estoppel. However, this partner too will have unlimited liability.

## **Company**

A **company** is a legal entity that people form. It allows them, usually as shareholders, to buy and sell goods and services. In most cases, companies want to make a profit. However, some companies are non-profit organizations.

Just like humans, companies can hire and fire workers. They can also buy shares in other companies, sue, and be the target of a lawsuit. Additionally, companies can borrow and lend money, and own property.

As legal entities, companies have similar rights and responsibilities to people. They may be responsible for human rights violations. They may also exercise human rights issues against individuals or the state.

### **Characteristics of a Company**

The company has several distinct characteristics; the significant ones are discussed here:

#### **Separate Legal Entity**

A company is a separate legal entity from its members who constitute it; it can hold, purchase and sell properties and enter into contracts in its own name. It is an artificial legal person who can sue and be sued. Companies are owned by shareholders and they elect the Board of Directors, who run the company. The board, in turn, selects the management. Thus the shareholders exercise only indirect control over the affairs of the company. The separation of ownership from the management sometimes results in a conflict of interests between owners and management. The best the shareholders can do is to change some of the directors through a vote in the annual general meeting subsequent to any such conflict.

#### **Limited Liability**

The liability of the shareholders of a company is limited to the nominal value of the shares held by them. In the event of liquidation, the maximum loss of a shareholder is equal to the nominal value of the shares held by him. The creditors have no claim on the personal assets of the shareholders in the event of a liquidation.

#### **Transferability of Shares**

The shares of a joint-stock company are freely transferable. It does not require any permission from the company or consent of other shareholders. The shares of listed companies can be sold or purchased on the stock exchange and ownership transferred without any difficulty. However, in case of a private limited company, the transfer of shares is subject to the restrictions given in the company's articles.

#### **Ability to Acquire a Broad Capital Base**

Following are significant factors that enable a company to raise large amount of capital

1. The nominal value of shares is kept small, as a result of which investment of any size is possible.
2. Limited liability minimizes the risk of the investors and makes investment attractive and safer.

#### **An Artificial Person created by Law**

A company is called an artificial person because it does not take birth as a natural person but it comes into existence through the law. The company possesses only those properties which are conferred upon it by its Memorandum of Association (Charter).

#### **Continuous Existence**

The companies generally have a continuous existence irrespective of changes in ownership. In the cases of sole proprietorship and partnership, change in ownership means the dissolution of the original business and formation of a new business.

#### **Common Seal**

Being an artificial person, a company can act through natural persons only. The acts of a company are authorized by the "common seal". The "common seal" is the official signature of the company. A document not bearing the common seal is not binding on the company.

## **OTHERS**

## **Corporations (C-Corp and S-Corp)**

Corporations are the most complex business structure. A corporation is a legal entity that is separate and independent from the people who own or run the corporation, namely shareholders. A corporation has the ability to enter into contracts separate from that of the shareholders, but it also has certain responsibilities such as the payment of taxes. Corporations are generally more appropriate for larger established companies with multiple employees or when other factors apply (i.e. corporation sells a product or provides a service that could expose the business to sizable liability). Ownership is designated by issuing shares of stock.

The two types of corporations are C-Corps and S-Corps. The major difference among the two types of corporations is the tax treatment of the two entities:

**Taxation (C-Corp):** For federal income tax purposes, a C-Corp is recognized as a separate taxpaying entity, thus the entity files its own tax return (Form 1120). A c-corporation is subject to corporate income tax on any corporate profits (entity pays taxes). Shareholders pay personal income tax on the corporate profits distributed by the corporation to the owners. As a result, C-corps are subject to "double taxation."

**Taxation (S-corp):** S-Corps elect to pass corporate income, losses, deductions and credit through to their shareholders for federal tax purposes. However, the entity is required to report income, losses, gains, deductions, credit, etc. on Form 1120S. Shareholders of S corporations report the corporation's income and losses on their personal tax returns pay federal income tax at their individual tax rates. Thus, S-Corps avoid double taxation.

**Liability:** A corporation is a legal entity that is "immortal," meaning it does not terminate upon the shareholders death. Corporation shareholders have limited liability as they are not personally liable for debts and obligations incurred by the company. Shareholders cannot lose more money than the amount they invested in the corporation. Similar to the provisions of an LLC, shareholders should be careful not to "pierce the corporate veil." Personal checking accounts should not be used for business purposes, and the corporate name should always be used when interacting with customers.

**Formation:** Corporations are more complex entities to create, have more legal and accounting requirements and are more complex to operate than sole proprietorships, partnerships, or LLCs. One of the major disadvantages of a corporation is the high level of governance and oversight by the board of directors. Often times, this prolongs the decision making when multiple shareholders or investors are involved.

### **Pros of Corporations:**

- Corporate shareholders have limited liability, meaning the entity is responsible for all liabilities the company incurs.
- Usually a favorable formation for investors.

### **Cons of Corporations:**

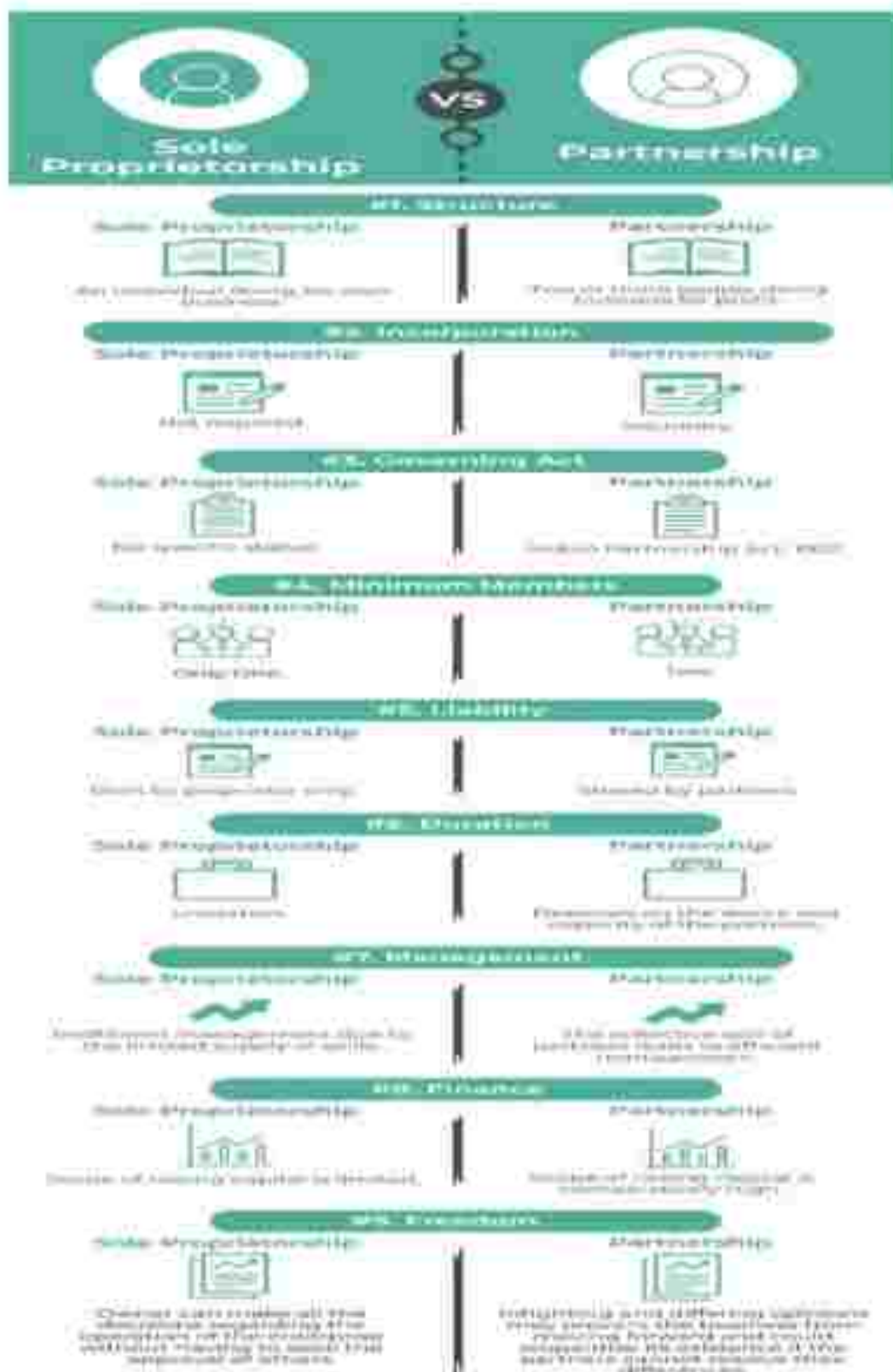
- The process to establish the business is more rigorous and costly.
- Earnings are subject to "double taxation", meaning that earnings are taxed at the entity level and the individual level upon distribution to shareholders.
- High level of governance and oversight by the board of directors.

### **KEY POINT**

1. A sole proprietorship is a business owned by only one person.
  - Advantages include: complete control for the owner, easy and inexpensive to form, and owner gets to keep all of the profits.
  - Disadvantages include: unlimited liability for the owner, complete responsibility for talent and financing, and business dissolves if the owner dies.



2. A general partnership is a business owned jointly by two or more people.
- Advantages include: more resources and talents come with an increase in partners, and the business can continue even after the death of a partner.
  - Disadvantages include: partnership disputes, unlimited liability, and shared profits.



## Types of Industries

<https://www.flexiprep.com/NIOS-Notes/Secondary/Business-Studies/NIOS-Business-Studies-Ch-2-Industry-and-Commerce-Part-2.html>

### Concept and Types of Industry

Industry means place where the resources are converted into finished or useful products. There are basically three types of industries.

#### I) Primary industry

#### II) Secondary industry

#### III) Tertiary industry

**I) Primary industry:** This type of industry involves in the activities related to extraction and production of natural resources. It also performs activities relating to the reproduction and development of living organisms. It is of two types:

1. Genetic industry: This industry involves breeding of plants and animals for their use in reproduction process like poultry farming, fish hatching.
2. Extractive industry: This industry performs the activities relating to the extraction of products from natural resources like farming, mining etc.

**II) Secondary industry:** This industry converts the goods which have been extracted or produced at the primary industry into final products. It is further classified into two parts:

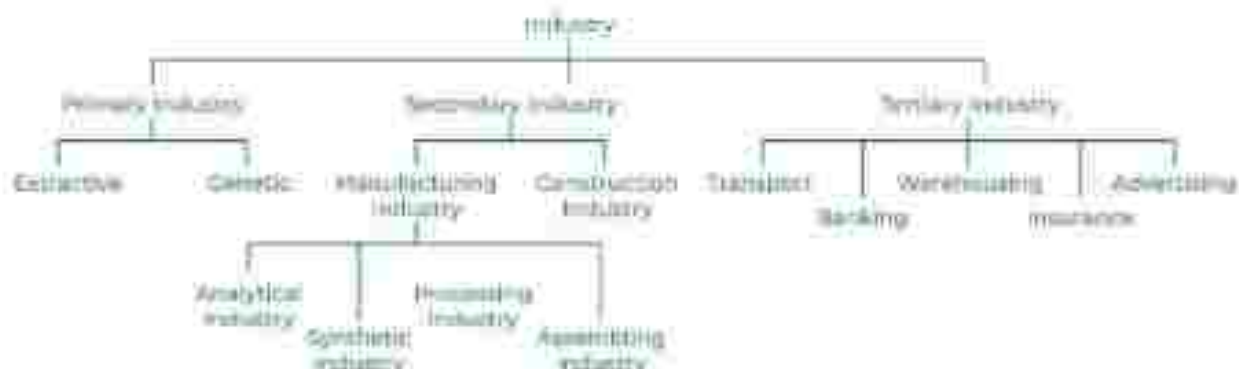
1. Manufacturing industry: This industry generally makes products for final consumption and helps in creating form utility. It covers four types of industry.
2. Analytical industry: This type of industry involves in the separation of different elements from the same product. Like in oil refining.
3. Synthetical industry: This industry involves mixing various products and changing into a new product.
4. Processing industry: This industry deals in processing of product in further stages like making cheese or butter from milk.
5. Assembling industry: This industry creates a new product by assembling different parts together like I case of car assembling.

**III) Tertiary industry:** This type of industry provides support service to the primary as well as secondary industry in trading process.



### In other way we can categorised as-

The industry is concerned with the processing and production of goods and services with the motive of earning profit. In simple words, it involves changing the raw materials into finished products for the purpose of selling them to the customers. The goods sold by industry can be either used by other companies for further production or can be used by the end consumers for final consumption. The goods produced in the former case are known as producer goods. For example, machinery, tools, etc. However, the goods produced in the latter case are known as consumer goods. For example, bread, milk, hutter, cloth, groceries, medicines, etc. An organization can also produce materials that can be used by other companies to further process and convert them into finished goods. These goods are known as intermediate goods. For example, rubber, copper, plastic, etc. Industry can be further classified into three parts: **primary, secondary, and tertiary industry.**



### Primary Industry

The primary industry involves the extraction of raw materials or natural resources from the earth and the reproduction of living organisms. The economic operations of a business under the primary sector usually depend on the nature of a specific place where the extraction or reproduction is being done. Therefore, we can say that the economic operations of a primary industry revolve around the natural resources available on earth. The primary industries produce or create products that are sold to the public. For example, farming, mining, fishing, forestry, agriculture, crop production, animal husbandry, etc. The primary sector of less advanced economies and includes activities or businesses from these areas. As a country develops, it becomes less dependent on primary industry and more on secondary and tertiary. Some of the workers in the primary industry are hunters, farmers, coal miners, etc.

Primary industry is further divided into two categories:

1. **Extractive Industry:** As the name suggests, the extractive industry involves the extraction of products from natural resources and manufacturing of finite raw materials that industry cannot replenish through cultivation. In emerging countries like India, the primary industry is usually the most important sector. For example, agriculture is the most crucial part of India's primary

industry, and animal farming is important in Africa. Other essential extractive industries are mining, fishing, hunting, lumbering, and farming.

2. **Genetic Industry:** The genetic industry involves rearing and breeding of living species like birds, plants, etc., developing raw materials, and then improving them through human involvement in the production process. Genetic industry examples involve seeds and nursery companies, poultry farms, fish hatcheries, breeding farms, livestock management and forestry.

### **Secondary Industry**

The secondary industry uses the raw materials extracted in the primary sector and then converts them into the finished product. Therefore, the secondary industry consists of construction and manufacturing industries. The products manufactured under secondary industries are either consumed by the end customer or used as raw material by other industries for further processing or production. For example, getting wood from forests is a primary industry, however, making furniture from wood is a secondary industry. The businesses under secondary industry usually use massive machinery in their production plants for manufacturing goods and even use human resources for packaging and distribution of goods to retailers, wholesalers, etc., at different locations.

Secondary industry is further divided into two categories: Manufacturing and Construction Industry.

### **Manufacturing Industry**

These are the industries that are involved in the process of converting raw materials or semi-finished products into finished products. Manufacturing industries create form utility as it changes the form of raw materials into finished goods. For example, cotton is a raw material that is converted in clothes under the manufacturing industry, iron is converted into benches, sugarcane into sugar, wheat into bread, etc.

The two types of goods produced in the manufacturing industry are:

- **Consumer Goods:** Consumer goods are goods that are consumed directly by the end consumer and are used for day-to-day consumption. Examples of consumer goods are clothes, hand wash, soap, oil, ghee, bread, butter, etc.
- **Industrial Goods:** Industrial goods are the goods that are built or produced for manufacturing consumer goods. For example, machines, equipment, etc., are used by industries to manufacture consumer goods such as bread, butter, soap, oil, etc.

The manufacturing industry is further divided into four categories:

1. **Analytical Industry:** The industry in which a basic raw material is broken down into several parts for manufacturing multiple products is known as analytical industry. For example, different products like gasoline, kerosene oil, diesel, petroleum, etc., are formed by breaking crude oil into different parts and processing them separately.
2. **Synthetic Industry:** The industry in which manufacturers mix two or more materials for manufacturing a new product is known as the synthetic industry. For example, products like paint, paper, soap, cement, sanitizers, etc., are manufactured by mixing two or more than two materials.
3. **Processing Industry:** The industry in which manufacturers process a raw material through different production stages and then manufacture the finished good is known as the processing industry. For example, the Sugar industry processes sugarcane through different stages to manufacture sugar for consumers and other industries.
4. **Assembling Industry:** The industry in which the organizations take different finished products and combine them to form a new finished product is known as the assembling industry. For example, computer companies buy different finished products like CPU, motherboard, software, etc., from different companies and produce a new product.

### **Construction Industry**

These are the industries that are involved with the construction of roads, dams, buildings, etc., for the development of an economy. The construction industry use products of the manufacturing industry, such as steel, iron, cement, etc. The products of construction industries are unique in a way that their products cannot be moved or transferred from one place to another. For example, a dam can be built at a fixed place and cannot be moved as per the choice of anyone.

### **Tertiary Industry**

The tertiary industry involves providing services and facilitating a smooth flow of goods and services in the market. The tertiary industry is also known as the service industry, and it helps the primary and secondary industries with their activities. It means that the tertiary industry provides services to different primary and secondary industries to support their activities.

Different types of services provided by the service industry are:

1. **Transport:** Transportation services help the primary and secondary industries by facilitating the movement of goods from one place to other. Different modes of transport used by tertiary industry are air, water, land, rail, etc.
2. **Banking:** Through banking, the tertiary industry provides credit facilities and finance to different trading firms and industries for business expansion, survival and growth.
3. **Warehousing:** Warehousing services of the tertiary industry provides the primary and secondary industry with storage facilities. It means that the primary and secondary industries can store their produced goods until they are distributed.
4. **Insurance:** Insurance services of the tertiary industry involve providing coverage to the primary and secondary industries with different types of risks while running the business.
5. **Advertising:** Advertising services help the primary and secondary industries by providing information to the customers about the company or business and its goods and services.

<https://www.lendingkart.com/blog/types-of-industries/>

**Concept of Start-ups Entrepreneurial support agencies at National, State, District Level( Sources): DIC, NSIC, OSIC, SIDBI, NABARD, Commercial Banks, KVIC etc.**

- A start-up is a company that's in the initial stages of business.
- Founders normally finance their start-ups and may attempt to attract outside investment before they get off the ground.
- Funding sources include family and friends, venture capitalists, crowd funding, and loans.
- Start-ups must also consider where they'll do business and their legal structure.
- Start-ups come with high risk as failure is very possible but they can also be very unique places to work with great benefits, a focus on innovation, and great opportunities to learn.

The support agencies has set up various centres or institutes to impart training and development to entrepreneurs, so as to improve their knowledge, attitudes, and skills.

For the development of entrepreneur a number of specialized agencies have been set up by the state and central governments which are as follows:

Government also plays a very important role in developing entrepreneurship. Government develop industries in rural and backward areas by giving various facilities with the objective of balances regional development. The government set programmes to help entrepreneurs in the field of technique, finance, market and entrepreneurial development so that they help to accelerate and adopt the changes in industrial development. Various institutions were set up by the central and state governments in order to fulfill this objective.

The Government has set up various centres or institutes to impart training and development to entrepreneurs, so as to improve their knowledge, attitudes, and skills.

### **1. District Industry Centres (DICs):**

Governments, both Central and State, have in the past taken a number of measures for the development of small and village industries, but the actual achievement has been far below expectation, because the focus of attention for industrial development was mainly on large cities and state capitals.

Also the multiplicity of institutions involved in the development of small industries and complicated systems and procedures made the job of promoting the industrial units an uphill task for small entrepreneurs.

Hence, it was felt necessary to establish a development agency which could provide all services and facilities to village and small industries under one roof. Accordingly, the DICs were established on May 8, 1978 in order to cater the needs of small units.

Each district has a DIC at its headquarter. The main responsibility of DIC is to act as the chief coordinator or multi-functional agency in respect of various Government departments and other agencies. The prospective small entrepreneur would get all assistance from DIC for setting up and running an industry. The metropolitan cities of Delhi, Mumbai, Kolkata and Chennai have been kept outside the purview of the DIC.

#### **Organisational Setup of DICs:**

Usually each DIC consists of:

- i. One General Manager of the rank of Joint Director of Industries as the head.
  - ii. Four Functional Managers, of whom, three would be in the areas of economic investigation, credit and village industries. The fourth functional manager would be entrusted with the responsibility in any of the areas like raw materials/marketing/training etc. depending on the specific requirement of each district.
  - iii. Three Project Managers to provide technical services in the area relevant to needs of the district concerned. Their role is to facilitate modernisation and up-gradation of technology in the small sector.
- At the sub-division level, there could be Assistant Director of Industries and Industry Promotion Officer, but these positions do not exist in every state.

#### **Functions of DICs:**

The role of DIC is mainly promotional and developmental. To attain this purpose, it has to provide needed services and support to small and village industries.

- i. Identification of Entrepreneurs – DIC develops new entrepreneurs by conducting entrepreneurial motivation programmes throughout the district especially in small towns.
- ii. Selection of Projects – DIC offers technical advice to new entrepreneurs for the selection of projects suitable to them.
- iii. Registration under SSI – DIC provides provisional and permanent registration to the new entrepreneurs. After the selection of projects, entrepreneurs are issued with provisional SSI Registration which is essential for obtaining assistance from the financial institutions. Once a unit comes into being, then the unit is registered permanently.

Provisional registration is awarded for two years in the first instance and thereafter, can be renewed every year taking into consideration the fact that the party is taking effective steps to install the unit, but this renewal is limited to only two times.

- iv. Clearances from Various Departments – It takes the initiative to get clearances for the project from various departments and takes follow up measures to get speedy power connection.

v. **Recommending Applications to Various Other Departments** - The District Industry Centre recommends the applications of SSI units for availing loans and working capital facilities to commercial banks and other financial institutions.

The DIC also recommends the application of SSI units to National Small Industries Corporation for the purchase of machinery on hire-purchase/lease basis, after assessing the technical and economic viability of the industrial units.

vi. **Arranging Seed Money** - The DIC, through various associated corporations, provides seed money to entrepreneurs who are technically qualified for setting up their small industrial ventures, but are not in a position to muster their own capital as a part of their contribution towards the financial assistance which they are to get from the banks or from the financial institutions.

vii. **Assistance to Raw Material Supplies** - DIC makes necessary recommendations to the concerned raw material suppliers and issues the required certificates for the import of raw materials, wherever necessary. This facility enables the SSI units to get raw material on controlled rates and as per their assessed requirements.

viii. **Financial Assistance** - Financial assistance to SSI units is being provided through various schemes of the Industries Department. Under Prime Minister's Rozgar Yojana for Unemployed Youth, eligible unemployed youths get financial assistance in the form of loan and subsidy on easy terms and conditions up to Rs.95,000 for industrial, business and service activities.

ix. **Subsidy Schemes** - DIC assists SSI units and rural artisans to get subsidies such as power subsidy, interest subsidy, subsidy under IRDP etc. from various institutions.

DIC also provides subsidy to such SSI units which purchase testing machinery/equipment for carrying out different tests. This helps the SSI units to keep a constant watch on their products for ensuring quality.

x. **Grant of Purchase Preference** - The DIC allows 15% purchase preference to SSI units and 5 percent to large and medium units in respect of purchase of products by various departments approved for availing the concession.

xi. **Assistance to Village Artisans and Handicrafts** - DIC arranges for financial assistance with the lead bank or nationalised banks of the respective areas for village artisans.

xii. **Entrepreneurship Development Programmes /Seminars** - Entrepreneurship Development Programmes have been an important aspect of industrialisation since the entrepreneur may be highly qualified, but he still may not be familiar with the different aspects and steps required in setting up an industrial venture.

District Industry Centres have been conducting these programmes in association with Small Industries Service Institutes and various Technical Consultancy Organisations to develop entrepreneurial skills in the young entrepreneurs.

xiii. **Import and Export Assistance** - The items covered under the restricted and limited permissible categories can be imported against the Import Licence. The Import Licences are issued by the concerned Import and Export authorities on the recommendations of the General Manager of the concerned DIC.

The SSI units desirous of exporting goods are required to get registered with the concerned Export Promotion Council for availing various facilities. The application for this registration is routed through the General Manager of the concerned DIC.

iv. Fairs and Exhibitions – With a view to give wide publicity to the industrial products being manufactured by the various industrial centres throughout India, the Govt. of India organises India International Trade Fair every year. This helps the industrial units to export their products to the outer world, identify prospective buyers and open new marketing avenues.

### **2.National Small Industries Corporation (NSIC):**

The National Small Industries Corporation (NSIC) was set up in 1955 with the objective of supplying machinery and equipment to small enterprises on a hire- purchase basis and assisting them in procuring Government orders for various items of stores. The supply of machines on hire-purchase is in a way an offer of funds, an offer of foreign exchange facilities, guidance on adopting modernised technology for improved methods of production and combination of all.

NSIC takes upon itself the entire purchase procedure, starting from locating competent suppliers to delivery of machines. In case of imported machines, NSIC obtains clearance from Director General to arrange foreign exchange, obtain import licence, opens the letter of credit and looks after the customs requirement and clearance of machines.

The Corporation's Head office is at Delhi and it has four regional offices at Delhi, Mumbai, Chennai and Kolkata and eleven branch offices. It has one central liaison office at Delhi and depots and sub-centres.

#### **Functions of NSIC:**

The NSIC has taken up the challenging task of promoting and developing small scale industries almost from scratch and has adopted an integrated approach to achieve the socio-economic objectives.

#### **The followings are the main functions of NSIC:**

- i. To develop small scale units as ancillary units to large-scale industries.
- ii. To provide machines to small scale industries on hire-purchase basis.
- iii. To assist small enterprises to participate in stores purchase programme of the Central Government.
- iv. To assist small industries with marketing facilities.
- v. To distribute basic raw materials through their depots.
- vi. To import and distribute components and parts to actual small scale users in specific industries.
- vii. To construct industrial estates and establish and run prototype production cum-training centres.

### **3.OSIC Odisha Small Industries Corporation Ltd (OSIC)**

OSIC is the nodal agency for supply of raw-material to MSMEs in the state for taking up infrastructure development of the MSME sector.

The development of a separate cell is likely to strip off the rights vested now with the state-run Odisha Industrial Infrastructure Development Corporation (IDCO). It may be noted that IDCO, which is also the nodal agency of government for providing land to large projects, was established in 1981 with the specific objective of creating infrastructure facilities in identified industrial estate and areas.

The prime function of IDCOs establishment of industrial areas, industrial estates, functional industrial estates, growth centres at different strategic locations and to provide infrastructure.

Prior to formation of IDCO in 1981 for creation of industrial infrastructural facility, the portfolio of development of industrial estates was with the OSIC.



#### **4.Small Industries Development Bank of India (SIDBI):**

With a view of ensuring larger flow of financial and non-financial assistance to the small-scale sector, the Government of India set up the Small Industries Development Bank of India (SIDBI) under a special act of the Parliament in October 1989 as a wholly owned subsidiary of IDBI.

The bank commenced its operations from April 2, 1990 with its head office in Lucknow. The SIDBI has taken the outstanding portfolio of the IDBI relating to the small-scale sector worth over Rs. 4000 crores. The authorised capital of SIDBI is Rs. 250 crores with a provision to increase it to Rs. 1000 crores.

#### **Functions of SIDBI:**

The SIDBI was set up to function as the principal financial institution for the promotion, development and financing of industry in the small scale sector and for co-ordinating the functions of institutions engaged in similar activities. It has taken over the responsibility for administering Small Industries Development Fund and National Equity Fund which were earlier administered by the IDBI.

**The SIDBI has outlined the following three areas as immediate thrust areas:**

- i. To initiate steps for technological upgradation and modernization of existing units.
- ii. To expand the channels for marketing the products of SSI sector in domestic and international markets.
- iii. To promote employment oriented industries especially in semi-urban areas to create more employment opportunities and thereby checking migration of people to urban areas.

**The SIDBI has outlined the following activities as its functions:**

- i. Refinancing of loans and advances extended by primary lending institutions such as State Financial Corporations (SFCs), State Industrial Development Corporations (SIDCs) or State Industrial and Investment Corporations (SIICs) and banks.
- ii. Discounting and rediscounting of bills.
- iii. Extension of seed capital or soft loan assistance under National Equity Fund, Seed Capital under Mahila Udayam Nidhi Scheme.
- iv. Granting direct assistance and refinance for financing exports of SSI sector.
- v. Extending financial support to State Small Industries Development Corporation (SSIDC).
- vi. Extending financial support to National Small Industries Corporation (NSIC).

#### **5.Commercial Banks and Entrepreneurial Development:**

Commercial banks play an important role in the growth and development of economy in general and the enterprise sector, in particular. The role of banks in promotion and development of business and industry has become all the more important in post liberalisation era.

These days, commercial banks have not confined themselves to mere extension of finance to small entrepreneurs, but have shown genuine concern for their progress and development. They have now entered the challenging field of promoting new small scale entrepreneurs through Entrepreneurship Development Programmes.

In their new role as promoters of small scale sector, they have accepted yet another challenging task. They are now holding EDPs in collaboration with specialised institutions such as DIC, SISI, TCO etc. with a view to identify entrepreneurs, especially in backward areas and train and monitor them to start new ventures.

## Commercial Banks:

- Organised under the Banking Companies Act, 1956
- They operate on a commercial basis and its main objective is profit.
- They have a unified structure and are owned by the government, state, or any private entity.
- They tend to all sectors ranging from rural to urban.
- These banks do not charge concessional interest rates unless instructed by the RBI
- Public deposits are the main source of funds for these banks

The commercial banks can be further divided into three categories:

1. **Public sector Banks** - A bank where the majority stakes are owned by the Government or the central bank of the country.
2. **Private sector Banks** - A bank where the majority stakes are owned by a private organization or an individual or a group of people.
3. **Foreign Banks** - The banks with their headquarters in foreign countries and branches in our country, fall under this type of bank.

## Function of Commercial Bank:

The functions of commercial banks are classified into two main divisions.

### (a) Primary functions

**Accepts deposit** : The bank takes deposits in the form of saving, current, and fixed deposits. The surplus balances collected from the firm and individuals are lent to the temporary requirements of the commercial transactions.

**Provides loan and advances** : Another critical function of this bank is to offer loans and advances to the entrepreneurs and business people, and collect interest. For every bank, it is the primary source of making profits. In this process, a bank retains a small number of deposits as a reserve and offers (lends) the remaining amount to the borrowers in demand loans, overdraft, cash credit, short-run loans, and more such banks.

**Credit cash**: When a customer is provided with credit or loan, they are not provided with liquid cash. First, a bank account is opened for the customer and then the money is transferred to the account. This process allows the bank to create money.

### (b) Secondary functions

**Discounting bills of exchange**: It is a written agreement acknowledging the amount of money to be paid against the goods purchased at a given point of time in the future. The amount can also be cleared before the quoted time through a discounting method of a commercial bank.

**Overdraft facility**: It is an advance given to a customer by keeping the current account to overdraw up to the given limit.

**Purchasing and selling of the securities**: The bank offers you with the facility of selling and buying the securities.

**Locker facilities**: A bank provides locker facilities to the customers to keep their valuables or documents safely. The banks charge a minimum of an annual fee for this service.

**Paying and gathering the credit** : It uses different instruments like a promissory note, cheques, and bill of exchange.

## 6. National Bank for Agriculture and Rural Development (NABARD):

The National Bank for Agriculture and Rural Development (NABARD) was established in 1982 for providing credit for the promotion of agriculture, small-scale industries, cottage and village industries,

handicrafts and other rural crafts and other allied economic activities in rural areas with a view to promote integrated rural development and secure prosperity of rural areas.

On its establishment, NABARD has taken over the entire undertaking of the Agricultural Refinance and Development Corporation and has taken over from the Reserve Bank its refinancing functions in relation to the State Co-operative Rural Banks. This Bank is now the co-ordinating agency in relation to the Central Government, Planning Commission, State Governments and institutions engaged in the development of small-scale industries, village and cottage industries, rural crafts etc. for giving effect to the various policies and programmes relating to rural credit.

The capital of the NABARD is Rs. 500 crores, subscribed by the Central Government and the Reserve Bank in equal proportions.

#### **Management of NABARD:**

In terms of the Act, the Board of Directors will consist of 15 members to be appointed by the Central Government in consultation with the Reserve Bank. Besides the chairman and the managing director, three directors from the Central Board of the Reserve Bank, three officials of the Central Government, two officials of the State Governments and five directors from experts in rural economics, rural development, handicrafts and village and cottage industries etc. and persons with experience in the working of co-operative banks and commercial banks.

#### **Functions of NABARD:**

i. NABARD provides short-term refinance assistance for periods not exceeding 18 months to state co-operative banks, regional rural banks and other financial institutions for a wide range of purposes including marketing and trading relating to rural economy.

These short term loans can be converted by the NABARD into medium term loans for periods not exceeding seven years under conditions of drought, famine or other natural calamities, military operations or enemy action.

ii. NABARD can grant medium-term loans to the State Co-operative Banks and Regional Rural Banks for periods extending from 18 months to 7 years for agriculture and rural development.

iii. NABARD is empowered to provide by way of refinance assistance long term loans extending up to maximum period of 25 years to the State Land Development Bank, Regional Rural Banks, Scheduled Commercial Banks, State Co-operative Banks or any other financial institution approved by the Reserve Bank for giving loans to artisans, small-scale industries, village and cottage industries etc.

#### **7. Khadi and Village Industries Commission (KVIC):**

Khadi and Village Industries Commission was established in 1953 with the primary objective of developing khadi and village industries and improving rural employment opportunities. Its wide range of activities include training of artisans, extension of assistance for procurement of raw materials, marketing of finished products and arrangement for manufacturing and distribution of improved tools, equipments and machinery to producers on concessional terms.

KVIC provides assistance to Khadi and Village Industries which require low capital investment and ideally suited for manufacturing utility goods by using locally available resources. There are many specified village industries such as processing of cereals and pulses, leather, matches, gur and khandsari, non-edible oils and soaps, bee-keeping, village pottery, carpentry and blacksmithy etc.

KVIC's policies and programmes are executed through State Khadi and Village Industries Boards registered under the Societies Registration Act, 1960 and Industrial Cooperative Societies registered

under State Cooperative Societies Act. Activities involving pioneering type of work such as developing new industries in hilly, backward and inaccessible areas are undertaken by KVIC directly.

For the development of entrepreneur a number of specialized agencies have been set up by the state and central governments which are as follows:

- Small Industries Service Institutes (SISI)
- Small Industries Development Organisations (SIDO)
- National Small Industries Corporation
- Small Industries Extension Training Institute.
- Entrepreneurship Development Institute of India
- Institute for Rural Management and Administration
- National Institute for Entrepreneurship and Small Business Development (NIESBID)
- National Alliance of young entrepreneurs (NAYA)

## **Technology Business Incubators (TBI) and Science and Technology Entrepreneur**

Incubators provide resources and services to entrepreneurs, including working space and offices, technical expertise, management mentoring, assistance in compiling an effective business plan, shared administrative services, technical support, business networking, and advice on intellectual property, sources of financing, markets, and strict admission/exit rules.

A technology business incubator (TBI) is an organisational setup that nurtures technology-based and knowledge driven companies by helping them survive during the startup period in the company's history, which lasts around the initial two to three years.

A technology business incubator (or TBI) is a type of business incubator focused on organizations that help startup companies and individual entrepreneurs which use modern technologies as the primary means of innovation to develop their businesses by providing a range of services, including training, brokering and financing. In several countries, including India, China, and the Philippines there have been government initiatives to support TBIs.<sup>[10]</sup> Organizations under the title of technology business incubator often receive funding or other forms of support from the national government.

### **EXAMPLE-**

1. AMITY INNOVATION INCUBATOR
2. THE INNOVATION CONTINUUM
3. INDIAN ANGEL NETWORK

## **Science & Technology Entrepreneurship Park (STEP)**

The Science Parks and similar initiatives help in creating an atmosphere for innovation and entrepreneurship; for active interaction between academic institutions and industries for sharing ideas, knowledge, experience and facilities for the development of new technologies and their rapid transfer to the end user.

The Science & Technology Entrepreneurs Park (STEP) programme was initiated to provide a re-orientation in the approach to innovation and entrepreneurship involving education, training, research, finance, management and the government. A STEP creates the necessary climate for innovation, information exchange, sharing of experience and facilities and opening new avenues for students, teachers, researchers and industrial managers to grow in a trans-disciplinary culture, each understanding and depending on the other's inputs for starting a successful economic venture. STEPs are hardware intensive with emphasis on common facilities, services and relevant equipments.

The major objectives of STEP are to forge linkages among academic and R&D institutions on one hand and the industry on the other and also promote innovative enterprise through S&T persons.

#### Objectives

- To forge a close linkage between universities, academic and R&D institutions on one hand and industry on the other.
- To promote entrepreneurship among Science and Technology persons, many of whom were otherwise seeking jobs soon after their graduation.
- To provide R&D support to the small-scale industry mostly through interaction with research institutions.
- To promote innovation based enterprises.

#### Facilities and Services Provided by STEPs

- It offers facilities such as nursery sheds, testing and calibration facilities, precision tool room/central workshop, prototype development, business facilitation, computing, data bank, library and documentation, communication, seminar hall/conference room, common facilities such as phone, telex, fax, photocopying. It offers services like testing and calibration, consultancy.
- Training, technical support services, business facilitation services, database and documentation services, quality assurance services and common utility services.

## UNIT-2 MARKET SURVEY AND OPPORTUNITY IDENTIFICATION

### **Business Planning**

- SSI, Ancillary Units, Tiny Units, Service-sector Units
- Time schedule Plan, Agencies to be contacted for Project Implementation
- Assessment of Demand and supply and Potential areas of growth
- Identifying Business Opportunity  
Final Product selection

### **Business Planning**

- A business plan is a document that defines in detail a company's objectives and how it plans to achieve its goals. A business plan lays out a written road map for the firm from marketing, financial, and operational standpoints. Both startups and established companies use business plans.
- A business plan is a documented strategy for a business that highlights its goals and its plans for achieving them. It outlines a company's go-to-market plan, financial projections, market research, business purpose, and mission statement. Key staff who are responsible for achieving the goals may also be included in the business plan along with a timeline.
- The purpose of a business plan is three-fold: It summarizes the organization's strategy in order to execute it long term, secures financing from investors, and helps forecast future business demands.

### **Purposes of a Business Plan**

#### **1. Securing financing from investors.**

Since its contents revolve around how businesses succeed, break-even, and turn a profit, a business plan is used as a tool for sourcing capital. This document is an entrepreneur's way of showing potential investors or lenders how their capital will be put to work and how it will help the business thrive.

All banks, investors, and venture capital firms will want to see a business plan before handing over their money, and investors typically expect a 10% ROI or more from the capital they invest in a business.

Therefore, these investors need to know *if* – and *when* – they'll be making their money back (and then some). Additionally, they'll want to read about the process and strategy for how the business will reach those financial goals, which is where the context provided by sales, marketing, and operations plans come into play.

#### **2. Documenting a company's strategy and goals.**

A business plan should leave no stone unturned.

Business plans can span dozens or even hundreds of pages, affording their drafters the opportunity to explain what a business' goals are and how the business will achieve them.

To show potential investors that they've addressed every question and thought through every possible scenario, entrepreneurs should thoroughly explain their marketing, sales, and operations strategies – from acquiring a physical location for the business to explaining a tactical approach for marketing penetration.

To show potential investors that they've addressed every question and thought through every possible scenario, entrepreneurs should thoroughly explain their marketing, sales, and operations strategies –

from acquiring a physical location for the business to explaining a tactical approach for marketing penetration.

These explanations should ultimately lead to a business' break-even point supported by a sales forecast and financial projections, with the business plan writer being able to speak to the why behind anything outlined in the plan.

### 3. Legitimizing a business idea

Everyone's got a great idea for a company – until they put pen to paper and realize that it's not exactly feasible.

A business plan is an aspiring entrepreneur's way to prove that a business idea is actually worth pursuing.

As entrepreneurs document their go-to-market process, capital needs, and expected return on investment, entrepreneurs likely come across a few hiccups that will make them second guess their strategies and metrics – and that's exactly what the business plan is for.

It ensures an entrepreneur's ducks are in a row before bringing their business idea to the world and reassures the readers that whoever wrote the plan is serious about the idea, having put hours into thinking of the business idea, fleshing out growth tactics, and calculating financial projections.

### 4. Getting an A in your business class.

Speaking from personal experience, there's a chance you're here to get business plan ideas for your Business 101 class project.

### What does a business plan need to include?

1. Business Plan Subtitle
2. Executive Summary
3. Company Description
4. The Business Opportunity
5. Competitive Analysis
6. Target Market
7. Marketing Plan
8. Financial Summary
9. Team

### SSI

Small Scale Industries (SSI) are those industries in which the manufacturing, production and rendering of services are done on a small or micro scale. These industries make a one-time investment in machinery, plant, and equipment, but it does not exceed Rs.10 crore and annual turnover does not exceed Rs.50 crore.

On 9 May 2007, subsequent to the amendment of the Government of India (Allocation of Business) Rules, 1961, the Ministry of Small Scale Industries and the Ministry of Agro and Rural Industries were

merged to form the Ministry of Micro, Small and Medium Enterprises. Thus, the SSIs are included under the Ministry of MSME.

### **Characteristics of SSI**

#### **Ownership**

SSI's generally are under single ownership. So it can either be a sole proprietorship or sometimes a partnership.

#### **Management**

Generally, both the management and the control is with the owner/owners. Hence the owner is actively involved in the day-to-day activities of the business.

#### **Labor Intensive**

SSI's dependence on technology is pretty limited. Hence they tend to use labour and manpower for their production activities.

#### **Flexibility**

SSI's are more adaptable to their changing business environment. So in case of amendments or unexpected developments, they are flexible enough to adapt and carry on, unlike large industries.

#### **Limited Reach**

Small scale industries have a restricted zone of operations. Hence, they can meet their local and regional demand.

### **Objectives of SSI**

The objectives of the small scale industries are:

- To create more employment opportunities.
- To help develop the rural and less developed regions of the economy.



- To reduce regional imbalances.
- To ensure optimum utilisation of unexploited resources of the country.
- To improve the standard of living of people.
- To ensure equal distribution of income and wealth.
- To solve the unemployment problem.
- To attain self-reliance.
- To adopt the latest technology aimed at producing better quality products at lower costs.

### **Types of SSI**

SSI are primarily categorised into 3 types, based on the nature of work carried out, which are as follows:

#### **Manufacturing Industries**

The manufacturing industries manufacture finished goods for consumption or used further in processing. Some examples of such SSIs are food processing units, power looms, engineering units, etc.

#### **Ancillary Industries**

Ancillary industries manufacture components for other manufacturers. These manufacturers then assemble the final product. Big companies manufacture finished goods, but they do not generally make all the parts themselves. The vendors of such big companies are ancillary industries.

#### **Service Industries**

Service-based industries are not involved in any kind of manufacturing products. They provide services such as repair, maintenance and upkeep of the products after-sales.

Other types of SSIs are as follows:

#### **Export Units**

An SSI is considered as an export unit when the exporting is more than 50% of its production.

### **Cottage Units**

The cottage units are considered as SSIs when they do not involve a dedicated facility and are carried out within living spaces or houses of the owners.

### **Village Industries**

An SSI is considered village industries when they are established in rural areas and are not part of the organised sector. Typically, these industries solely depend on human labour for production.

### **Examples and Ideas of SSIs in India:**

- Bakeries
- School stationeries
- Water bottles
- Leather belt
- Small toys
- Paper bags
- Photography
- Beauty parlours
- Spinning and weaving industry
- Coconut oil making
- Cashew nut processing
- Clay products
- Agarhatti making
- Chalk making
- Biodiesel production

- Rice mill
- Toys making
- Honey processing
- Slippers making
- Detergent powder making
- Spices making
- Chocolate making
- Water bottles manufacturing
- Toothpick making
- Xerox and printing
- Pickle manufacturing industry
- Incense stick manufacturing industry
- Paper plate manufacturing industry
- Candle manufacturing

#### **Ancillary Units**

An ancillary small industrial unit is the one who supplies not less than 50% of its production to another industry. The term ancillary industry refers to that industry which supports the main industrial activity in a given region or city. Ancillary industries are referred to as those industries which invest in plant and machinery with a capital not exceeding rupees 1 crore.

Ancillary industries do the work of making parts and components used by heavy engineering industries to shape their final product for ultimate consumption. In this way the heavy industries get freed from the pressure of making every part and component and in this way the capital is also saved by them so that they can make investment somewhere else.

**Some characteristics of ancillary industries are as follows:**

- They supply a minimum 50 % of their production to heavy industries also known as parent industries. The maximum capital they can invest is Rs. 1 Crore.
- The various segments which use ancillary units are for ex: - textile machinery, agriculture machinery, railways, automobile industry, shipbuilding industry, aircraft industry etc.

**The advantages that heavy industries have due to ancillary industries are as follows:**

- > Innovation: Due to the existence of ancillary units the heavy industries save much time for doing innovation in their products rather than simply making smaller units.
- > Specialization: When parts or components are made by ancillary units, they are specialized in that product but if this part is to be made in the parent company it will be only its sideline operation.
- > No storage needed: The storage problem is solved as it is in the hands of heavy industries to order

only when they require,  
 > Suppliers can be changed easily: Heavy industries can easily change the suppliers (ancillary industries or units) of components or small parts if quality of product decreases which is not easy in case they are made on their own. Also, if there is a need to change their requirement, they can easily change their suppliers.  
 > Capital diversification: Heavy industries can use capital saved from while taking off small parts from ancillary industries to research work in their product and thus make more profit as that product will not be available in scarcity as compared to smaller units.

### Ancillary Unit:

1. It is that type in which its supplies its 50 % production to the parent unit;
2. Its investment limit is almost one crore.
3. There is assistance required from parents by providing technical and financial support.
4. It can do its business by itself.
5. It is of small scale.

### Tiny Units

1. It is that type in which machinery and investment of plant is not more than 25 lac.
2. Its investment limit is almost 25 lac.
3. There is no assistance required.
4. It cannot do its business by itself.
5. It is of large scale.

### Difference between Ancillary Units and Tiny Units

Basis of difference	Ancillary industrial units	Tiny units
<b>Definition</b>	Industrial units that have to supply a minimum of 50% of their production to their parent industries are termed ancillary industrial units.	Industries that have a maximum investment of Rs. 25 lakh in their plant and machinery are regarded as tiny industrial units.
<b>Investment limit</b>	The maximum level of investment is Rs. 1 crore.	The maximum level of investment is Rs. 25 lakh.
<b>Obligation</b>	Such units have to supply at least 50% of their production to their parent industries.	No such obligations.
<b>Examples</b>	Industries engaged in the production of machine parts, tools and other intermediate products.	Business units such as small shops, boutiques, STD (subscriber trunk dialling) booths and photocopy centres.

### Service sector Units

The service sector is the sector of the economy that produces and offers services. According to the tri-sector macroeconomic theory, there are three major economic sectors – primary, secondary, and tertiary.

#### 1. Primary Sector

The primary sector is composed of industries engaged in the business of gathering raw materials. It includes mining companies, lumber companies, and oil drilling companies – along with the agricultural and fishing industries.

## 2. Secondary Sector

The secondary sector includes all businesses involved in producing and selling goods – such as auto manufacturers, furniture stores, and clothing retailers.

## 3. Tertiary Sector

The tertiary sector is the service sector. It includes industries such as the financial services industry, internet technology (IT), and the healthcare and entertainment industries.

The service sector or tertiary sector refers to one of the portions forming the three-sector model of the economic sector. The businesses in the service industry produce intangible goods in the form of service as output delivering to other businesses or consumers.

- The service sector refers to the industry producing intangible goods, the services as output. In many countries, it is the largest and fastest-growing sector.
- It can be categorized into consumer, business, and public services.
- Examples include hospitality, education, information technology, media, and entertainment.
- The tertiary sector dominates the Indian economy. Liberalization and a series of economic changes in the 1990s fuelled the rise of the service industry, transforming an agriculture-dependent economy into one dominated by the service industry.

### Types of service sector

There are different types of tertiary sectors and classifications. Moreover, their proportion varies with countries. One of the classifications is organizing them into consumer, business, and public services.

- **Consumer Services:** Target market will be the individual consumers. Examples include hospitality and retail.
- **Business Services:** Target market will be the organizations or other businesses. Examples include information technology and marketing services.
- **Public Services:** Deliver services to the general public. Examples include healthcare and education.

### Examples of Service Sector Industries



Healthcare



Media and Entertainment



Education



Information Technology



### Top 10 service sector companies in India:

1	Reliance Industries
2	HDFC Bank

3	ICICI Bank
4	HDFC
5	Tata Consultancy Services
6	Larsen & Toubro
7	State Bank of India
8	NTPC
9	Kotak Mahindra Bank
10	Axis Bank

## Time schedule Plan

A **schedule plan**, also called a **schedule management plan**, is an essential component of project management. Project managers create schedule plans to determine the start and end dates of a project, the milestones along the way, and a timeline for completing individual tasks.

Schedule planning can benefit a project in several ways:

- Keep team members abreast of deadlines and responsibilities.
- Stay mindful of time-related costs.
- Monitor how resources are allocated.
- Develop a solid **project plan** that guides the entire team through initiating, executing, and concluding a project.

### How to create a schedule plan

Follow the steps below to start building your schedule plan:

#### 1. Define the project's activities and their duration.

In project management, an activity refers to a single stage in the process of bringing a project to completion. Each activity has its own start and end date. Altogether, a project's activities lead to the final deliverable.

Work with your project team and, if possible, subject-matter experts to create a list of all the activities required to complete the project. Account for the individual tasks for each activity and the time required to complete them. Then, you'll need to order the activities in the most logical sequence so that the process can be tracked and managed.

#### 2. Determine the project's resources.

For this step, refer to your sequence of activities to determine what resources you'll need to carry out those activities. Resources might include people, equipment and supplies, funding, information, or facilities. Take into account when resources will become available, and adjust the sequence of activities accordingly.

#### 3. Select a scheduling methodology.

In project management, there are different approaches to scheduling a project. You'll want to select the methodology that makes the most sense for your project by considering all factors that may affect the project timeline.

- **The Critical Path Method** is sequential and linear. Each task must be completed before beginning the task that follows. Industries that use the Critical Path Method include construction, aerospace and defense, and product development.

- **Agile** is an iterative method by which projects are divided into shorter-term development cycles, allowing team members to assess progress at the end of each cycle and make adjustments for the cycle that follows. Industries that use Agile include marketing and advertising, banking and finance, and health care.
- **The Program Evaluation and Review Technique (PERT)** involves identifying the time it takes to complete each task or activity, so that project managers can better estimate the project's completion date. PERT works well for research and development projects, as well as projects that don't involve repetitive activities.

#### **4. Select a software.**

Project scheduling software can help teams complete projects in a timely fashion by:

- Providing a central source of reference
- Displaying a visual representation of the overall workflow, task deadlines, how the project is progressing, etc.
- Organising information about the project
- Automating tasks like sending notifications to individual team members and generating data reports

Collaborate with your team to select the best scheduling software for your project.

#### **5. Establish the schedule baseline.**

A schedule baseline is the schedule that project stakeholders approve once all tasks, timelines, and resources have been accounted for. Having a schedule baseline provides the team with a tool for gauging whether the project stays on schedule.

When a task or activity takes longer than is expected, project managers and teams can refer to the schedule baseline to determine how best to get a project back on track.

#### **6. Establish performance measures.**

Just as you use the schedule baseline to measure whether a project is progressing on time, you'll need to establish other areas of project performance that you want to measure along the way. These can include:

- Whether the team is reaching the established project milestones
- The quality of the work that team members are completing at each phase of the project
- Team morale and the attitudes they have toward the project
- Resource management

Decide how and when you will measure performance, such as holding meetings with team members and stakeholders to discuss the project or collecting their feedback through a questionnaire.

#### **7. Create contingency plans.**

With most projects, some delays and challenges can impede progress. For example, resources crucial to a particular activity may become unavailable, thus resulting in a delay or even an added cost.

Your schedule plan should document potential risks as well as contingency plans, or Plan B, for how the team will handle instances when potential risks become a reality.

#### **8. Identify schedule change control procedures.**

In this section of your schedule plan, you will document instances when specific schedule elements can be changed and by whom. You should also include details about the impact of specific schedule changes on the project, including the time to completion, the need for additional resources, or changes to actual tasks and activities. The procedure itself might include several steps, such as:

- Completing a change request
- Assessing the work involved in implementing the change
- Choosing a course of action: denying, accepting, or modifying the change request

## **9. Establish the format and frequency of progress reporting.**

In this section, you will document how team members should submit updates on the project. Include details such as:

- Who will submit progress reports
- How often they should submit reports
- Required information for the reports
- The format for these reports (visual representations or written descriptions)
- Where the reports are submitted

### **Agencies to be contacted for Project Implementation**

In order to be eligible to apply for project, an entity should be:-

- I. registered under Indian Trust Acts or any State Society Registration Act or any State Cooperative Societies or Multi-State CO-operative Acts of the Companies Act 2013 or the Limited Liability partnership Act, 2008.
- II. Government or a semi-Government organization at the State and National Level.

**Project Implementing Agency** means the responsible agency designated to implement, monitor, and evaluate each city demonstration project under Part 2 of the Project and the term "Project Implementing Agencies" shall refer collectively to every Project Implementing Agency.

All the payments under the contract for the package for which this invitation for Bids is issued shall be made by the Employer (who is also named as **Project Implementing Agency (PIA)** by Ministry of Power/Gol) named in Bidding Documents.

Project Implementing Agency (PIA) shall formulate a detailed comprehensive Quality Assurance (QA) plan for the works to be carried out under IPDS scheme with an objective to create quality infrastructure works.

(PIA) shall formulate a detailed comprehensive Quality Assurance (QA) plan for the works to be carried out under DDUGJY scheme with an objective to create quality infrastructure works. It is the responsibility of Watershed Committee to form SHGs in their respective villages under the guidance of Watershed Development Team and Project Implementing Agency.

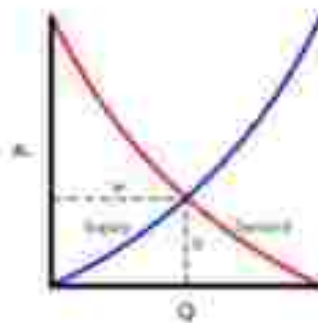
Project Implementing Agency (PIA): Society for Elimination of Rural Poverty, Department of Rural Development, Government of Telangana 2.

### **Assessment of Demand and supply and Potential areas of Growth**

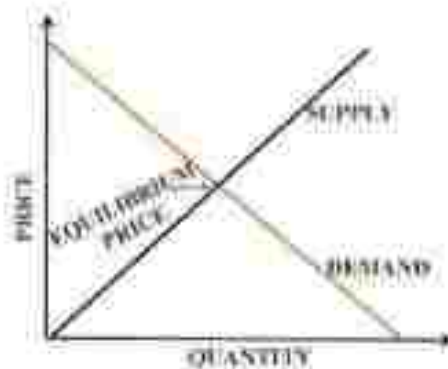
- Demand and supply analysis is the study of price changes with respect to the number of buyers and sellers for a particular product.
- In a state of market equilibrium, the demand curve and the supply curve intersect. At this point, the demand and supply for a commodity are equal.
- The fair price of farm yield is also based on demand-supply. In a perfectly competitive market, farmers are price takers and demand-supply is the price maker. Therefore, governments set a minimum price to protect farmers.



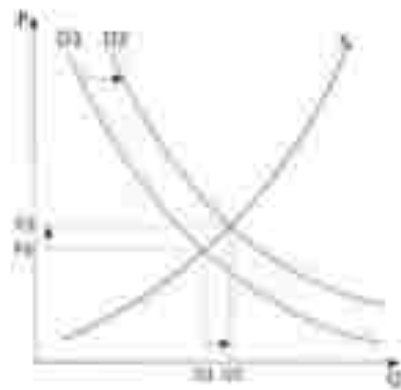
- Supply and demand is an economic model which states that the price at which a good is sold is determined by the good's supply, and its demand. When the supply of a good is equal to its demand (known as economic equilibrium), it reaches a stable price which buyers and sellers can agree on.
- If the supply of a good is higher than its demand, then the price will drop (various sellers will have to compete with each other by offering lower prices, which will in turn create more demand), until eventually the supply and demand equalize. When the supply for a good is greater than the demand, it is referred to as a surplus.
- If the demand for a good is greater than its supply, then the opposite will occur. Suppliers will increase their prices to earn more profit with the products they already have, until eventually the supply and demand reach equilibrium at some peak price. When the demand for a good is greater than the supply, it is referred to as a shortage.
- The law of demand states that (with a few exceptions) as price rises, the quantity demanded of any good or service would be lower.
- The law of supply implies that higher the price received by a supplier, the quantity supplied will rise. Thus, demand is often a downward sloping curve in the price-quantity plane, while supply is an upward sloping curve.



- **What is the Equilibrium Price?**
- The intersection of the supply and demand curve denotes the market equilibrium, which in turn determines the equilibrium levels of price and quantity of the particular good (or service) in the economy.
- If the present demand for a good (or service) in the economy is higher than the equilibrium quantity, the situation is described as that of an excess demand. Excess supply is also defined in a similar fashion.



- **What Causes Shifts in Supply or Demand?**
- Changes in Supply and demand (and thus the equilibrium price and quantity) of any good or service could be governed by a lot of factors, such as: changes in policies, unpredictable shocks to the economy, business cycle fluctuations like a recession or a boom, or even simply over time (long run versus short run). It also depends on the nature of the market (whether the market is perfectly competitive or monopolistic etc.).
- The analysis of all the above could be termed as the study of the supply and demand, or simply, 'Demand Supply Analysis'.



### Identifying Business Opportunity

To be successful entrepreneurs, we need to be continually innovating and looking for opportunities to grow our startups. An entrepreneur takes the initiative to start the business activities, by exploring and analyzing or identification of business opportunities. He also bears the related risks. The real entrepreneur is not risk centered, rather he is opportunity centered. The entrepreneurs explore economic and business opportunities and remain ready to take advantage of those opportunities.

Following are the objectives of the identification of business opportunities:

1. Identification of opportunities by an entrepreneur, in the context of probable industries and to decide his own role, the scope of work, and relationships, in accordance with the opportunities.
2. To keep watch over the possible market of the commodity or service to be produced.
3. To decide a high-level group of managers, so that entrepreneurial ventures may be started.
4. To make an assessment of financial resources by making financial forecasts, in the context of the process of industrial development.
5. To explore the opportunities for possible entry in other areas.
6. To assess the requirements of labor, capital, and materials for the industries.
7. To find out the possibilities of short term and long term development in various areas of the economy.
8. To have the desire for technical knowledge, awareness towards new opportunities, and acceptance of the changes.
9. To see the possibilities of diverting the available resources towards achieving the **business objectives**.
10. To identify those industries, which are not based on local sources, but which may be economically considered, in view of future requirements.

Spotting market opportunities is essential for business growth and survival. Opportunities are factors that contribute to your growing success. These are typically external and include things like:

- economic trends

- market trends
- shifting or expanding customer base
- changes in government or industry regulations
- changes in partnerships or relationships with suppliers, competitors, etc
- new or changing funding prospects (eg increase in grant funding)

One of the best ways of identifying new business opportunities is to complete a SWOT analysis.

**SWOT analysis to identify business opportunities**

A SWOT analysis is one of the most popular strategic analysis tools. It focuses on four key factors affecting your business:

- strengths
- weaknesses
- opportunities
- threats facing your business

A SWOT analysis typically provides you with valuable information about your business. It can help you to identify new opportunities and prospects that you can potentially exploit.

For example, if SWOT analysis shows that your opportunities lie in changing market trends, you may want to respond by introducing new products, altering prices of existing goods, adapting your advertising or adding value to the customer experience.

**Other ways to detect new business opportunities**

Other than using SWOT analysis, to detect new business prospects you can also:

- Segment your customers - divide your customer base into smaller groups that share common characteristics, such as age, gender, location, or lifestyle, attitude or purchasing habits. This allows you to analyse the demand for your products or services and target each segment with specific marketing, promotions and offers, ultimately helping you to seize new business opportunities.
- Analyse your purchase situation - look at distribution channels, payment methods and other factors around purchasing to understand how your customers buy your products or services. Then look at how you can improve them or offer alternatives to bring new customers to your business.
- Analyse your competition - research existing businesses in the market to understand their value proposition and their competitive advantage. Establish your unique selling point to set yourself apart from your competitors. Identify what draws your customers in and promote this.
- Look at other markets - exporting into other countries may open up new opportunities. Consider carefully what the market is like. To increase the likelihood of success, research the competitors, local habits and the likely demand for your products or services.

Consider exploiting other types of business opportunities too. For example, you can:

- franchise your business
- buy an existing business
- find a distributor to increase your market share
- explore licensing, supply chain deals, etc.

### **Final Product selection**

Goods and services are necessary for satisfying the needs of society. Such goods/services or goods along with services or simply an idea can be called as a product. In simple terms, product is anything

that is offered for sale into the marketplace. This makes product an important constituent of marketing and an important consideration in managerial decision-making.

There are various sources for collecting the vast array of information regarding product selection. These sources include government publications, development agencies, management and technical journals, public sector units like IIT, HAL, BHEL, etc, and various research laboratories. In many cases, entrepreneurs may hire specialized institutions or individuals to carry out the process of product selection on their behalf. Similarly, the task of market survey may be conducted by the entrepreneur himself or by hiring experts or consultants.

### **Criteria to Select a Product**

An entrepreneur makes use of several criteria before selecting a product. These are as follows :

#### **1) Technical Know-how :**

Technical know-how is an important guiding factor for an entrepreneur while selecting a product. An entrepreneur can easily decide what product should be manufactured if he belongs to the product-related field. Similarly, knowledge in manufacturing or marketing field enables the entrepreneur in selection of an appropriate product.

#### **2) Availability of Market :**

The availability of a large market for a particular product also helps in its selection. If the demand for a product is huge, then the market risk of launching it becomes less. Thus, it is very essential that the entrepreneur have a good knowledge about the product's market in terms of how and where the product can be sold.

#### **3) Financial Strength :**

Relative financial of the entrepreneur also serves as guiding force in selection of a product. Manufacturing a product generally requires heavy investment in research and development, capacity creation, plant and machinery, etc., which is generally beyond the expenditure capacity of a small-sized firm. Thus, it is advisable for an entrepreneur to analyse its financial strength prior to product selection.

#### **4) Competitive Rivalry :**

The returns from a product are greatly influenced by the degree of competition prevailing in the market. Factors like market dominance by the competitors, availability of substitutes, any barrier to entry, etc., play significant role in determining the viability of the product.

#### **5) Product Category :**

In many cases, certain products fall in the priority sector category while some others may be reserved for small scale sectors. The level and extent of competition for these product categories among small sectors is lesser than that seen in other sectors of the economy. There are also certain products which the Government has earmarked as exclusively to be purchased from the small scale sector. In the case of such products, the entrepreneur will definitely give a greater importance to a product which falls in this category.

#### **6) Consistency in Demand :**

When there are not many fluctuations in the demand of a product then the market for such products can be considered to be stable. Seasonal products are contrary in the sense that their demand fluctuates a lot. The seasonality of a product also plays a large part in its selection or non-selection as this is directly linked to the stability in the demand for the same. The entrepreneur should definitely prefer a product which has a consistent and stable demand.

#### **7) Restriction on Imports :**

The foreign trade policy of the government may restrict the import of some products. In such cases, these products gain attraction from general public and consequently an entrepreneur should prefer those products that are part of such restricted category.

**8) Availability of Raw Materials :**

Availability of raw material is a very important factor for selecting a particular product. An entrepreneur should ensure that supplies required for smooth conduct of business operations are mostly available in desired quantity around the year. Moreover, the source of procurement of raw material is also important. Where supplies are to be procured from external sources, the entrepreneur will have to maintain a sufficient quantity of inventory compared to local sources.

**9) Government Incentives and Subsidies :**

Government often provide a number of subsidies and incentives for the promotion of certain businesses. These incentives and subsidies are generally in the form of tax holidays, exemptions from customs, concessions, etc. An entrepreneur must consider the availability of such governmental schemes as they greatly support an entrepreneur in setting up a new business.

**10) Ancillary Products :**

When the product is in the nature of an ancillary product (a product required for manufacturing another product), then it increases the attraction for the entrepreneur. This is because the product will have a ready market in the parent industry. For example, an ancillary unit of Maruti.

**11) Location of Business :**

Business location is also important for selecting a particular product as certain products are earmarked for production in special zones like free trade zones, export promotion zones, etc. Government also provides incentives and tax breaks for such products. Moreover, the location of big consumer markets near the production centers also increases the attractiveness of certain products. Such products will also be selected by the entrepreneur because of the locational advantage.

**12) Licensing System :**

There are overtime changes in the governmental licensing policies. For some products, it is mandatory for the entrepreneur to have the required license issued by the concerned authority. Under particular conditions, capital addition is also monitored. Moreover, the process of obtaining license is burdensome for certain products. Thus, products which require a lot of licensing approvals will not be very attractive to entrepreneurs.

**13) Government Policy :**

The selection of product also has to be done keeping in mind the government policies and their likely impact. The entrepreneur should choose a product which falls in a sector with favorable Governmental policies. For example, products which are not socially beneficial like tobacco and alcohol do not receive government support.

## UNIT-3 PROJECT REPORT PREPARATION

- Preliminary project report
- Detailed project report, Techno economic Feasibility
- Project Viability

In consideration to specific requirements, a project report must entail relevant information in several formats and present it in an easy to understand and properly structured manner. Prepared in the form of pertinent ranking or reports, of economic trend predictions, project report is the most significant tool for decision-making.

### **Standard Project Report Format**

The measurement of a standard project report should be in A4 size. It should be bounded by elastic cover preferably of white color art paper and should be prepared according to the below mentioned format of a project report:

#### **1. Title Page**

- The title page and cover page must display the topic of the project report.

#### **2. Authentic Certificate**

- The authentic certificate must possess the controller's signature, followed by his name and designation along with full address, institution's name and his department's name.

#### **3. Summary**

- The abstract must be a one page short summary of the project report. It should provide an insight of the comprehensive report.

#### **4. Content Tables**

- The content table should catalog all the topics which are included in the project report. Among the content items, the authentic certificate and title page should not be included.

#### **5. Catalog of symbols, acronyms and categorizations**

- The catalog should include all the standard symbols, acronyms and categorizations used in the project report.

#### **6. Chapters:**

This can be classified in three broad categories namely preliminary chapter, chapters introducing the focal theme of the project report and conclusion. The chief content is again classified various lessons with each lesson being further classified into various segments and sub-segments.

Make sure that every lesson is given suitable heading. The placing of facts and figures and other statistics in each chapter should be at the instant vicinity of the suggestion where they are quoted. The annotations should be placed carefully. They should be positioned below the text that they refer to.

#### **7. Appendices**

- Appendices are included in a project report to provide additional information which is incorporated in the primary content and serve as a diversion and cloud the fundamental topic. They should be figured using Arabic numerals such as Appendix 2, Appendix 15, Appendix 21, etc. Tables and suggestions featuring in Appendices should be figured and submitted at suitable positions.

## **B. References Catalog**

- The References Catalog should be placed below a broad "References" title. The suggestion text should be organized in the alphabetical sequence of the primary writer. The writer's name should be followed by the year of edition and other relevant details.

### **Formulation of project Report**

A project report is an operating document. So that what information and how much information it contains depends upon the size of the enterprise, as well as nature of production.

Project formulation divides the process of project development into eight distinct and sequential stages as below:

- General Information
- Project description
- Market potential
- Capital costs and sources of finance
- Assessment of working capital requirements
- Other financial aspects
- Economical and social variables
- Project implementation

The nature of information to be collected and furnished under each 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, qualifications, experience and other capabilities of the entrepreneur. Similar information of each partner if any.

**Industry profile :** A reference analysis of industry to which the project belongs, e.g., past experience; present status, its organization, its problem etc.

**Constitution and organization :** The constitution and organization structure of the enterprises; in case of partnership form its registration with registration of firms, certificate from the directorate of industries.

**Product Details :** Product utility, product range, product design, advantage to be offered by the product over its substitutes if any.

#### **2. Project description**

A brief description of the project covering the following aspects should be made in the project report.

**Site :** Location of the unit; owned, rented or leasehold land; industrial area; no objection certificate from municipal authorities if the enterprise location falls in the residential area.

**Raw Material :** Requirement of raw material, whether inland or imported, sources of raw material supply.

**Skilled Labour :** Availability of skilled labour in the area i.e., arrangements for training laborers in various skills.

**Utilities :** These include -

- Power
- Fuel
- Water
- Pollution Control
- Communication and transportation facility
- Production Process

- Machinery and Equipment
- Capacity of the Plant
- Technology Selected
- Other Common Facilities
- Research and Development

### 3. Market Potential

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

- Demand and Supply position
- Expected Price
- Marketing Strategy
- After Sales Service

Depending upon the nature of the product, provisions made for after-sales should normally 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 of working capital should be given in the project report.

### 5. Assessment of working capital requirements

The requirement for working capital and its sources of supply should clearly be mentioned. It is preferred to prepare working capital requirements in the prescribed formats designed by limits of requirements.

It will reduce the objections from Banker's side.

### 6. Other financial aspects

To adjudge the profitability of the project to be set up, a projected profit and loss amount 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.

Breakdown level indicates the gestation period and the likely moratorium required for repayment of the loans. Break-Even point is calculated as

$$\text{Break-Even point (BEP)} = F/S - V$$

Where:

F = Fixed Cost

S = Selling Price/Unit

V = Variable Cost/Unit

The break-even point indicates at what even of output the enterprise will break even.

### 7. Economical and social variables

Every enterprise has social responsibility. 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. In addition the following socio-economic benefits should also be stated in the report.

- Employment Generation



- Import Substitution
- Ancillaration
- Exports
- Local Resource Utilization
- Development of the Area

### **B. Project implementation**

Every entrepreneur should draw an implementation scheme or a time-table for his project to the timely completion of all activities involved in setting up an enterprise. If there is delay in implementation project cost overrun.

### **Techno-Economic Feasibility Study**

Techno-Economic Feasibility Study or "TEFS" means a comprehensive study including the results of resources/reserves estimation and in case of viability, proposed geo-technical, geo- hydrological, mining, and processing/metallurgical methods and financial analysis taking into account technical, engineering, legal, operating, environmental and economic factors as well as

Objective of Techno-Economic Feasibility Studies/ Detailed Project Reports is to determine the technical feasibility and financial viability of the project, assess the risks associated with the project and enumerate imminent actions that are required to be taken. It helps a client get a detailed evaluation of a project.

### **Coverage:**

Techno-Economic Feasibility Studies/ Detailed Project Reports cover the following based on the clients requirement:

- **Markets:** It covers estimated future sales revenue of the project based on estimated sales volumes and price.
- **Raw Materials & Fuel:** It estimates the adequacy of the quality and quantity of the raw materials and fuel for the project, make an estimate of its cost.
- **Plant Siting, Location & Infrastructure:** It assesses the existing infrastructure and actions required to develop the infrastructure necessary to set up the project.
- **Project Technical Concept:** This is core deliverable of the project and covers plant capacity, equipment sizing, storages, plant auxiliaries, system engineering, electrical engineering, civil engineering, Control & Automation engineering, Quality Control & Assurance, Captive Power Plant and Waste Heat recovery system (WHR) based on the project requirement.
- **Logistics:** Inbound and outbound logistics and logistics planning.
- **Environment:** Applicable Regulatory Framework and Environmental Impact of Project.
- **Implementation Planning.**
- **Human Resources:** Requirement and cost.
- **Investment Cost:** Fund requirement.
- **Operating Cost:** It covers cost of raw material, utilities, overheads, etc.
- **Financial Appraisal:** It covers project profitability, IRR, NPV, payback, etc.
- **Risks & Mitigation.**

### **Methodology:**

Broad methodology of execution involves:

- Data collection
- Data analysis
- Report and Project formulation

### **Benefits:**

It helps a client make an investment decision based on:

- Technical feasibility of the project.
- Financial viability of the project.
- The risks associated with the project.
- Actions required for risk mitigation.

#### UNIT-4 MANAGEMENT PRINCIPLES

- Definitions of management
- Principles of management
- Functions of management (planning, organising, staffing, directing and controlling etc.)
- Level of Management in an Organisation.

#### Definitions of management

According to Follet management is 'the art of getting things done through people'. Management is a distinct process consisting of activities such as planning, organizing, leading and controlling to achieve the desired results. The goals of the enterprise are fulfilled through the use of resources like men, money, materials and machines. Managerial Skills are required to exploit these resources and earn profit, face competition and ensure long survival and growth of an enterprise. Throughout the management function, these objectives must be kept in mind .

The first weakness is that the definition states that management is an art. Art deals with application of knowledge. But management is not merely application of knowledge. It also involves acquisition of knowledge i.e., Science. Managing using intuition or thumb rule is not correct management. The second weakness of this definition is that it does not explain the various functions of management.

George H Terry who defines management as "a process consisting of planning, organizing, actuating and controlling performed to determine and accomplish the objectives by the use of people and resources". According to him, management is a process-a systematic way of doing thing using four managerial functions namely planning, organizing, actuating and controlling. 'Planning' means thinking of the manager's action in advance. The actions of the managers are based on logic, plan or some method rather than hunch. 'Organizing' means coordinating machines, materials and human resources of the organization. 'Actuating' means motivating, directing the subordinates. 'Controlling' means that manager must ensure that there is no deviations from plans.

#### 1.1 CHARACTERISTICS OF MANAGEMENT

The critical analysis of the above definitions, the following characteristics of management evolve.

(1) **Management is a continuous process:** The process of management consists of planning, organizing, directing and controlling the resources to ensure that resources are used to the best advantages of the organization. A single function alone cannot produce the desired results. Management involves continuous planning, organizing, directing and controlling.

(2) **Management is an art as well as science:** Management is an art in the sense of possessing managing skill by a person. Management is science because certain principles, laws are developed which are applicable in place where group activities are coordinated. This will be discussed in detail later in this chapter.

(3) **Management aims at achieving predetermined objectives:** All organizations have objectives that are laid down. Every managerial activity results in achievement of these

predetermined objectives.

(4) **Management is a factor of production:** An enterprise produce goods or services using resources like land, labour, capital, machines etc. These resources themselves cannot realize the organizations goals. The goals are achieved when these are effectively coordinated by the entrepreneur. In case of small enterprises an individual can do such type of job where as in large enterprises the coordination job is done by management. Therefore, management is a factor of production.

(5) **Management is decision-making:** Decision-making is selecting the best among alternative courses. Decision-making is an important function of a manager. Whatever a manager does, he does it by making decisions. The success or failure of an organization depends upon the quality of decision. A manager must make a right decision at right time.

(6) **Universal application:** The principles and concepts of management are applicable to every type of industry. The practice of management is different from one organization to another according to their nature.

(7) **Management is needed at all levels:** The functions of management are common to all levels of organization. The functions of planning, organizing, directing, controlling, decision-making are performed by top level as well as lower level supervisors.

(8) **Management aims at maximum profit:** The resources are properly utilized to maximize profit. Maximizing the profit is the economic function of a manager.

(9) **Dynamic:** Management is not static. Over a period of time new principles, concepts and techniques are developed and adopted by management. Management is changed accordingly to the social change.

**Management as a career:** Today management is developed as a career focused on specialization. Marketing management, finance management, personal management, industrial management, production management, quality management are some of the specializations in management. Specialists are appointed at various positions of the organizational hierarchy. Hence management is career.

(1) **Management is a profession:** Management is a profession because it possesses the qualities of a profession. The knowledge is imparted and transferred. The established principles of management are applied in practice. This is discussed in detail later in this chapter.

(2) **Management is a discipline:** Discipline refers to the field of study having well defined concepts and principles. Classifying management as disciplines implies that it is an accumulated body of knowledge that can be learnt. Thus, management is a subject with principles and concepts. The purpose of studying management is to learn how to apply these principles and concepts at right circumstances, at the right time to produce desired result.

**Meaning of Principles of Management:** - Principles of management is what a manager does within the organization. All the activities whether related to decision making or implementation of such decisions are performed by the managers with the purpose of achieving common goals. Principles of Management is designed to meet the scope and sequence requirements of the introductory course on management.

#### **What are 14 Principles of Management by Henri Fayol?**

1. **Division of Work:** - Dividing the full work of the organization among individuals and creating departments is called the division of work. Division of work leads to specialization, and specialization helps to increase efficiency and productivity which results in improvements in the productivity and profitability of the organization.
2. **Balancing Authority and Responsibility:** - Authority must be equal to Responsibility. According to Henri Fayol, there should be a balance between Authority (Power) and Responsibility (Duties). The right to give orders should not be considered without reference to responsibility. If the authority is more than responsibility then chances are that a manager may misuse it. If responsibility is more than authority then he may feel frustrated.

3. **Discipline:** – Discipline means respect for the rules and regulations of the organization. Discipline may be Self-discipline, or it may be Enforced discipline. No shacking or bending of rules is allowed in any organization. The works must respect the rules that run the organization. To establish discipline, good supervision and impartial judgment are needed.
4. **Unity of Command:** – According to this principle, a subordinate (employee) must have and receive orders from only one superior (boss or manager). To put it another way, a subordinate must report to only one superior. It helps in preventing dual subordination. This decreases the possibilities of "Dual subordination" which creates a problem is a function of managers.
5. **Unity of Direction:** – Unity of direction means activities aimed at the same objective should be organized so that there are one plan and one person in charge. All activities which have the same objective must be directed by one manager, and he must use one plan. This is called the Unity of Direction. For example, all marketing activities such as advertising, sales promotion, pricing policy, etc., must be directed by only one manager.
6. **Subordination of Individual Interests to the General Interest:** – The interest of one individual or one group should not prevail over the general good. The individual interest should be given less importance, while the general interest should be given the most importance. If not, the organization will collapse. The interest of the organizational goal should not be sabotaged by the interest of an individual or on the group.
7. **Remuneration:** – Remuneration is the price for services received. Pay should be fair to both the employee and the firm. If an organization wants efficient employees and best performance, then it should have a good remuneration policy. This policy should give maximum satisfaction to both employers and employees. It should include both financial and non-financial incentives. Remuneration should be based on a systematic attempt to reward good performance.
  - (3) **Centralization:** – In any company, the management or any authority responsible for the decision-making process should be neutral. However, this depends on the size of
    8. an organization, Henri Fayol stressed on the point that there should be a balance between the hierarchy and division of power.
    9. **Scalar Chain:** – The chain of command, sometimes called the scalar chain, is the formal line of authority, communication, and responsibility within an organization. The chain of command is usually depicted on an organizational chart, which identifies the superior and subordinate relationships in the organizational structure. Or it is the line of authority from top to bottom of the organization. This chain implements the unity-of-command principle and allows the orderly flow of information. Under the unity of command principle, the instructions flow downward along the chain of command and accountability flows upward.
10. **Order:** – A company should maintain a well-defined work order to have a favourable work culture. The positive atmosphere in the workplace will boost more positive productivity. There must be an orderly placement of the resources such as Men and Women, Money, Materials, etc. Human and material resources must be in the right place at the right time. Misplacement will lead to misuse and disorder.
11. **Equity:** – All employees should be treated equally and respectfully. It's the responsibility of a manager that no employees face discrimination. It creates loyalty and devotion in the employees toward the organization. The equity principle suggests that the managers must be kind as well as equally fair to the subordinates.
12. **Stability of Tenure of Personnel:** – An employee delivers the best if they feel secure in their job. It is the duty of the management to offer job security to their employees. The employees should have job security because instability leads to inefficiency. Successful firms usually had a stable group of employees.
13. **Initiative:** – The management should support and encourage the employees to take initiatives in an organization. It will help them to increase their interest and make them worth. Management should encourage initiative. That is, they should encourage the employees to make their own plans and to execute these plans. This is because an initiative gives satisfaction to the employees and brings success to the organization.
14. **Esprit De Corps:** – Esprit de Corps means "Team Spirit". Therefore, the management should create unity, co-operation, and team-spirit among the employees. They should avoid dividing and rule policy. Harmony, cohesion among personnel. It's a great source of strength in the organization. It is a

quality in every successful business. It is the responsibility of the management to motivate their employees and be supportive of each other regularly. Developing trust and mutual understanding will lead to a positive outcome and work environment.

Foyal presented 14 principles of management as general guides to the management process and management practice. His principles of management are as follows:

15. **Division of work:** This is the principle of specialization which is so well expressed by economists as being necessary to efficiency in the utilization of labour. Fayol goes beyond shop labour to apply the principle to all kinds of work, managerial as well as technical.
16. **Authority and responsibility:** In this principle, Fayol finds authority and responsibility to be related with the letter, the corollary of the former and arising from the latter. He conceives of authority as a combination of official authority deriving from a manager's official position and personal authority, "Compounded of intelligence, experience, moral worth, past services etc".
17. **Discipline:** Holding that discipline is "respect for agreements which are directed at achieving obedience, application, energy and the outward marks of respect". Fayol declares that discipline requires good superiors at all levels, clear and fair agreement, and judicious application of penalties.
18. **Unity of command:** This is the principle that an employee should receive orders from one superior only.
19. **Unity of direction:** According to Fayol, unity of direction is the principle that each group of activities having the same objective must have one head and one plan. As distinguished from the principle of unity of command, Fayol perceives unity of direction as related to the functioning of personnel.
20. **Subordination of individual interest to general interest:** In any group the interest of the group should supersede that of the individual; when these are found to differ, it is the function of management to reconcile them.
21. **Remuneration of personnel:** Fayol perceives that remuneration and methods of payment should be fair and afford the maximum satisfaction to employee and employer.
22. **Centralization:** Although Fayol does not use the term 'Centralization of Authority', his principle definitely refers to the extent to which authority is concentrated or dispersed in an enterprise. Individual circumstances will determine the degree of centralization that will give the best overall yield.
23. **Scalar chain:** Fayol thinks of the scalar chain as a line of authority, a 'Chain of Superiors' from the highest to the lowest ranks and held that, while it is an error of subordinate to depart 'needlessly' from lines of authority, the chain should be short-circuited when scrupulous following of it would be detrimental.
24. **Order:** Breaking this principle into 'Material order' and 'Social Order', Fayol thinks of it as the simple edge of "a place for everything (everyone), and everything (everyone) in its (his) place". This is essentially a principle of organization in the arrangement of things and persons.
25. **Equity:** Fayol perceives this principle as one of eliciting loyalty and devotion from personnel by a combination of kindness and justice in managers dealing with subordinates.
26. **Stability of tenure of personnel:** Finding that such instability is both the cause and effect of bad management, Fayol points out the dangers and costs of unnecessary turnover.
27. **Initiative:** Initiative is conceived as the thinking out and execution of a plan. Since it is one of the "Keenest satisfactions for an intelligent man to experience", Fayol exhorts managers to "Sacrifice Personal Vanity" in order to permit subordinates to exercise it.

### What are Fayol's Five Functions of Management?

1. **Planning:** - Planning means thinking in advance. Planning relates to setting goals, objectives and targets and also describe a mechanism to achieve them at various levels throughout the organization.
2. **Organizing:** - It means the arrangement of resources to do different tasks in the organization. Organizing involves assigning tasks, grouping tasks into departments, delegating authority, and allocating resources across the organization.
3. **Staffing:** - It means the appointment of the right person at the right place or job. Staffing is the process of finding the right worker with appropriate qualifications or experience and recruiting them to fill a job position or role.
4. **Directing:** - It includes the instructions, guidance and motivation given by the manager to their employees and manager adopt their leadership tasks.
5. **Controlling:** - Control is concerned with measuring and minimizing the difference between planned performance and actual performance, and monitoring performance as well as taking corrective actions wherever necessary. Thus management is a complex, integrated and ongoing dynamic process.

What is the importance of management principles?

1. **Optimal Use of Resources:** - The manager eliminates wastage of resources that leads to efficiency in all business functions.
2. **Effective Leadership and Motivation:** - It helps employees to work in harmony and achieve goals in a coordinated manner. It provides effective leadership and motivation for employees to work hard.
3. **Sound Industrial Relations:** - A manager maintains a balance between employees' demands and organizational needs, helping to reduce industrial disputes.
4. **Achievement of Goals:** - It helps in realizing goals with maximum efficiency by minimizing unnecessary deviations, overlapping efforts and waste motions.
5. **Improvement in Living Standards:** - It improves the standard of living of people by ensuring optimum utilization of scarce resources and survival of the firm in a dynamic environment.
6. **Establishing a Sound Organization:** - Managers help to establish a sound organization through effective authority and responsibility relationships.
7. **Reduces Cost:** - A manager uses cost-effective techniques to reduce production costs and increase production.

### **1.2 MANAGEMENT FUNCTIONS OR THE PROCESS OF MANAGEMENT**

A function is a group of similar activities. There is divergence of view on "What functions are undertaken by managers in organizations?" Some management experts classify these functions into four types and others classify into five types and some others classify them as seven items. The Table 1.1 presents the management functions identified by various writers.

	<b>Writers</b>	<b>Management Functions</b>
1	Henry Fayol	Planning, organizing, commanding, coordinating, controlling
2	Luther Gulick	Planning, organizing, staffing, directing, coordinating, reporting and budgeting [POSDCORB]
3	Lyndall Drwick	Planning, organizing, commanding, coordinating, communicating, forecasting, and investigating.
4	E.F.L. Brech	Planning, organizing, motivating, coordinating, controlling
5	Koontz and O'Donnell	Planning, organizing, staffing, directing (leading), controlling.

(1) **Planning:** Planning is the primary function of management. It is looking ahead and preparing for the future. It determines in advance what should be done. It is conscious

determination of future course of action. This involves determining why to take action? What action? How to take action? When to take action? Planning involves determination of specific objectives, programs, setting policies, strategies, rules and procedures and preparing budgets. Planning is a function which is performed by managers at all levels - top, middle and supervisory. Plans made by top management for the organization as a whole may cover periods as long as five to ten years, whereas plans made by low level managers cover much shorter periods. This "Planning" is discussed in detailed in Chapter-2.

(2) **Organizing:** Organizing is the distribution of work in group-wise or section-wise for effective performance. Once the managers have established objectives and developed plans to achieve them, they must design and develop a human organization that will be able to carry out those plans successfully. Such duties in the form of positions, grouping of various positions into departments and sections, assigning duties to individual positions and delegating authority to each position so that the work is carried out as planned.

According to Koontz O'Donnel, "**Organization consists of conscious coordination of people towards a desired goal**". One has to note that different objectives require different kinds of organization to achieve them. For example, an organization for scientific research will have to be very different from one manufacturing automobiles.

(3) **Staffing:** Staffing involves managing various positions of the organizational structure. It involves selecting and placing the right person at the right position. Staffing includes identifying the gap between manpower required and available, identifying the sources from where people will be selected, selecting people, training them, fixing the financial compensation and appraising them periodically. The success of the organization depends upon the successful performance of staffing function.

(4) **Directing:** Planning, organizing and staffing functions are concerned with the preliminary work for the achievement of organizational objectives. The actual performance of the task starts with the function of direction. This function can be called by various names namely "leading", "directing", "motivating", "activating" and so on. Directing involves these sub functions:

- (a) **Communicating:** It is the process of passing information from one person to another.
- (b) **Leading:** It is a process by which a manager guides and influences the work of his subordinates.
- (c) **Motivating:** It is arousing desire in the minds of workers to give their best to the enterprise.

(5) **Controlling:** Planning, organizing, staffing and directing are required to realize organizational objectives. To ensure that the achieved objectives conform to the pre-planned objectives control function is necessary. Control is the process of checking to determine whether or not proper progress is being made towards the objectives and goals and acting if necessary to correct any deviations. Control involves three elements:

- (a) Establishing standards of performance.
- (b) Measuring current performance and comparing it against the established standard.
- (c) Taking action to correct any performance that does not meet those standards.

### 1.3 LEVELS OF MANAGEMENT

People in an organization are arranged in an hierarchy and they all have the relationship of superior-subordinates. Every manager in an organization performs all five management functions. The relative importance of these functions varies along the managerial levels. There may be as many levels in the organization as the number of superiors in a line of command. Some of these levels are merged into one on the basis

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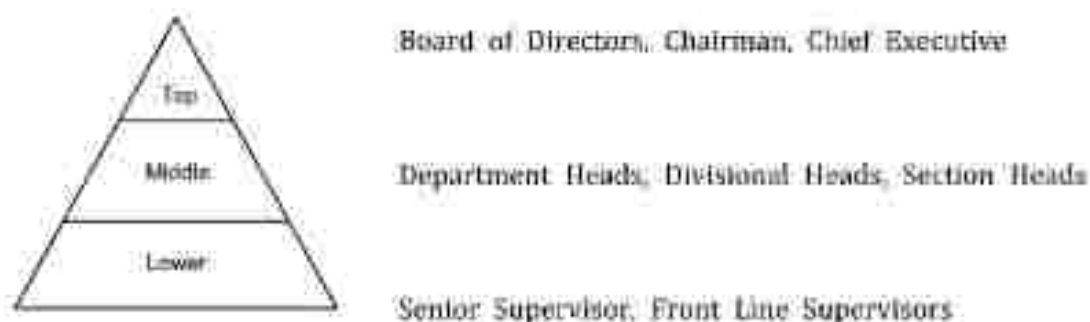
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- (d) Establishing standards of performance.
- (e) Measuring current performance and comparing it against the established standard.
- (f) Taking action to correct any performance that does not meet those standards.

#### 1.4 LEVELS OF MANAGEMENT

People in an organization are arranged in an hierarchy and they all have the relationship of superior-subordinates. Every manager in an organization performs all five management functions. The relative importance of these functions varies along the managerial levels. There may be as many levels in the organization as the number of superiors in a line of command. Some of these levels are merged into one on the basis of nature of functions performed and authority enjoyed. E.F.L. Broch has classified management levels into three categories - Top Management, Middle Management and Supervisory/Lower Level as shown in fig





**Fig. 1.3: Levels of management**

Top management of an organization consists board of directors, chairman and chief executive officer. Top level management determines goals and objectives. It performs overall planning, organizing, staffing, directing and controlling. It integrates organization with environment, balances the interest groups and is responsible for overall results. Middle management stands between top management and supervisory management level. Middle level management establishes programs for department and carries out functions for achieving specific goals. The other functions of middle level management are training and development of employees, integrating various parts of the department. Supervisory management is concerned with efficiency in using resources of the organization. A supervisor is an executor of policies and procedures making a series of decisions with well-defined and specified premises.

## UNIT-5

### FUNCTIONAL AREAS OF MANAGEMENT

#### a) Production management:

- Functions, Activities
- Productivity
- Quality control
- Production Planning and control

#### b) Inventory Management

- Need for Inventory management
- Models/Techniques of Inventory management

#### c) Financial Management

- Functions of Financial management
- Management of Working capital
- Costing (only concept)
- Break even Analysis
- Brief idea about Accounting Terminologies: Book Keeping, Journal entry, Petty Cash book, P&L Accounts, Balance Sheets(only Concepts)

#### d) Marketing Management

- Concept of Marketing and Marketing Management
- Marketing Techniques (only concepts)
- Concept of 4P's (Price, Place, Product, Promotion)

#### e) Human Resource Management

- Functions of Personnel Management
- Manpower Planning, Recruitment, Sources of manpower, Selection process, Method of Testing, Methods of Training & Development, Payment of Wages

### Meaning of Production Management:

Production Management refers to the application of management principles to the production function in a factory. In other words, production management involves application of planning, organizing, directing and controlling the production process.

Production Management is not independent of marketing, financial and personnel management due to which it is very difficult to formulate some single appropriate definition of Production Management.

Production management, or operations management, focuses on achieving a smooth production process with efficient planning and control of business operations.

The function of production management is to find the perfect balance:

- Right quality
- Right quantity
- Right time
- Right cost

**The application of management to the field of production has been the result of at least three developments:**

(i) First is the development of factory system of production. Until the emergence of the concept of manufacturing, there was no such thing as management as we know it. It is true that people operated business of one type or another, but for the most part, these people were owners of business and did not regard themselves as managers as well.

(ii) Essentially stems from the first, namely, the development of the large corporation with many owners and the necessity to hire people to operate the business.

(iii) Stems from the work of many of the pioneers of scientific management who were able to demonstrate the value, from a performance and profit point of view, of some of the techniques they were developing.

**The following definitions try to explain main characteristics of production management:**

(i) In the words of Mr. E.L. Brecht:

"Production Management is the process of effective planning and regulating the operations of that section of an enterprise which is responsible for the actual transformation of materials into finished products." This definition limits the scope of production management to those activities of an enterprise which are associated with the transformation process of inputs into outputs; & the definition does not include the human factors involved in a production process. It lays stress on materialistic features only.

(ii) Production Management deals with decision-making related to production process, so that the resulting goods and services are produced in accordance with the quantitative specifications and demand schedule with minimum cost.

According to this definition design and control of the production system are two main functions of production management.

(iii) Production Management is a set of general principles for production economies, facility design, job design, schedule design, quality control, inventory control, work study and cost and budgetary control. This definition explains the main areas of an enterprise where the principles of production management can be applied. This definition clearly points out that production management is not a set of techniques.

It is evident from above definitions that production planning and its control are the main characteristics of production management. In the case of poor planning and control of production activities the organization may not be able to attain its objectives and may result in loss of customer's confidence and retardation in the progress of the establishment.

**In short, the main activities of production management can be listed as:**

(i) Specification and procurement of input resources namely management, material, and land, labour, equipment and capital.

(ii) Product design and development to determine the production process for transforming the input factors into output of goods and services.

(iii) Supervision and control of transformation process for efficient production of goods and services.

**In modern times production management has to perform a variety of functions, namely:**

(i) Design and development of production process.

(ii) Production planning and control.

(iii) Implementation of the plan and related activities to produce the desired output.

(iv) Administration and co-ordination of the activities of various components and departments responsible for producing the necessary goods and services.

However, the responsibility of determining the output characteristics and the distribution strategy followed by an organization including pricing and selling policies are normally outside the scope of Production Management.

## Functions of production management

Production management attempts to utilize 6M's: Men, Machines, Money, Methods, Materials, and Market in order to better serve consumer needs. Its fundamental goal is to produce products and services in the right quantity, quality, on a schedule, and for optimum money. Production management makes it simple to adopt various technologies and innovative changes in the workplace. Production management is in charge of supervising and controlling all employees involved in the company's production processes in order to ensure that the target output is achieved.

### 1. Selection of product and design

Production management helps the organisation select the right product for production and also choose a relevant design for the product. This becomes imperative for the survival of organisations to possess a good understanding of their consumers in order to create products that fully satisfy needs. Products need to go through a detailed evaluation in order to meet customer needs while also remaining cost-efficient.

### 2. Production planning and control

Choosing the correct production processes for a particular product also becomes important. Decisions must be taken in order to choose the correct type of machines and technology, the capital investment required, and so on. It entails planning prior to production. Decisions like the quantity of production, the flow of processes, and so on are all planned out. Routing is the term used for charting out the sequence of operations for a smooth workflow.

Production control is overseen by the production manager. The actual process is compared and contrasted with the blueprint in place so that all necessary diversions from the original plan can be mapped out and any loopholes in the original plan can be spotted and corrected.

Scheduling is done to set up benchmarks as to when starting and when to complete a particular production activity. Inventory and cost control also need to be taken care of. The allocation of materials, labour, and other processes is called the production schedule.

### 3. Machine maintenance and replacement

Production management takes care of the maintenance and replacement of machines and equipment to ensure the efficient and smooth working of production processes. This is taken care of by the production manager and the team to prevent speed breaks and halts in production.

## Importance of production management

### 1. Efficient use of capital and resources

Production management minimizes the cost of production and enhances the use of resources to the fullest. A concise blueprint enables proper use of resources and time, minimising disparity between production process and output. Evaluation of production processes and maintenance downtime will ensure processes can be managed efficiently optimising workforce efficiency. A well-thought-out production function will result in high-quality products, a faster rate of production, and a lower cost per unit.

## 2. Competitive edge

Production management can be a great tool for organisations facing competition in the market. A smoother flow of processes increases efficiency whilst also allowing the company to provide quality products and services. Production management techniques play a role in the effective innovation of new products and facilitate research in developing new and quality products. It can aid organisations in emerging as market leaders since less time spent for production processes means more resources to spare for other domains that may need more attention.

## 3. Minimizes risk of product failures

Preparing a lucid roadmap and collating information and assumptions helps assess the market and reduce chances of failure. Knowing the requirements and needs of the market will help reduce the chance that a product will flop. Ultimately, product management, like everything else, cannot guarantee success, but it does reduce it.

### Scope of Production Management:

The scope of production management is indeed vast. Commencing with the selection of location, production management covers such activities as acquisition of land, constructing building, procuring and installing machinery, purchasing and storing raw materials and converting them into saleable products. Added to the above are other related topics such as quality management, maintenance management, production planning and control, methods improvement and work simplification and other related areas.

## UNIT-6

### LEADERSHIP AND MOTIVATION

#### a) Leadership

- Definition and Need/Importance
- Qualities and functions of a leader
- Manager Vs Leader
- Style of Leadership (Autocratic, Democratic, Participative)

#### b) Motivation

- Definition and characteristics
- Importance of motivation
- Factors affecting motivation
- Theories of motivation (Maslow)
- Methods of Improving Motivation
- Importance of Communication in Business
- Types and Barriers of Communication

Leadership is the potential to influence behaviour of others. It is also defined as the capacity to influence a group towards the realization of a goal. Leaders are required to develop future visions, and to motivate the organizational members to want to achieve the visions.

George R. Terry, "Leadership is a relationship in which one person influences others to work together willingly on related tasks to attain what the leader desires." Koontz and O'Donnell, "Leadership is the process of influencing people so that they will strive willingly towards the achievement of group goals."

According to Keith Davis, "Leadership is the ability to persuade others to seek defined objectives enthusiastically. It is the human factor which binds a group together and motivates it towards goals."

### **Characteristics of Leadership**

1. It is a inter-personal process in which a manager is into influencing and guiding workers towards attainment of goals.
2. It denotes a few qualities to be present in a person which includes intelligence, maturity and personality.
3. It is a group process. It involves two or more people interacting with each other.
4. A leader is involved in shaping and moulding the behaviour of the group towards accomplishment of organizational goals.
5. Leadership is situation bound. There is no best style of leadership. It all depends upon tacking with the situations.

### **Nature of leadership**

- Leadership derives from the power and is similar to, yet distinct from, management. In fact, "leadership" and "management" are different. There can be leaders of completely unorganized groups, but there can be managers only of organized groups. Thus it can be said that a manager is necessarily a leader but a leader may not be a manager.
- Leadership is essential for managing. The ability to lead effectively is one of the keys to being an effective manager because she/he has to combine resources and lead a group to achieve objectives.
- Leadership and motivation are closely interconnected. By understanding motivation, one can appreciate better what people want and why they act as they do. A leader can encourage or dampen workers' motivation by creating a favourable or unfavourable working environment in the organization.
- The essence of leadership is followership. In other words, it is the willingness of people to follow a person that makes that person a leader. Moreover, people tend to follow those whom they see as providing a means of achieving their desires, needs and wants.
- Leadership involves an unequal distribution of power between leaders and group members. Group members are not powerless; they can shape group activities in some ways. Still, the leader will usually have more power than the group members.
- Leaders can influence the followers' behaviour in some ways. Leaders can influence workers either to do ill or well for the company. The leader must be able to empower and motivate the followers to the cause.
- The leader must co-exist with the subordinates or followers and must have a clear idea about their demands and ambitions. This creates loyalty and trust in subordinates for their leader.
- Leadership is to be concerned about values. Followers learn ethics and values from their leaders. Leaders are the real teachers of ethics, and they can reinforce ideas. Leaders need to make positive statements of ethics if they are not hypocritical.
- Leading is a very demanding job both physically and psychologically. The leader must have the strength, power, and ability to meet the bodily requirements; zeal, energy, and patience to meet the mental requirements for leading.

The following points justify the importance of leadership in a concern.

1. **Initiates action-** Leader is a person who starts the work by communicating the policies and plans to the subordinates from where the work actually starts.
2. **Motivation-** A leader proves to be playing an incentive role in the concern's working. He motivates the employees with economic and non-economic rewards and thereby gets the work from the subordinates.
3. **Providing guidance-** A leader has to not only supervise but also play a guiding role for the subordinates. Guidance here means instructing the subordinates the way they have to perform their work effectively and efficiently.



4. **Creating confidence-** Confidence is an important factor which can be achieved through expressing the work efforts to the subordinates, explaining them clearly their role and giving them guidelines to achieve the goals effectively. It is also important to hear the employees with regards to their complaints and problems.
5. **Building morale-** Morale denotes willing co-operation of the employees towards their work and getting them into confidence and winning their trust. A leader can be a morale hooster by achieving full co-operation so that they perform with best of their abilities as they work to achieve goals.
6. **Builds work environment-** Management is getting things done from people. An efficient work environment helps in sound and stable growth. Therefore, human relations should be kept into mind by a leader. He should have personal contacts with employees and should listen to their problems and solve them. He should treat employees on humanitarian terms.
7. **Co-ordination-** Co-ordination can be achieved through reconciling personal interests with organizational goals. This synchronization can be achieved through proper and effective co-ordination which should be primary motive of a leader.

### Leader versus Manager

"Leadership and managership are two synonymous terms" is an incorrect statement. Leadership doesn't require any managerial position to act as a leader. On the other hand, a manager can be a true manager only if he has got the traits of leader in him. **By virtue of his/her position, manager has to provide leadership to his group.**

A manager has to perform all five functions to achieve goals, i.e., Planning, Organizing, Staffing, Directing, and Controlling. Leadership is a part of these functions.

*Leadership as a general term is not related to managership.* A person can be a leader by virtue of qualities in him. For example, leader of a club, class, welfare association, social organization, etc. Therefore, it is true to say that, "All managers are leaders, but all leaders are not managers."

A leader is one who influences the behaviour and work of others in group efforts towards achievement of specified goals in a given situation. On the other hand, manager can be a true manager only if he has

got traits of leader in him. Manager at all levels are expected to be the leaders of work groups so that subordinates willingly carry instructions and accept their guidance. A person can be a leader by virtue of all qualities in him.

**Leaders and Managers can be compared on the following basis:**

Basis	Manager	Leader
Origin	A person becomes a manager by virtue of his position.	A person becomes a leader on basis of his personal qualities.
Formal Rights	Manager has got formal rights in an organization because of his status.	Rights are not available to a leader.
Followers	The subordinates are the followers of managers.	The group of employees whom the leaders leads are his followers.
Functions	A manager performs all five functions of management.	Leader influences people to work willingly for group objectives.
Necessity	A manager is very essential to a concern.	A leader is required to create cordial relation between person working in and for organization.
Stability	It is more stable.	Leadership is temporary.
Mutual Relationship	All managers are leaders.	All leaders are not managers.
Accountability	Manager is accountable for self and subordinates behaviour and performance.	Leaders have no well defined accountability.
Concern	A manager's concern is organizational goals.	A leader's concern is group goals and member's satisfaction.
Followers	People follow manager by virtue of job description.	People follow them on voluntary basis.
Role continuation	A manager can continue in office till he performs his duties satisfactorily in congruance with	A leader can maintain his position only through day to



	organizational goals.	day wishes of followers.
Sanctions	Manager has command over allocation and distribution of sanctions.	A leader has command over different sanctions and related task records. These sanctions are essentially of informal nature.

### Qualities of a Leader

1. **Physical appearance-** A leader must have a pleasing appearance. Physique and health are very important for a good leader.
2. **Vision and foresight-** A leader cannot maintain influence unless he exhibits that he is forward looking. He has to visualize situations and thereby has to frame logical programmes.
3. **Intelligence-** A leader should be intelligent enough to examine problems and difficult situations. He should be analytical who weighs pros and cons and then summarizes the situation. Therefore, a positive bent of mind and mature outlook is very important.
4. **Communicative skills-** A leader must be able to communicate the policies and procedures clearly, precisely and effectively. This can be helpful in persuasion and stimulation.
5. **Objective-** A leader has to be having a fair outlook which is free from bias and which does not reflect his willingness towards a particular individual. He should develop his own opinion and should base his judgement on facts and logic.
6. **Knowledge of work-** A leader should be very precisely knowing the nature of work of his subordinates because it is then he can win the trust and confidence of his subordinates.
7. **Sense of responsibility-** Responsibility and accountability towards an individual's work is very important to bring a sense of influence. A leader must have a sense of responsibility towards organizational goals because only then he can get maximum of capabilities exploited in a real sense. For this, he has to motivate himself and arouse and urge to give best of his abilities. Only then he can motivate the subordinates to the best.
8. **Self-confidence and will-power-** Confidence in himself is important to earn the confidence of the subordinates. He should be trustworthy and should handle the situations with full will power.

### Role of a Leader

1. **Required at all levels-** Leadership is a function which is important at all levels of management. In the top level, it is important for getting co-operation in formulation of plans and policies. In the middle and lower level, it is required for interpretation and execution of plans and programmes framed by the top management. Leadership can be exercised through guidance and counselling of the subordinates at the time of execution of plans.
2. **Representative of the organization-** A leader, i.e., a manager is said to be the representative of the enterprise. He has to represent the concern at seminars, conferences, general meetings, etc. His role is to communicate the rationale of the enterprise to outside public. He is also representative of the own department which he leads.
3. **Integrates and reconciles the personal goals with organizational goals-** A leader through leadership traits helps in reconciling/ integrating the personal goals of the employees with the organizational goals. He is trying to co-ordinate the efforts of people towards a common purpose and thereby achieves objectives. This can be done only if he can influence and get willing co-operation and urge to accomplish the objectives.
4. **He solicits support-** A leader is a manager and besides that he is a person who entertains and invites support and co-operation of subordinates. This he can do by his personality, intelligence, maturity and experience which can provide him positive result. In this regard, a leader has to invite

suggestions and if possible implement them into plans and programmes of enterprise. This way, he can solicit full support of employees which results in willingness to work and thereby effectiveness in running of a concern.

5. **As a friend, philosopher and guide-** A leader must possess the three dimensional traits in him. He can be a friend by sharing the feelings, opinions and desires with the employees. He can be a philosopher by utilizing his intelligence and experience and thereby guiding the employees as and when time requires. He can be a guide by supervising and communicating the employees the plans and policies of top management and secure their co-operation to achieve the goals of a concern. At times he can also play the role of a counsellor by counselling and a problem-solving approach. He can listen to the problems of the employees and try to solve them.

## Leadership and Motivation

Motivation is a goal-oriented characteristic that helps a person achieve his objectives. It pushes an individual to work hard at achieving his or her goals. An executive must have the right leadership traits to influence motivation. However, there is no specific blueprint for motivation.

As a leader, one should keep an open perspective on human nature. Knowing different needs of subordinates will certainly make the decision-making process easier.

Both an employee as well as manager must possess leadership and motivational traits.

An effective leader must have a thorough knowledge of motivational factors for others. He must understand the basic needs of employees, peers and his superiors. Leadership is used as a means of motivating others.

Given below are important guidelines that outline the basic view of motivation:

- **Harmonize and match the subordinate needs with the organizational needs:** As a leader, the executive must ensure that the business has the same morals and ethics that he seeks in his employees. He should make sure that his subordinates are encouraged and trained in a manner that meets the needs of the business.
- **Appreciation and rewards** are key motivators that influence a person to achieve a desired goal. Rewarding good/ exceptional behavior with a small token of appreciation, certificate or letter can be a great motivator. If a certificate is awarded to a person, it should mention the particular act or the quality for which the individual is being rewarded.
- **Being a role model** is also a key motivator that influences people in reaching their goals. A leader should set a good example to ensure his people to grow and achieve their goals effectively.
- **Encouraging individuals** to get involved in planning and important issues resolution procedure not only motivates them, but also teaches the intricacies of these key decision-making factors. Moreover, it will help everyone to get better understanding of their role in the organization. The communication will be unambiguous and will certainly attract acknowledgement and appreciation from the leader.
- **Developing moral and team spirit** certainly has a key impact on the well-being of an organization. The mental or emotional state of a person constitutes his or her moral fabric. A leader's actions and decisions affect the morale of his subordinates. Hence, he should always be aware of his decisions and activities. Team spirit is the soul of the organization. The leader should always make sure his subordinates enjoy performing their duties as a team and make themselves a part of the organization's plans.
- A leader should **step into the shoes of the subordinates** and view things from subordinate's angle. He should empathize with them during difficult times. Empathizing with their personal problems makes them stronger-mentally and emotionally.

- A meaningful and challenging job accomplished inculcates a sense of achievement among employees. The executive must make their employees feel they are performing an important work that is necessary for the organization's well-being and success. This motivational aspect drives them to fulfill goals.

Remember, "To become an efficient leader, you must be self-motivated". You must know your identity, your needs and you must have a strong urge to do anything to achieve your goals. Once you are self-motivated, only then you can motivate others to achieve their goals and to harmonize their personal goals with the common goals of the organization.

### Types of Leadership Styles

German-American psychologist Kurt Lewin is credited with branding the basic leadership styles in 1939. Lewin and his researchers tasked schoolchildren with an arts and crafts project while the team observed behaviors and responses to different styles of leadership. The idea was to determine which style was most effective to use in business.

Lewin identified three styles of leadership: **Autocratic, Democratic, and Laissez-faire**. Over time, more leadership styles have emerged, and one that is commonly grouped in with Lewin's three is Transformational Leadership. Today, there are a variety of leadership styles in business, but the four primary leadership styles you'll be exposed to include:

- Autocratic
  - Democratic
  - Laissez-faire
  - Transformational
- Autocratic Leadership**

Also known as Authoritarian Leadership, an Autocratic Leadership style can easily be summed up by the command, "Do as you're told."

In Autocratic Leadership, direction comes from the top, a singular figure who leads a company or team. An autocratic leader determines strategy, policies, procedures, and the direction of the organization, dictating everything to subordinates. Authoritarian leaders are not focused on collaboration with those in their circle, they are rarely interested in feedback, and they prefer to hold all of the power and be in charge.

In Lewin's research, he witnessed four behaviors and results of the Authoritarian Leadership style:

1. All determination of policy is by the leader.
2. Techniques and activity steps are dictated by the authority, one at a time, so that future steps or techniques are uncertain.
3. The leader usually dictates the particular work task and work companions of each member.

4. The dominator is "personal" in his praise and criticism of the work of each team member, but is aloof from active group participation, except when demonstrating. He is friendly or impersonal rather than openly hostile.

Examples of autocratic leaders include Martha Stewart, and, New England Patriots Head Coach Bill Belichick.

**Qualities:** Autocratic leaders often possess qualities subordinates look up to, such as decisiveness, self-confidence, and a steadfast, focused commitment to the goal.

**When It Works:** While Autocratic Leadership and the "Don't question my commands" approach doesn't sound like fun, there are occasions when this leadership style can be appropriate and effective, such as in urgent or chaotic situations that require someone to reign in the team and make a prompt and effective decision.

**When It Doesn't Work:** Employees working under an autocratic leader may feel micromanaged, and because all directives come from one person at the top, they may become dependent on that person for direction and incapable of making business decisions on their own.

#### Democratic Leadership

Also known as Participative Leadership, the Democratic Leadership approach involves gathering input from your subordinates and team members so everyone has a chance to contribute to the decision-making process. Democratic leaders are still the decision-makers, but their approach allows others to feel engaged and have a stake in the final outcome. Democratic leaders excel at sparking creativity among subordinates, and projects are enhanced when positive contributions come from all sides.

Lewin's research into the Democratic Leadership style uncovered these four behaviors and results:

1. All policies were a matter of group discussion and decision, encouraged and assisted by the leader.
2. Activity perspective was gained during the first discussion period. General steps to group goal were sketched, and where technical advice was needed, the leader suggested two or three alternative procedures from which a choice could be made.
3. The members were free to work with anyone, and division of tasks was left to the group leader.
4. The leader was "objective" or "fact-minded" in his praise and criticism and tried to be a regular group member in spirit without doing too much of the work.

Microsoft Corporation co-founder Bill Gates, Nelson Mandela, and Walt Disney, President of The Walt Disney Company, are often cited as examples of democratic leaders.

**Qualities:** Democratic leaders possess a curiosity that drives their desire for input from all sides. Their desire for a participative environment also makes them great communicators, and subordinates often find them easily approachable.

**When It Works:** A democratic approach to leadership yields positive results when the group feels part of the solution. This leads to more creative input and often heightens employee morale.

**When It Doesn't Work:** Not every leader achieves success with the democratic approach. Inevitably, there will be employees who feel left out because their ideas or solutions were not chosen. Further, placing confidence in the group to posit solutions can be problematic if the group is not skilled or trained to answer the call.

#### Laissez-faire Leadership

Don't let the name deceive you. Laissez-faire Leadership is not a "Who cares?" approach. Rather, it involves empowering your employees, being hands-off, and trusting them to accomplish the task at

hand without constant questions or micromanagement. Laissez-faire leaders leave decisions to their employees, while staying available to provide feedback when necessary.

According to Lewin, Laissez-faire leaders exhibit four common behaviors and results:

1. Complete freedom for group or individual decision, without any leader participation
2. Various materials supplied by leader, who made it clear that he would supply information when asked, but took no other part in work discussions
3. Complete nonparticipation by leader
4. Very infrequent comments on member activities unless questioned, and no attempt to participate or interfere with the course of events.

Former U.S. presidents James Buchanan, Herbert Hoover, and Ronald Reagan, as well as industrialist Andrew Mellon, and businessman Warren Buffet are often cited as examples of Laissez-faire leaders.

**Qualities:** Laissez-faire leaders are excellent at delegating, and they instill confidence in employees when assigning them tasks without oversight. They are capable of providing constructive criticism when needed, and are often seen as trusting, as they willingly place responsibilities in the hands of employees.

**When It Works:** The Laissez-faire approach often leads to faster decision-making, as employees don't need to ask a higher up for approval. It is also especially effective in scenarios where the employees or groups are already trained and skilled for the task at hand. These workers are fully competent and don't require supervision, and when they're empowered by a Laissez-faire leader, they may feel more accomplished when they complete their task without a guiding hand or directive.

**When It Doesn't Work:** Hands-off can be problematic when your team doesn't fully understand the mission. Further, Laissez-faire leaders may find that without direction or oversight, employees don't accomplish as much, or anything at all. Unless you have complete confidence in your employees and their collective ability to complete a task without close supervision, you may reconsider this approach.

Transformational Leadership

Transformational Leadership involves developing a grand vision and rallying your employees around it. Under this style, the team is eager to transform and evolve – personally and professionally – in order to achieve the overall goal. With the organization and employees aligned, teams working under a transformational leader are united for the singular cause, and willing to commit their effort, time, and energy to the organization.

Transformational Leadership Qualities:

1. Understanding what needs to change
2. Ability to stimulate the intellect
3. Knack for encouraging participation
4. Talent for genuine communication
5. Loyalty

- 6. Sense of the bigger picture
- 7. Personal integrity
- 8. An inspiring bearing/presence

**When It Works:** Transformational Leadership allows employees to see clearly the vision and goals for the organization, and employees remain loyal and productive while working to accomplish their mission. Transformational Leadership creates workplace harmony as everyone is working together, and the lines of communication are always open between employees and leadership.

**When It Doesn't Work:** While a fully engaged and committed group is what every leader wants, Transformational Leadership has been known to contribute to burnout as employees work continuously to achieve goals. This approach also requires constant communication and feedback between leadership and the employees, and if those lines are severed in any way, the latter can feel left out of the big picture.

## **Motivation**

### **Definition and characteristics**

#### **What is Motivation?**

Motivation is a psychological process through which a person acts or behaves towards a particular task or activity from start to completion. Motivation drives or pushes a person to behave in a particular way at that point in time. When the motivation is positive, a person is happy, energetic, enthusiastic & self-driven to perform the work and when it is negative motivation, person is demoralized, sad, lethargic & pessimistic leading to drop in productivity and.

#### **Definition**

Motivation is regarded as "the inner state that energizes activities and directs or channels behavior towards the goal".

Motivation is the process that arouses action, sustains the activity in progress and that regulates the pattern of activity.

#### **Entrepreneurial motivation**

The entrepreneurial motivation is the process that activates and motivates the entrepreneur to exert higher level of efforts for the achievement of his/her entrepreneurial goals. In other words, the entrepreneurial motivation refers to the forces or drive within an entrepreneur that affect the direction, intensity, and persistence of his / her voluntary behaviour as entrepreneur. So to say, a motivational entrepreneur will be willing to exert a particular level of effort (intensity), for a certain period of time (persistence) toward a particular goal (direction).

#### **Nature of Motivation**

The nature of motivation emerging out of above definitions can be expressed as follows:

##### **1. Motivation is internal to man**

Motivation cannot be seen because it is internal to man. It is externalized via behavior. It activates the man to move toward his / her goal.

##### **2. A Single motive can cause different behaviors**

A person with a single desire or motive to earn prestige in the society may move towards to join politics, attain additional education and training, join identical groups, and change his outward appearance.

### **3. Different motives may result in single behaviour**

It is also possible that the same or single behaviour may be caused by many motives. For example, if a person buys a car, his such behaviour may be caused by different motives such as to look attractive, be respectable, gain acceptance from similar group of persons, differentiate the status, and so on.

### **4. Motives come and go**

Like tides, motives can emerge and then disappear. Motives emerged at a point of time may not remain with the same intensity at other point of time. For instance, an entrepreneur overly concerned about maximization of profit earning during his initial age as entrepreneur may turn his concern towards other higher things like contributing towards philanthropic activities in social health and education once he starts earning sufficient profits.

### **5. Motives interact with the environment**

The environment in which we live at a point of time may either trigger or suppress our motives. You probably have experienced environment or situation when the intensity of your hunger picked up just you smelled the odour of palatable food.

You may desire an excellent performance bagging the first position in your examination but at the same time may also be quite sensitive to being shunned and disliked by your class mates if you really perform too well and get too much of praise and appreciation from your teachers. Thus, what all this indicates is that human behaviour is the result of several forces differing in both direction and intent.

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### **Importance of Motivation**

It is an important psychological factor for any individual as it defines the work, ambition and drive of that person to do any work. A person with high levels of motivation is motivated to do good quality work, help others, spread their energy and focus on achieving goals. On the contrary, a person with low levels of motivation, demotivates others, works shabbily and creates a negative atmosphere.

It is an important human factor in an individual's personal as well as professional life. Positive motivation for people is required in every field like business, sports, politics, entrepreneurship etc. It is the desire of an individual to work towards a motive, which is a certain task. In business, good

motivation helps employees learn important managerial skills like leadership, team management, time management, decision making, communication etc.

#### 4 Types of Motivation



It is driven by several factors which influences the behavior and attitude of an individual. Based on the different factors and the kind of impact it has on a person, there are different types of motivation. The different types of motivation in people are:

##### 1. Intrinsic Motivation

This type comes from within a person to do a task or achieve a particular goal. It is a feeling of being self-driven and achieving objectives for oneself. Intrinsic motivation is driven by motives like social acceptance, eating food, desires to achieve goals, biological needs etc.

##### 2. Extrinsic Motivation

This type drives an individual due to external forces or parameters. Some other person or organization motivates the individual to work hard to achieve certain goals or tasks. Extrinsic motivation is driven by motives like financial bonus, rewards, appreciation, promotion, punishment, demotion etc.

##### 3. Positive Motivation

This type drives an individual by offering positive accolades and rewards for performing a task. In this type of motivation, the individual is rewarded by monetary benefits, promotions etc. which drives an individual to work hard.

##### 4. Negative Motivation

This is where fear and threat are used as a parameter to get the work done. In this type of motivation, individuals are threatened with things like demotion, reducing benefits, withdrawing merits etc.

For every individual, all the types are interlinked based on which he or she takes an action. The resultant behavior of any person is basis the motivation types he or she has been influenced by.

#### Top Factors Influencing Motivation





Keeping employees motivated is the biggest challenge for companies for ensuring that they give a high productive output at work and help in achieving company goals. A positive motivation amongst employees helps drive the business positively & enhances creativity. On the other hand, a demotivated employee will not contribute efficiently and slowdown progress at workplace. The key elements & top factors which influence employees in business or people in general are as follows:-

### 1. Salary

Monetary compensation & benefits like gross salary, perks, performance bonuses etc. are the biggest motivation factors. The better the salary and monetary benefits, the higher is the motivation level & passion of a person towards a job.

### 2. Recognition

Rewards, recognition etc. are important for ensuring high enthusiasm levels for an employee. If the hard work of an individual is appreciated, it keeps them motivated to perform better.

### 3. Work Ethics

Ethical working environment, honesty etc. are important factors for any individual. Good work ethics in a company helps keep employees motivated at work place.

On the other hand, if the work environment is not ethical, then the workforce might be demotivated.

### 4. Transparency with Leadership

The leadership in an organization helps in employee motivation if there are transparent discussion and flatter hierarchies. The senior management has to ensure that all subordinates are happy, focused & motivated.

## **5. Culture at Work**

A good, vibrant, positive culture at workplace is always an important factor. People from different backgrounds, religions, countries etc. working together helps create a social bond at workplace.

## **6. Learning and Development**

Another factor influencing is the training and development opportunities that a person gets. L&D helps individuals develop more skills and have better opportunities in their professional career.

## **7. Work Life Balance**

Having a good quality of work life (QWL) helps in the motivation of people. A good work life balance ensures that a person can give quality time to both office work as well as family.

## **8. Career Growth Opportunities**

Career development opportunities have a positive influence on the motivation of any person. If a person knows their future & career path is secure, they tend to work with more passion.

## **9. Health Benefits**

Health benefits, insurance & other incentives act as a source of motivation for people. If the medical bills, hospitalization charges etc. are taken care of by the company, it helps build a strong trust.

## **10. Communication**

A positive & transparent communication between managers and subordinates gives a sense of belonging and adds to the employee's motivation. Discussion related to work as well as personal life help make a friendly bond at workplace.

There are not finite factors influencing positive attitude of an employee. These keep on changing depending upon the type of environment, job responsibility, experience in life etc. Hygiene Factors of motivation are also given by the Hygiene Theory.

## **Advantages of Motivation**

There are several advantages of an employee being motivated at work. Some of the main benefits of motivation for employees and companies are as follows:

1. Feeling of belongingness and self-respect.
2. A motivated employee is excited to learn and contribute more.
3. Higher productive output due to positive motivation.
4. Reduced absenteeism and lower attrition.
5. Employees high on motivation help reduce costs & improve profits.
6. Reduce stress & anxiety at workplace.

## **Disadvantages of Motivation**

Despite several advantages, there are some probable drawbacks as well. Some of them are:

1. It is a relative feeling and hence there is no way of ensuring that everyone would feel the same way.
2. Motivating employees in a company requires additional efforts, money and time on employee related activities.
3. It among people is mostly a short-term feeling. Afterwards a person become demotivated or even uninterested about a particular task.

## Examples of Motivation

Motivation is relevant in every field of life for any individual. There can be many examples based on type, situation, field of work etc. Some examples are as follows:

1. Consider a person who has joined a university. After a lot of hard work, he or she gets admission in their preferred course. Hence the intrinsic motivation for the individual would be perform well in academics, get a good score, learn new skills and get a job opportunity with a good company. Since this is an internal feeling, the driving motives are achieving a personal goal.

2. An example of extrinsic motivation can be seen from a footballer, cricketer or any other sports person. Any sports person wants to excel in their sport not only for themselves but to also become a crowd favorite and get their attention. Hence, he or she gets highly motivated by this external factor which drives them to perform better in their sport.

## Maslow's Hierarchy of Needs Theory

One of the most popular needs theories is **Abraham Maslow's hierarchy of needs theory**. Maslow proposed that motivation is the result of a person's attempt at fulfilling five basic needs: physiological, safety, social, esteem and self-actualization. According to Maslow, these needs can create internal pressures that can influence a person's behavior.

**Physiological needs** are those needs required for human survival such as air, food, water, shelter, clothing and sleep. As a manager, you can account for the physiological needs of your employees by providing comfortable working conditions, reasonable work hours and the necessary breaks to use the bathroom and eat and/or drink.

**Safety needs** include those needs that provide a person with a sense of security and well-being. Personal security, financial security, good health and protection from accidents, harm and their adverse effects are all included in safety needs. As a manager, you can account for the safety needs of your employees by providing safe working conditions, secure compensation (such as a salary) and job security, which is especially important in a bad economy.

**Social needs**, also called **love and belonging**, refer to the need to feel a sense of belonging and acceptance. Social needs are important to humans so that they do not feel alone, isolated and depressed. Friendships, family and intimacy all work to fulfill social needs. As a manager, you can account for the social needs of your employees by making sure each of your employees know one another, encouraging cooperative teamwork, being an accessible and kind supervisor and promoting a good work-life balance.

**Esteem needs** refer to the need for self-esteem and respect, with self-respect being slightly more important than gaining respect and admiration from others. As a manager, you can account for the esteem needs of your employees by offering praise and recognition when the employee does well, and offering promotions and additional responsibility to reflect your belief that they are a valued employee.

**Self-actualization needs** describe a person's need to reach his or her full potential. The need to become what one is capable of is something that is highly personal. While I might have the need to be a good parent, you might have the need to hold an executive-level position within your organization. Because this need is individualized, as a manager, you can account for this need by providing challenging work, inviting employees to participate in decision-making and giving them flexibility and autonomy in their jobs.



## Methods of Improving Motivation

### 1. Lead with vision

Everyone wants to know that their efforts are driving towards something. What's the next step? What does success look like for the company? A destination helps to motivate the journey, so make sure the vision for the company is clear.

### 2. Make sure everyone understands the 'why'

Your employees will know what needs to be done, but you need to explain further; you need to communicate the 'why' of each task. The why is the company's overall mission. If everyone knows how their individual actions can personally add to the overall goal of the company, it brings much-needed intrinsic motivation to even the most simple task.

### 3. Set frequent clear targets

You obviously have big targets that you want to hit as a company, but smaller goals are the key to motivation. All goals should add to the overall target, but breaking this into more attainable chunks feels less overwhelming. If employees are frequently hitting targets, the feeling of satisfaction grows and will act as a great motivator to continue on to the next set of goals.

### 4. Recognise and reward great work

Employees need to know that their managers appreciate their hard work. Giving well-deserved recognition not only increases self-esteem but also enthusiasm and team morale.

A recognition platform is an effective tool to celebrate star performers who embody your company values. It's important to support employees all year round with team-building exercises, wellbeing schemes, secondment opportunities and EAP programs. However, for more special occasions, such as a 10-year work anniversary or employee of the month, we recommend going a step further and rewarding your teams.

The reward doesn't necessarily have to be monetary, it could be a gesture, such as giving them a day off. Rewards are particularly good promoters of motivation and job satisfaction. So if you want to encourage your employees to go the extra mile, make their effort worth it with a gift or thoughtful act.

### **5. Give your team autonomy**

Time is precious. So when we don't feel in control of our time and energy, motivation levels can really drop. Allowing for some elements of freedom in the workplace, whether that's flexible working hours or unlimited time off, demonstrates trust from leaders to employees. This adds motivation, as the satisfaction of a job well done comes with the feeling that they were in control and did it on their terms.

### **6. Create a welcoming workplace environment**

No one wants to sit in a gloomy office and desperately wait for home time every day. If workplaces create a friendly culture, with areas for rest and play, employees will look forward to coming into work. The saying 'work hard, play hard' is important here. As motivation and mood go hand in hand, a poor mood can affect the ability to concentrate and will lower the feeling of energy in the workplace.

### **7. Offer impressive benefits**

Make everyone feel that they are working in the best place they can be. Offering employee benefits and perks, such as the wide range available through our perks platform, and fringe benefits that aim to make your people's lives better both in and outside of work, helps to boost the mood and sense of loyalty to the company. Make sure your benefits suit your employees' unique needs; for instance, if they live in London, they may require a London weighted allowance.

### **8. Encourage teamwork**

Collaboration between teams in the company allows ideas to be developed further. Working with those with different skill sets will, in turn, create more innovative results. In teams, there's power in numbers and anyone experiencing a lack of motivation should be boosted by those around them.

### **9. Create a career path**

No one wants to be static for long. We all want to know that we are going somewhere and focus on that next step. Ask employees what they want from their career, and lay out what they need to do to get there. Have growth conversations with team members to design a career path; this will help to create the drive to reach the next stage and feel that they have a long and productive journey ahead within the company.

### **10. Support staff motivation by supporting employee wellbeing**

When organisations are implementing motivation strategies or employee incentive schemes, they often overlook wellbeing.

There's no dispute that using rewards as an incentive is a great motivator. However, if an employee is feeling tired or overwhelmed they won't produce their best work – no matter how hard they try.

Taking a well-rounded approach to wellbeing, so addressing your teams' mental, emotional, and physical health is a great way of keeping them healthy, happy, and at the top of their game.

### **Why is communication important in business?**

Communication in business is important to convey clear, strong messages about strategy, customer service and branding. A business building a brand reflects a consistent message tailored to its audience. Internal communication builds rapport among employees and managers and encourages teamwork and collaboration.



Good communicators are vital to a business's profit margin and reputation. Employees who communicate well and understand the company's vision help make the company successful. Using effective communication skills can benefit a business and its employees in a variety of ways, including:

### 1. Building better teams

Effective communication builds a positive atmosphere where teams can flourish. When communication is positive and encouraging, team members become stronger and work better together. Those who practice good communication skills make working beside them easier and less stressful. Job tensions or friction are promptly addressed since effective communicators work toward finding solutions.

### 2. Preventing misunderstandings and conflicts

Listening is a part of communicating used to understand a situation fully. Good communicators listen well and react appropriately, and they're more likely to find solutions without becoming defensive. When conflicts arise, good communicators address the problem right away and listen to the other side.

### 3. Improving customer service

Businesses need to know what their customers want and need from them to serve them. Forming business relationships is how companies build trust in their brand and bring customers back. Reliable and positive communication with customers is paramount to maintaining a valued customer service reputation.

Effective communication with customers by answering questions and providing solutions helps to improve the business's reputation. Communicating well over the phone or through social media or email improves customer confidence and loyalty. Written communication that is consistent with the brand's voice can help promote community between customers and organizations.

#### **4. Meeting goals and earning success**

For a business to be successful, short- and long-term goals must be clear and concise. When employees know what the goals and visions of their company are, they are better able to focus their efforts on achieving them.

Communicate goals clearly, and regularly remind employees of the team or individual goals to keep them motivated and encouraged. It can also help employees understand the importance of their roles in making the company successful, which can improve loyalty within the company and reduce hiring turnover.

#### **5. Promoting creativity and innovation**

People who are good communicators are usually open to sharing ideas without judgment. When trust is built based on effective communication, team members are more apt to share with each other to inspire creativity.

Effective communicators are more inclined to collaborate to find creative solutions, as well. When employees are keen to share ideas, companies can transform their approaches and find unique ways to serve customers and clients.

#### **6. Advancing individual career prospects**

Good communication skills, such as open and honest communication, eliminate surprises and reinforce your commitment to solve problems and support the business. This can help you earn promotions and secure leadership positions in your current organization or pursue new advanced career opportunities elsewhere.

### **Barriers To Effective Communication**

The process of communication has multiple barriers. The intended communicate will often be disturbed and distorted leading to a condition of misunderstanding and failure of communication. The Barriers to effective communication could be of many types like linguistic, psychological, emotional, physical, and cultural etc. We will see all of these types in detail below.

#### **Linguistic Barriers**

The language barrier is one of the main barriers that limit effective communication. Language is the most commonly employed tool of communication. The fact that each major region has its own language is one of the Barriers to effective communication. Sometimes even a thick dialect may render the communication ineffective.

As per some estimates, the dialects of every two regions changes within a few kilometers. Even in the same workplace, different employees will have different linguistic skills. As a result, the communication channels that span across the organization would be affected by this.

Thus keeping this barrier in mind, different considerations have to be made for different employees. Some of them are very proficient in a certain language and others will be ok with these languages.

#### **Psychological Barriers**

There are various mental and psychological issues that may be barriers to effective communication. Some people have stage fear, speech disorders, phobia, depression etc. All of these conditions are very difficult to manage sometimes and will most certainly limit the ease of communication.

### Emotional Barriers

The emotional IQ of a person determines the ease and comfort with which they can communicate. A person who is emotionally mature will be able to communicate effectively. On the other hand, people who let their emotions take over will face certain difficulties.

A perfect mixture of emotions and facts is necessary for effective communication. Emotions like anger, frustration, humour, can blur the decision-making capacities of a person and thus limit the effectiveness of their communication.



### Physical Barriers to Communication

They are the most obvious barriers to effective communication. These barriers are mostly easily removable in principle at least. They include barriers like noise, closed doors, faulty equipment used for communication, closed cabins, etc. Sometimes, in a large office, the physical separation between various employees combined with faulty equipment may result in severe barriers to effective communication.

### Cultural Barriers of Communication

As the world is getting more and more globalized, any large office may have people from several parts of the world. Different cultures have a different meaning for several basic values of society. Dressing, Religions or lack of them, food, drinks, pets, and the general behaviour will change drastically from one culture to another.

Hence it is a must that we must take these different cultures into account while communication. This is what we call being culturally appropriate. In many multinational companies, special courses are offered at the orientation stages that let people know about other cultures and how to be courteous and tolerant of others.

### Organisational Structure Barriers

As we saw there are many methods of communication at an organizational level. Each of these methods has its own problems and constraints that may become barriers to effective communication. Most of these barriers arise because of misinformation or lack of appropriate transparency available to the employees.

### Attitude Barriers

Certain people like to be left alone. They are the introverts or just people who are not very social. Others like to be social or sometimes extra clingy! Both these cases could become a barrier to communication. Some people have attitude issues, like huge ego and inconsiderate behaviours.



These employees can cause severe strains in the communication channels that they are present in. Certain personality traits like shyness, anger, social anxiety may be removable through courses and proper training. However, problems like egocentric behaviour and selfishness may not be correctable.

#### Perception Barriers

Different people perceive the same things differently. This is a fact which we must consider during the communication process. Knowledge of the perception levels of the audience is crucial to effective communication. All the messages or communicate must be easy and clear. There shouldn't be any room for a diversified interpretational set.

#### Physiological Barriers

Certain disorders or diseases or other limitations could also prevent effective communication between the various channels of an organization. The shrillness of voice, dyslexia, etc are some examples of physiological barriers to effective communication. However, these are not crucial because they can easily be compensated and removed.

#### Technological Barriers & Socio-religious Barriers

Other barriers include the technological barriers. The technology is developing fast and as a result, it becomes difficult to keep up with the newest developments. Hence sometimes the technological advances may become a barrier. In addition to this, the cost of technology is sometimes very high.

Most of the organizations will not be able to afford a decent tech for the purpose of communication. Hence, this becomes a very crucial barrier. Other barriers are socio-religious barriers. In a patriarchal society, a woman or a transgender may face many difficulties and barriers while communicating.



## UNIT-7 Work Culture, TQM & Safety

- Human relationship and Performance in Organization
- Relations with Peers, Superiors and Subordinates
- TQM concepts: Quality Policy, Quality Management, Quality system
- Accidents and Safety, Cause, preventive measures, General Safety Rules.
- Personal Protection Equipment(PPE)

### Human relationship and Performance in Organization

Human relations is critical for developing and maintaining a positive work environment, retaining employees and encouraging productivity. By making human relations the focus of your management approach, you can effectively create a workplace culture in which your employees can thrive. Developing your human relations skills can help you modify your management style so it's human relations-centric.

### What is human relations?

Human relations refers to the ability to interact in a healthy manner with others and build strong relationships. From the perspective of managers in a company, it involves the process of creating systems and communication channels to enable group employee relationships as well as strong one-on-one relationships. Additionally, it includes the process of training people for specific roles, addressing their needs, resolving conflicts between employees or between management and employees and creating a positive workplace culture.

### Why is human relations important?

Human relations is critical in business for a variety of reasons, including:

- **Employee productivity:** When relationships between a company's managers and its employees are supportive and positive, productivity is shown to increase. Additionally, when employees are dependent upon each other with their work, it directly influences productivity. When employees feel that they're treated with respect and recognized for contributing to a company's success, they are more likely to produce quality work.
- **Motivation:** When employees recognize that performing job-related tasks will allow them to feel appreciated and valued, they are more motivated to do them.
- **Positive perception:** An employee's interpersonal and communication skills impact the perception that other employees have about their ability to positively contribute to the workplace. A positive perception of an employee's work and attitude could create opportunities for future advancement.
- **Employee retention:** Employees who feel they're treated respectfully by their employer are more likely to continue working for them for a longer period of time. By using human relations to establish a feeling of mutual trust and value, a company creates an environment where employees feel that they matter and are less likely to pursue other opportunities.
- **Creativity:** In the workplace, creativity is often dependent on the employee's ability to communicate and share ideas with their colleagues. By creating a positive workplace culture and nurturing workplace relationships and teamwork, a business can encourage creativity and more quickly develop products and services to meet the consumer's changing needs.

### Employee Collaboration and Workplace Culture

Human relations in the workplace are a major part of what makes a business work. Employees must frequently work together on projects, communicate ideas and provide motivation to get things done. Without a stable and inviting workplace culture, difficult challenges can arise both in the logistics of

managing employees and in the bottom line. Businesses with engaging workplaces and a well-trained workforce are more likely to retain and attract qualified employees, foster loyalty with customers and more quickly adapt to meet the needs of a changing marketplace.

### **Improving Employee Retention**

The quality of workplace relations is critical to employee retention. Employee retention may seem trivial – especially in a workplace that is used to a high turnover – but managers must remember that turnover is financially very costly. Every new employee requires a substantial investment of time and energy in their recruitment and training.

In addition, severing ties with old employees can sometimes be challenging, especially if the circumstances are not particularly amicable. Making sure quality employees remain interested and engaged in the business requires patience, compassion and flexibility, but can actually make the business more financially sound.

### **Motivation and Productivity**

Workplace relationships provide a source of employee motivation, which is important to maintaining productivity. Employees who are interested in their work and in the well-being of other employees tend to be more productive than those who are not. This productivity pays obvious financial dividends to the company, as it can get more done in less time with fewer costs. Building relationships, by both recognizing an employee's value to the company and a concern for their needs, often goes a long way.

### **Fostering Employee Creativity**

The modern business environment often rewards businesses that are able to quickly develop products that meet changing consumer needs. In some industries – such as technology, for example – employees' ability to come up with effective new ideas is often the difference between the entire company's success and failure. Employees' creativity is often dependent on their ability to communicate with other employees and share ideas. Without quality workplace relationships, employees are less likely to be able to develop and share the solutions that a business needs to survive.

## **TQM concepts: Quality Policy, Quality Management, Quality system**

Total Quality Management (TQM) is a management framework based on the belief that an organization can build long-term success by having all its members, from low-level workers to its highest ranking executives, focus on improving quality and, thus, delivering customer satisfaction.

A core definition of total quality management (TQM) describes a management approach to long-term success through customer satisfaction. In a TQM effort, all members of an organization participate in improving processes, products, services, and the culture in which they work.

### **PRIMARY ELEMENTS OF TQM**

TQM can be summarized as a management system for a customer-focused organization that involves all employees in continual improvement. It uses strategy, data, and effective communications to integrate the quality discipline into the culture and activities of the organization. Many of these concepts are

present in modern quality management systems, the successor to TQM. Here are the 8 principles of total quality management:

1. **Customer-focused:** The customer ultimately determines the level of quality. No matter what an organization does to foster quality improvement—training employees, integrating quality into the design process, or upgrading computers or software—the customer determines whether the efforts were worthwhile.
2. **Total employee involvement:** All employees participate in working toward common goals. Total employee commitment can only be obtained after fear has been driven from the workplace, when empowerment has occurred, and when management has provided the proper environment. High-performance work systems integrate continuous improvement efforts with normal business operations. Self-managed work teams are one form of empowerment.
3. **Process-centered:** A fundamental part of TQM is a focus on process thinking. A process is a series of steps that take inputs from suppliers (internal or external) and transforms them into outputs that are delivered to customers (internal or external). The steps required to carry out the process are defined, and performance measures are continuously monitored in order to detect unexpected variation.
4. **Integrated system:** Although an organization may consist of many different functional specialties often organized into vertically structured departments, it is the horizontal processes interconnecting these functions that are the focus of TQM.
5.
  1. Micro-processes add up to larger processes, and all processes aggregate into the business processes required for defining and implementing strategy. Everyone must understand the vision, mission, and guiding principles as well as the quality policies, objectives, and critical processes of the organization. Business performance must be monitored and communicated continuously.
  2. An integrated business system may be modeled after the Baldrige Award criteria and/or incorporate the ISO 9000 standards. Every organization has a unique work culture, and it is virtually impossible to achieve excellence in its products and services unless a good quality culture has been fostered. Thus, an integrated system connects business improvement elements in an attempt to continually improve and exceed the expectations of customers, employees, and other stakeholders.
6. **Strategic and systematic approach:** A critical part of the management of quality is the strategic and systematic approach to achieving an organization's vision, mission, and goals. This process, called strategic planning or strategic management, includes the formulation of a strategic plan that integrates quality as a core component.
7. **Continual improvement:** A large aspect of TQM is continual process improvement. Continual improvement drives an organization to be both analytical and creative in finding ways to become more competitive and more effective at meeting stakeholder expectations.
8. **Fact-based decision making:** In order to know how well an organization is performing, data on performance measures are necessary. TQM requires that an organization continually collect and analyze data in order to improve decision making accuracy, achieve consensus, and allow prediction based on past history.
9. **Communications:** During times of organizational change, as well as part of day-to-day operation, effective communication plays a large part in maintaining morale and in motivating employees at all levels. Communications involve strategies, method, and timeliness.

TQM requires organizations to focus on continuous improvement, or kaizen. It focuses on process improvements over the long term, rather than simply emphasizing short-term financial gains.

TQM prescribes a series of ways for organizations to accomplish this, with the pathway to successful continuous improvement centered on the use of strategy, data and effective communication to instill a discipline of quality into the organization's culture and processes.

More specifically, TQM puts a spotlight on the processes that organizations use to produce their products, and it calls for organizations to define those processes, continuously monitor and measure their performance, and use that performance data to drive improvements. Furthermore, it calls for all employees, as well as all organizational departments, to be part of this process.

TQM's objectives are to eliminate waste and increase efficiencies by ensuring that the production process of the organization's product (or service) is done right the first time.

This management framework was initially applied to companies in the manufacturing sector, but, over the decades, organizations in other sectors have adopted it, as well.

### **Quality Policy**

The quality policy is where the company has stated its promise. The promise to strive for consistent quality and constant improvement. The quality policy is a short document created by the executive management team.

It displays exactly what quality means to their company specifically. The purpose of their product or service and the strategic direction they are planning to take to achieve these goals.

You must show this document to all employees so all are aware and the company is aligned with their objective. The document is also made public to be accessed by customers and investors for reference and reassurance.

In short, a quality policy describes your business, what it offers and your commitment to delivering the highest quality product. Customer requirements are accounted for in the quality policy. Quality objectives are the goals linked to meeting customer requirements. These objectives are within the quality policy statements.

### **Three Key Elements**

The quality policy should really have three key elements.

1. It should be developed by members of senior management.
2. It should show commitment to quality and customer satisfaction.
3. It should be relatively easy to generate key quality objectives from it.

A Quality Policy is a requirement of any formalized quality management system (QMS), and its purpose is to set the framework for the commitment of the scope of the QMS for internal and external stakeholders.

A Quality Policy is typically a brief statement that aligns with an organization's purpose, mission, and strategic direction. It provides a framework for quality objectives and includes a commitment to meet applicable requirements (ISO 9001, customer, statutory, or regulatory) as well as to continually improve.

But a Quality Policy can be so much more. It can become a way to drive passion for cultural change within an organization by incorporating pieces of it into routine meetings and embedding it into employee objectives and performance measurement.

For example, some companies will incorporate a quality objective directly into an employee's annual goals. Examples could include being involved in a continual improvement project or simply maintaining compliance.

Most companies will post their Quality Policy on their websites and within company buildings as a visual reminder to employees, customers, and suppliers about their commitment to quality.

Here is our Quality Policy that we believe reflects the everyday way of life and commitment to quality practiced at Thermo Fisher Scientific:

### **Quality Policy**

We fulfill our Mission to enable our customers to make the world healthier, cleaner, and safer by continuously improving the quality of our products and services and by ensuring global regulatory compliance.

- Quality for our customers means they can rely on our products and services to consistently meet their specifications and requirements.
- Quality for our colleagues means we take personal ownership to ensure our work meets customer requirements and is error free from design through use.
- Quality for regulatory authorities means that we operate at the highest ethical standards and meet or exceed all applicable regulatory requirements.
- Quality for our company means we drive a continuous improvement culture that is enabled by practical process improvement (PPI) and our company's quality system.

### **What Is Quality Management?**

Quality management is the act of overseeing all activities and tasks that must be accomplished to maintain a desired level of excellence. This includes the determination of a quality policy, creating and implementing quality planning and assurance, and quality control and quality improvement. It is also referred to as total quality management (TQM).

A Quality Management System, or QMS, is essential for improving your business's operations and enabling it to meet the requirements of customers. Many types of quality management systems are built around ISO 9000, a framework requiring all business processes to be documented and for people to follow these closely. Whether you manage all your processes in-house or outsource to, for example, a QMS allows your organization to remain compliant with the latest standards and regulations.

Once your company is ISO certified, implementing Total Quality Management (TQM) enables you to evaluate all processes to improve efficiency and reduce waste. TQM can be implemented in all facets of your business, from the front office to the production floor.

In general, quality management focuses on long-term goals through the implementation of short-term initiatives.

- Quality management is the act of overseeing all activities and tasks needed to maintain a desired level of excellence.

- Quality management includes the determination of a quality policy, creating and implementing quality planning and assurance, and quality control and quality improvement.
- TQM requires that all stakeholders in a business work together to improve processes, products, services and the culture of the company itself.

### **Understanding Quality Management**

At its core, TQM is a business philosophy that champions the idea that the long-term success of a company comes from customer satisfaction and loyalty. TQM requires that all stakeholders in a business work together to improve processes, products, services and the culture of the company itself.

While TQM seems like an intuitive process, it came about as a revolutionary idea. The 1920s saw the rise in reliance on statistics and statistical theory in business, and the first-ever known control chart was made in 1924. People began to build on theories of statistics and ended up collectively creating the method of statistical process control (SPC). However, it wasn't successfully implemented in a business setting until the 1950s.<sup>1</sup>

It was during this time that Japan was faced with a harsh industrial economic environment. Its citizens were thought to be largely illiterate, and its products were known to be of low quality. Key businesses in Japan saw these deficiencies and looked to make a change. Relying on pioneers in statistical thinking, companies such as Toyota integrated the idea of quality management and quality control into their production processes.

By the end of the 1960s, Japan completely flipped its narrative and became known as one of the most efficient export countries, with some of the most admired products. Effective quality management resulted in better products that could be produced at a cheaper price.

### **Real-World Example of Quality Management**

The most famous example of TQM is Toyota's implementation of the Kanban system. A kanban is a physical signal that creates a chain reaction, resulting in a specific action. Toyota used this idea to implement its just-in-time (JIT) inventory process. To make its assembly line more efficient, the company decided to keep just enough inventory on hand to fill customer orders as they were generated.

Therefore, all parts of Toyota's assembly line are assigned a physical card that has an associated inventory number. Right before a part is installed in a car, the card is removed and moved up the supply chain, effectively requesting another of the same part. This allows the company to keep its inventory lean and not overstock unnecessary assets.<sup>2</sup>

A quality system is a structure for managing the quality of the output of a manufacturer.

We have a very stringent quality system for inspecting items and delivering the best products.

A good quality system prevents errors from occurring rather than correcting them after they have happened.

A quality system is a structure for managing the quality of the output of a manufacturer.

### **Accidents in the workplace**

Your employer has a duty to protect you and tell you about health and safety issues that affect you. They must also report certain accidents and incidents, pay you sick pay and give you time off because of an accident at work should you need it.

### **Reporting an accident at work**

Your employer must report serious work-related accidents, diseases and dangerous incidents to the Health and Safety Executive for Northern Ireland (HSENI) or the Health and Safety department at your local authority. They must report:

- death
- major injuries: a broken arm or ribs for example
- dangerous incidents like the collapse of scaffolding, people overcome by gas
- any other injury that stops an employee from doing their normal work for more than three days
- disease

The reporting must be done by your employer, but if you're involved it's a good idea to make sure it has been reported.

### Health and safety at work

Your employer has to carry out a risk assessment and do what's needed to take care of the health and safety of employees and visitors. This includes deciding how many first aiders are needed and what kind of first aid equipment and facilities should be provided.

First aiders have no statutory right to extra pay, but some employers do offer this. Employees must also take reasonable care over their own health and safety.

- Employees' health and safety responsibilities
- Employers' health and safety responsibilities

### Recording accidents

Any injury at work - including minor injuries - should be recorded in your employer's 'accident book'.

All employers (except for very small companies) must keep an accident book. It's mainly for the benefit of employees, as it provides a useful record of what happened in case you need time off work or need to claim compensation later on. But recording accidents also helps your employer to see what's going wrong and take action to stop accidents in future.

### Sick pay

In most cases, if you need time off because of an accident at work, you'll only have the right to Statutory Sick Pay. Your employer may have a scheme for paying more for time off caused by accidents, or may decide to pay extra depending on what has happened.

### Making an injury claim

If you've been injured in an accident at work and you think your employer is at fault, you may want to make a claim for compensation. Any claim must be made within three years of the date of the accident and you'll normally need a lawyer. If you belong to a trade union, you may be able to use their legal services. Or, you should speak to a specialist personal injury lawyer.

By law, your employer must be insured to cover a successful claim and should place a certificate with the name of their employer's insurance company where it can be seen at work. If not, they must give you the details if you need them.



If you're considering suing your employer, remember that the aim of legal damages is to put you in the position you would be in had the accident not happened - it's not about getting hold of some 'free' money. There are also court costs and legal fees to think about.

#### **If you have an accident in the workplace, you should:**

- make sure you record any injury in the 'accident book'
- if need be, make sure your employer has reported it to the HSENI
- check your contract or written statement of employment for information about sick or accident pay
- if there's a dispute, try to sort it out with your employer

### **PERSONAL PROTECTIVE EQUIPMENT (PPE) FOR INFECTION CONTROL**

Personal Protective Equipment (PPE) is specialized clothing or equipment worn by an employee for protection against infectious materials.

PPE prevents contact with an infectious agent or body fluid that may contain an infectious agent, by creating a barrier between the potential i Importance

According to the hierarchy of controls by the National Institute for Occupational Safety and Health (NIOSH), PPE (sometimes also referred to as PPE equipment)—is recommended to be the last level of defense to prevent occupational injuries, illnesses, and fatalities, but some businesses combined it with other control measures to ensure a safe and healthy environment for their workers. Here are some benefits of using PPEs:

- prevent unnecessary injury in the workplace;
- protect employees from excessive chemical exposure;
- prevent the spread of germs and infectious diseases including COVID-19;
- help businesses comply with regulatory requirements (e.g., The Personal Protective Equipment at Work Regulations 1992 that's recently been extended to limb workers); and
- Improve employee productivity and efficiency.

#### **The 4 Basic Types**

However, even the strictest controls will not necessarily eliminate all the risks associated with most job tasks and this is where the need for PPE must be evaluated. A hazard assessment can help identify which specialized PPE will be required. There are numerous types of workplace safety equipment available depending on the hazard exposure and work conditions. The following are basic PPE that can help protect employees:



### Face and Eye Protection

PPE includes safety goggles and face shields and should be used for tasks that can cause eye damage or loss of vision, sprays of toxic liquids, splashes, and burns.

#### Safety Tips:

- Check if safety glasses comply with the ANSI Z87.1 eye protection standard.
- Ensure that there are no cracks or deformities on the lenses.
- Ensure the strap is in good working condition and is firmly sealed to the cheek and forehead.
- Clean and disinfect after use.



### Respiratory Protection

PPE includes full-face respirators, self-contained breathing apparatus, gas masks, N95 respirators, and surgical masks are used for a task that can cause inhalation of harmful materials to enter the body. This includes harmful gas, chemicals, large-particle droplets, sprays, splashes, or splatter that may contain viruses and bacteria such as COVID-19, viral infections, and more.

#### Safety Tips:

- Ensure that the equipment is fit-tested and the employee has undergone proper training before wearing one.
- Carefully read the instructions to determine if it is designed to help protect against the hazards you may face.
- Change filters on half-mask or full-mask respirators frequently.

- Replace disposable respirators with every use.
- Surgical masks are not to be shared with anyone.
- Avoid touching the surgical mask after wearing it.
- Change surgical mask timely and should be disposed of after use.
- Replace the mask immediately if it is damaged or soiled.



### **Skin and Body Protection**

PPE includes the following categories to protect employees from physical hazards:

#### **Head Protection**

PPE includes hard hats and headgears and should be required for tasks that can cause any force or object falling to the head.

#### **Safety Tips:**

- Ensure that there are no dents or deformities on the shell and connections are tightened inside.
- Do not store in direct sunlight as extreme heat can cause damage.
- Choose appropriate cleaning agents as it can weaken the shells of hard hats and may eliminate electrical resistance.
- Always replace a hard hat if it was used for any kind of impact, even if the damage is unnoticeable.

#### **Body Protection**

PPE includes safety vests and suits that can be used for tasks that can cause body injuries from extreme temperatures, flames and sparks, toxic chemicals, insect bites and radiation.

#### **Safety Tips:**

- Ensure that they are clean and free from cuts and burns.
- Always get a good fit to ensure full body protection.
- Ensure bodysuit is heat-resistant clothing when working with high-temperature hazards.

#### **Hands Protection**

PPE includes safety gloves and should be used for tasks that can cause hand and skin burns, absorption of harmful substances, cuts, fractures or amputations.

#### **Safety Tips:**

- Ensure hand protection fits perfectly with no spaces and is free from cuts, burns and chemical residue.
- Always replace them if any sign of contamination was observed.
- Use rubber gloves when working with heat and electricity to reduce the risk of burn or electrical shock.

### Foot Protection

PPE includes knee pads and safety boots and should be used for tasks that can cause serious foot and leg injuries from falling or rolling objects, hot substances, electrical hazards, and slippery surfaces.

#### Safety Tips:

- Ensure boots have slip-resistant soles that can protect against compression and impact.
- Ensure the sole plate is in good condition to prevent punctures.

### Fall Protection

PPE includes safety harnesses and lanyards and should be strictly used for tasks that can cause falling from heights and serious injury or death.

#### Safety Tips:

- Ensure that the straps are free from tears, deformities and burn marks.
- Check the buckles if connected securely and tightly.
- Dispose of the equipment if used after a falling incident.



**Skin and Body Protection**

Skin and body protective equipment should be worn by workers to avoid injuries and accidents caused by:

- Falling objects
- Falling from heights
- Extreme temperatures
- Radiation
- Flames and sparks
- Toxic chemicals
- Sharp materials

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The infographic features a central illustration of a worker in full protective gear: a yellow hard hat, orange safety glasses, orange gloves, a yellow high-visibility vest with reflective stripes, orange safety boots, and a yellow safety harness. To the right of the worker is a list of hazards. The background is a light blue gradient.

### Hearing Protection

PPE includes ear muffs and plugs and should be used for tasks that can cause hearing problems and loss of hearing.

#### Safety Tips:

- Ensure the equipment fit the ear canal perfectly.
- It is recommended to use formable earplugs to fit on different sizes of ear canals.
- Use protectors that reduce noise exposure to an acceptable level to have a room for communication.
- Ensure earplugs are clean and in good condition.

## Hearing Protection



Workers exposed to excessive noise should wear proper hearing protection to prevent hearing damage and loss of hearing. Some hearing protection they can use are:

- Single-use earplugs
- Pre-formed or molded earplugs
- Earmuffs

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### PPE Safety Requirements

To promote PPE safety in their workplace, safety officers will need to do the following:

- Check work sites regularly for the need of PPE.
- If PPE is needed, provide employees with properly-fitted PPE.
- Train employees on OSHA PPE standards.
- Provide protective goggles or face shields when there is a danger of flying particles or corrosive materials.
- Require that safety glasses are worn at all times in worksites that pose risk of eye punctures, abrasions, contusions, or burns.
- Provide and require protective gloves in situations where employees could be cut or be possibly exposed to corrosive liquids, chemicals, blood, and other potentially infectious materials.
- Require the use of foot protection when there is risk of foot injury from hot, corrosive, or poisonous substances, and falling objects.
- Inspect hard hats periodically for damage to the shell and suspension system.
- Maintain PPE in sanitary and ready-to-use conditions.
- Ensure that eyewash facilities and quick drench showers are easily accessible for employees when they are accidentally exposed to corrosive materials.
- Establish safe work procedures for disposing of or decontaminating PPE after hazardous exposures.

Improve safety in your workplace with SafetyCulture Marketplace as your one-stop shop for all work gear and equipment needs. Get on-demand access to top quality and specialized work gear from trusted equipment brands in the industry—all in one centralized location. Raise the bar of safety and efficiency by empowering employees to request what they need with just a few taps, anytime and anywhere!

Ensure proper usage of PPE with PPE courses

Providing personal protective equipment (PPE) for your workers alone is not enough to protect them from hazards, injuries, and accidents, especially in industries such as construction, manufacturing, and healthcare. To ensure that their PPE fully serves its function, it's crucial that your workers understand its proper use, maintenance, and disposal to protect themselves (as well as the people they serve, in the case of healthcare workers). Thankfully, training is made easy and convenient for you with the available PPE courses online that your workers can take at their own convenience.

Here, you'll find our highly recommended PPE courses that will cover the different types of PPE and demonstrate when and how to use them properly. Reinforcing PPE training will not only keep your workers safe from hazards but also boost productivity without any threat of unwanted incidents, such as:

- Personal Protective Equipment (PPE) for Manufacturing
- Personal Protective Equipment (PPE) for Construction

### **PPE Safety Software**

SafetyCulture (formerly iAuditor) provides a digital space for safety officers and employees to work towards PPE safety. SafetyCulture helps teams perform hazard assessments to determine if enforcing PPE use is the best control measure for the task. It also allows employees to maintain PPE with ease.

Using the SafetyCulture app, employees can take pictures of PPE defects and even annotate photos to show where the damage is. Tracking the number of usable PPE is easier for safety officers as well and they are better equipped to provide what their employees need to get the job done.

### **PPE Inspections with SafetyCulture**

By using SafetyCulture for PPE inspections, safety officers are able to protect employees from the hazards of the job by ensuring that their PPEs are always in good condition.

With SafetyCulture, conducting regular PPE inspections is easy with convenient access to inspection data automatically stored in the cloud. Safety officers can also generate PPE inspection reports instantly with just one tap, anytime, and anywhere.

Beyond PPE inspections, SafetyCulture can also be used to develop an organization's health and safety program by enabling safety officers to do the following:

- Enforce standardized safety protocols across teams and different sites
- Mitigate risks with a wide variety of free risk assessment templates
- Plan corrective actions immediately to prevent incidents from occurring

### **Ensuring Safety and Protecting Employees**

PPE Safety is the practice of ensuring a safe, working environment for employees and visitors through the use of Personal Protective Equipment (PPE). Safety is paramount to all businesses across industries. Using PPEs, paired with inspections such as workplace and restaurant inspections, assessments like health and safety risk assessments, and analysis such as gap analysis—is essential to protect employees from risks and hazards.

## **SWOT ANALYSIS**

One way to explore these questions is through the use of another device partially borrowed from TQM: SWOT analysis. SWOT stands for Strengths, Weaknesses, Opportunities, and Threats. Each of the questions above can be examined in the light of SWOT analysis. What are the strengths and weaknesses of your organization in regard to each question? What opportunities exist for the organization in each area of its functioning? And what threats or challenges will the organization have to overcome if it is to continue to be successful, and to maintain quality performance?

**Strengths and weaknesses:** Strengths and weaknesses may be trends, rather than specifics. A level of service that is currently appropriate, for example, is not a strength if it is more or less than will be needed in a year. A new program that's not ready to implement yet is not a weakness if it's unready because the developers are taking the time necessary to make it effective.

By the same token, strengths and weaknesses don't necessarily lie only in the success of programs or the skills of staff members, but in such areas as relationships, contacts, and reputation. An organization running a great program may still be have serious weaknesses because it lacks some of these other features, no matter how well it carries out its day-to-day activities.

**Opportunities:** Opportunities can take many forms:

- An organization may be able to **meet other needs** with its current structure. For instance, an organization that publicizes and provides prenatal care to pregnant teens could be in an excellent position to also publicize and provide vaccinations, nutrition information, and help with parenting skills after the babies are born.
- It may be possible to **expand into other areas of service**, or into a larger arena (another town, another county, national instead of just one state).
- Increased funding may be available from new sources, or because of changed circumstances. A new census, for example, can result in an increase in federal funds to a region, or an economic downturn may bring a demand – and increased funding – for adult education or retraining.
- Collaboration with other groups, leading to increased resources, may become a prospect.
- Invitations or awards offered to your organization or staff members or good press may lead to your organization being viewed as more "legitimate."

Taking advantage of any opportunity can have both positive and negative consequences for your organization, so it's important to analyze the situation carefully before committing yourself.

**Threats (Challenges):** Some of the challenges that go along with any opportunity can be truly daunting if they're not thought through carefully. Many of the opportunities above require some sort of organizational restructuring or growth, processes that are always difficult, and require a lot of planning. Some even represent rethinking the purpose of the organization, which may become a different organization in the process. In becoming larger or more accepted, for instance, an organization may forget its roots or its guiding principles, and lose much of its effectiveness.

Other threats may come unaccompanied by opportunity. Your organization may experience difficulty finding – and keeping – ongoing funding and other resources, including competent staff; sustaining continued effort in all areas of functioning (advertising, recruitment, public relations, programming, evaluation, etc.); dealing with controversy; and addressing antagonism from individuals, other groups, or the community.

Applying SWOT analysis to all the areas your organization has to deal with makes it easier both to anticipate and prepare for the negative, and to remember to identify and build on the positive.

## UNIT-8

### LEGISLATION

- a) Intellectual Property Rights(IPR), Patents, Trademarks, Copyrights
- b) Features of Factories Act 1948 with Amendment (only salient points)
- c) Features of Payment of Wages Act 1936 (only salient points)

#### INTELLECTUAL PROPERTY RIGHTS (IP RIGHTS)

Intellectual Property Rights (IP Rights) are like any other property rights which are intangible in nature. The IP Rights usually give the creator an exclusive right over the use of his/her creation for a certain period of time. With the rapid increase in the globalization and opening up of the new vistas in India, the "Intellectual Capital" has become one of the key wealth drivers in the present era. There are different country specific legislations, as well international laws and treaties that govern IP rights.

Every startup has IP Rights, which it needs to understand and protect for excelling in its business. Every startup uses trade name, brand, logo, advertisements, inventions, designs, products, or a website, in which it possesses valuable IP Rights. While starting any venture, the startup also needs to confirm that it is not in violation of the IP Rights of any other person to save itself from unwarranted litigation or legal action which can thwart its business activities. Further, startup ventures should be proactive in developing and protecting their intellectual property for many reasons like improving the valuation of its business, to generate better goodwill, to protect its competitive advantage, to use intellectual property as a marketing edge and to use the IP Rights as a potential revenue stream through licensing.

IP Rights protect several aspects of a business and each type of IP Right carries its own advantages. The scope of IP Rights is very wide, but the prime areas of intellectual property which are of utmost importance for any startup venture are as follows:

- Trademarks
- Patents
- Copyrights and Related Rights
- Industrial Designs
- Trade Secrets

#### TRADEMARKS

The Trade Marks Act 1999 ("TM Act") provides, inter alia, for registration of marks, filing of multiclass applications, the renewable term of registration of a trademark as ten years as well as recognition of the concept of well-known marks, etc. It is pertinent to note that the letter "R" in a circle i.e. ® with a trademark can only be used after the registration of the trademark under the TM Act.

Trademarks means any words, symbols, logos, slogans, product packaging or design that identify the goods or services from a particular source. As per the definition provided under Section 2 (zh) of the TM Act, "trade mark" means a mark capable of being represented graphically and which is capable of distinguishing the goods or services of one person from those of others and may include shape of goods, their packaging and combination of colors.

The definition of the trademark provided under the TM Act is wide enough to include non-conventional marks like color marks, sound marks, etc. As per the definition provided under Section 2 (m) of the TM Act, "mark" includes a device, brand, heading, label, ticket, name, signature, word, letter, numeral, shape of goods, packaging or combination of colors or any combination thereof.

Accordingly, any mark used by the startup in the trade or business in any form, for distinguishing itself from other, can qualify as trademark. It is quite significant to note that the Indian judiciary has been proactive in the protection of trademarks, and it has extended the protection under the trademarks law



to Domain Names as demonstrated in landmark cases of *Tata Sons Ltd v Mamu Kosuri & Ors* [90 (2001) DLT 659] and *Yahoo Inc. v Akash Arora* [1999 PTC 201].

### Points to Consider While Adopting a Trademark

Any startup needs to be cautious in selecting its trade name, brands, logos, packaging for products, domain names and any other mark which it proposes to use. You must do a proper due diligence before adopting a trademark. The trademarks, can be broadly classified into following five categories:

- a. **Generic**
- b. **Descriptive**
- c. **Suggestive**
- d. **Arbitrary**
- e. **Invented/Coined**

Generic marks means using the name of the product for the product, like "Salt" for salt.

Descriptive marks means the mark describing the characteristic of the products, like using the mark "Fair" for the fairness creams.

Suggestive marks means the mark suggesting the characteristic of the products, like "Habitat" for home furnishings products.

Arbitrary marks means mark which exist in popular vocabulary, but have no logical relationship to the goods or services for which they are used, like "Blackberry" for phones.

The invented/ coined marks means coining a new word which has no dictionary meaning, like "Adidas". The strongest marks, and thus the easiest to protect, are invented or arbitrary marks. The weaker marks are descriptive or suggestive marks which are very hard to protect. The weakest marks are generic marks which can never function as trademarks.

India follows the NICE Classification of Goods and Services for the purpose of registration of trademarks. The NICE Classification groups products into 45 classes (classes 1-34 include goods and classes 35-45 include services). The NICE Classification is recognized in majority of the countries and makes applying for trademarks internationally a streamlined process. Every startup, seeking to trademark a good or service, has to choose from the appropriate classes, out of the 45 classes.

While adopting any mark, the startup should also keep in mind and ensure that the mark is not being used by any other person in India or abroad, especially if the mark is well-known. It is important to note that India recognizes the concept of the "Well-known Trademark" and the principle of "Trans-border Reputation".

Example of well-known trademarks are Google, Tata, Yahoo, Pepsi, Reliance, etc. Further, under the principle of "Trans-border Reputation", India has afforded protection to trademarks like Apple, Gillette, Whirlpool, Volvo, which despite having no physical presence in India, are protected on the basis of their trans-border reputation in India.

### Enforcement of Trademark Rights

Trademarks can be protected under the statutory law, i.e., under the TM Act and the common law, i.e., under the remedy of passing off. If a person is using a similar mark for similar or related goods or services or is using a well-known mark, the other person can file a suit against that person for violation of the IP rights irrespective of the fact that the trademark is registered or not.

Registration of a trademark is not a pre-requisite in order to sustain a civil or criminal action against violation of trademarks in India. The prior adoption and use of the trademark is of utmost importance under trademark laws.

The relief which a court may usually grant in a suit for infringement or passing off includes permanent and interim injunction, damages or account of profits, delivery of the infringing goods for destruction and cost of the legal proceedings. It is pertinent to note that infringement of a trademark is also a cognizable offence and criminal proceedings can also be initiated against the infringers.

## **PATENTS**

Patent, in general parlance means, a monopoly given to the inventor on his invention to commercial use and exploit that invention in the market, to the exclusion of other, for a certain period. As per Section 2(1) (i) of the Patents Act, 1970, "invention" includes any new and useful;

- i. **art, process, method or manner of manufacture;**
- ii. **machine, apparatus or other article;**
- iii. **substance produced by manufacture, and includes any new and useful improvement of any of them, and an alleged invention;**

The definition of the word "invention" in the Patents Act, 1970 includes the new product as well as new process. Therefore, a patent can be applied for the "Product" as well as "Process" which is **new**, involving inventive step and capable of industrial application can be patented in India.

The invention will not be considered new if it has been disclosed to the public in India or anywhere else in the world by a written or oral description or by use or in any other way before the filing date of the patent application. The information appearing in magazines, technical journals, books etc. will also constitute the prior knowledge. If the invention is already a part of the state of the art, a patent cannot be granted. Examples of such disclosure are displaying of products in exhibitions, trade fairs, etc. explaining its working, and similar disclosures in an article or a publication.

It is important to note that any invention which falls into the following categories, is not patentable: (a) frivolous, (b) obvious, (c) contrary to well established natural laws, (d) contrary to law, (e) morality, (f) injurious to public health, (g) a mere discovery of a scientific principle, (h) the formulation of an abstract theory, (i) a mere discovery of any new property or new use for a known substance or process, machine or apparatus, (j) a substance obtained by a mere admixture resulting only in the aggregation of the properties of the components thereof or a process for producing such substance, (k) a mere arrangement or rearrangement or duplication of known devices, (l) a method of agriculture or horticulture, and (m) inventions relating to atomic energy or the inventions which are known or used by any other person, or used or sold to any person in India or outside India. The application for the grant of patent can be made by either the inventor or by the assignee or legal representative of the inventor. In India, the term of the patent is for 20 years. The patent is renewed every year from the date of patent.

### **Use of Technology or Invention**

While using any technology or invention, the startup should check and confirm that it does not violate any patent right of the patentee. If the startup desires to use any patented invention or technology, the startup is required to obtain a license from the patentee.

### **Enforcement of Patent Rights**

It is pertinent to note that the patent infringement proceedings can only be initiated after grant of patent in India but may include a claim retrospectively from the date of publication of the application for grant of the patent. Infringement of a patent consists of the unauthorized making, importing, using,

offering for sale or selling any patented invention within the India; Under the (Indian) Patents Act, 1970 only a civil action can be initiated in a Court of Law. Like trademarks, the relief which a court may usually grant in a suit for infringement of patent includes permanent and interim injunction, damages or account of profits, delivery of the infringing goods for destruction and cost of the legal proceedings.

## **COPYRIGHT**

Copyright means a legal right of an author/artist/originator to commercially exploit his original work which has been expressed in a tangible form and prevents such work from being copied or reproduced without his/their consent.

Under the Copyright Act, 1957, the term "work", in which copyright subsists, includes an artistic work comprising a painting, a sculpture, a drawing (including a diagram, a map, a chart or plan), an engraving, a photograph, a work of architecture or artistic craftsmanship, dramatic work (recitation, choreographic work), literary work (including computer programmes, tables, compilations and computer databases), musical work (including music as well as graphical notations), sound recording and cinematographic film.

In the case of original literary, dramatic, musical and artistic works, the duration of copyright is the lifetime of the author or artist, and 60 years counted from the year following the death of the author and in the case of cinematograph films, sound recordings, posthumous publications, anonymous and pseudonymous publications, works of government and works of international organizations are protected for a period of 60 years which is counted from the year following the date of first publication.

In order to keep pace with the global requirement of harmonization, the Copyright Act, 1957 has brought the copyright law in India in line with the developments in the information technology industry, whether it is in the field of satellite broadcasting or computer software or digital technology.

### **Registration of Copyright**

In India, the registration of copyright is not mandatory as the registration is treated as mere recordal of a fact. The registration does not create or confer any new right and is not a prerequisite for initiating action against infringement. The view has been upheld by the Indian courts in a catena of judgments. Despite the fact that the registration of copyright is not mandatory in India and is protectable through the International Copyright Order, 1999, it is advisable to register the copyright as the copyright registration certificate is accepted as a "proof of ownership" in courts and by police authorities, and acted upon smoothly by them.

### **Enforcement of Copyright in India**

Any person who uses the original work of the other person without obtaining license from the owner, infringes the copyright of the owner. The law of copyright in India not only provides for civil remedies in the form of permanent injunction, damages or accounts of profits, delivery of the infringing material for destruction and cost of the legal proceedings, etc, but also makes instances of infringement of copyright, a cognizable offence punishable with imprisonment for a term which shall not be less than six months but which may extend to three years, with a fine which shall not be less than INR 50,000 but may extend to INR 200,000.

For the second and subsequent offences, there are provisions for enhanced fine and punishment under the Copyright Act. The (Indian) Copyright Act, 1957 gives power to the police authorities to register the Complaint (First Information Report, i.e., FIR) and act on its own to arrest the accused, search the premises of the accused and seize the infringing material without any intervention of the court.

## **INDUSTRIAL DESIGNS**

As per the definition given under Section 2(d) of the Designs Act, 2000, "design" means only the features of shape configuration patterns or ornament applied to any article by any industrial process or means whether manual mechanical or chemical separate or combined which in the finished article appeal to and are judged solely by the eye. However, "design" does not include any mode or principle of construction or anything which is in substance a mere mechanical device and does not include any trademark as defined under the TM Act or any artistic work as defined under the Copyright Act, 1957. The total period of validity of registration of an Industrial Design under the (Indian) Designs Act, 2000 is 15 years.

Features of shape, configuration, pattern, ornament or composition of lines or colours applied to any article, whether in two dimensional or three dimensional or in both forms, can be registered under the (Indian) Designs Act, 2000. However, functionality aspects of a design are not protected under the (Indian) Designs Act, 2000, as the same are subject matter of patents.

Design of an article is not registrable in India, if it:

- is not new or original;
- has been disclosed to the public anywhere in India or in any other country by publication in tangible form or by use in any other way prior to the filing date or priority date of the application;
- is not significantly distinguishable from known designs or combination of known designs; or
- comprises or contains scandalous or obscene matter.

### **Enforcement of Design Rights in India**

The (Indian) Designs Act, 2000, only provides for civil remedies. Besides injunction, monetary compensation is recoverable by the proprietor of the design either as contract debt or damages. An action for infringement of design can only be initiated after the registration of the design, however, an action for passing-off is maintainable in case of unregistered design.

### **TRADE SECRETS**

Trade secrets includes any confidential business information which provides an enterprise a competitive edge over others. Trade secrets encompass manufacturing or industrial secrets and commercial secrets, formula, practice, process, design, instrument, pattern, commercial method, or compilation of information which is not generally known or reasonably ascertainable by other.

The unauthorized use of such information by persons other than the holder is regarded as an unfair practice and a violation of the trade secret. There are no specific statutes under the Indian law for the protection of trade secrets and the same are protectable under the common law rights.

### **STRATEGIES FOR PROTECTION AND EXPLOITATION OF IPR FOR STARTUPS**

#### **1. Make Intellectual Property protection a priority:**

Start-ups cannot afford the complete protection available under the intellectual property regime. The first step for any startup is to evaluate and prioritize the IP Rights involved in its business. Depending upon the type of industry involved, IP Rights play an important role. Failure to identify or prioritize IP Rights, is likely to create problems for startup's business, especially during negotiations with future investors or exiting its business. Sometimes IP Rights are the only asset available with a startup.

#### **2. Register Intellectual Property Rights:**

It is important to note that certain IP Rights like patents and designs are required to be registered before claiming any protection under the respective statutes. On the other hand,

certain IP Rights like trademark and copyright need not be mandatorily registered for protection under. Nevertheless, a registered IP Right carries a greater value and acts as evidence of use of the IP Rights before courts as well as enforcement agencies:

### 3. **Due Diligence of IP Rights:**

For any startup, it is indispensable that it does not violate IP Rights of any other person. This will ensure safety from unwarranted litigation or legal action which can thwart its business activities. This makes it even more important for startups to make careful IP decisions in the initial phase and conduct proper due diligence of IP Rights, which it is using or intends to use.

### 4. **Implement clear and effective policies and strategies for protection of IP Rights:**

It is in the long term interest of startups to have an Intellectual Property Policy for management of various IP rights which may be presently owned, created or acquired in future by startups. The aim of such a policy is to ensure that there are no inter-se dispute between the promoters of the startups, which remains till date to be one of the main concerns for failure of startups.

### 5. **Agreements related to Intellectual Property:**

It is pertinent to note that having proper documentation in the form of agreements like non-disclosure agreements, agreements with employees or independent contractors, can make all the difference between the success and failure of startups. Usually, intellectual property is created either by the founders or some key employee or a third party. The intellectual property so created, must be protected through a proper agreement between the founder or key employee or a third party, as the case may be and the startup. If the agreement, with founders or employees or a third party, under which a novel idea was/is created, is overlooked, it could create bottlenecks later after such idea becomes successful. Accordingly, the startups need to ensure that anything created on behalf of the startup, belongs to the startup and not the Employee or a third party. Further, it is advisable to enter into elaborate assignments, licensing or user agreements, and care should be taken to make provisions for all post termination IP Right issues.

## **What is intellectual property and what is intellectual property rights?**

The World Intellectual Property Organisation defines intellectual property as creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce.

In simple terms, anything that you create by applying your mind or intellect becomes your intellectual property. For example, you are setting up a business of your own and have designed a logo for your brand. That logo is your intellectual property. Similarly a scientific invention is also an intellectual property.

When you create a logo for your brand, you will want it to be unique and resonate with your brand. You want to stand out from your competitors and also make sure your ideas are not copied or misused. This is where intellectual property rights come in.

Intellectual property rights are given to creators for a specific amount of time. During this time the creator is protected from infringement and can license their product for manufacturing in return for a royalty.

The legal rights provided to the creator or inventor of intellectual property are known as intellectual property rights. Every creator enjoys certain privileges provided by the law that protects the creators from infringement or misuse of their work without their explicit permission. Intellectual property rights also aid creators in putting their work to use for the general public by allowing for commercial licensing.

Intellectual property rights are granted to creators for a limited period of time.

### **What are the types of intellectual property?**

As mentioned earlier, intellectual property is an umbrella term used to describe creations of the human mind. For the purpose of intellectual property rights protection, IP can be categorised as the following:

1. **Trademarks:** This refers to any symbols, logos, signs, words and/ or sounds that are unique to a product or business. For example, the trademark blue bird logo for Twitter is its representative of its brand and is protected by intellectual property rights.
2. **Copyrights:** This is applicable to any published work such as books, art work, songs, web content and films, among others. Your favourite cartoon duo Tom and Jerry are artwork copyrighted by Disney.
3. **Patents:** Any new invention that holds the potential being put to commercial use is protected from infringement or duplication by a patent. Recently, pharma major Cipla lost a patent battle to Amgen Inc over the injectable cancer drug Kyprolis.
4. **Industrial designs:** These are features such as shape, pattern, ornament or composition applied to a product by an industrial process such as by chemical process or mechanical process.
5. **Geographical indicators:** A name or sign used on certain products that marks the identity of a particular geographical location or origin is termed as a geographical indicator. For example, West Bengal holds the geographical indicator tag for its beloved Rosogolla.

### **Indian laws to protect intellectual property**

In India, intellectual property rights are protected by a host of laws and rules issued by the government from time to time. Primarily, intellectual property rights are protected by the following legislation and rules:

1. **Trade Marks Act, 1999 and Trade Marks Rules of 2002 and 2017.** Your beloved mango drink Maaza was embroiled in a trademark controversy when Coca Cola claimed infringement of trademark over Bislari. Originally a drink by Bislari, the trademarks for the drink was sold to Coca Cola by Bislari. However, in 2008, Bislari filed for registering the trademark for Maaza in Turkey, which was then contested by Coca Cola.
2. **The Patents Act, 1970 (as amended in 2005), 2003 Patent Rules and 2016 Patent Amendment Rules**
3. **The Copyright Act, 1957.** The most notable case under this Act was the 'Tips vs Wynk' music fallout. Tips Industries and streaming platform Wynk had entered an agreement where the latter was granted a licence to access the large music database of Tips. At the end of this agreement, amid negotiations for extending the agreement, Tips alleged that Wynk was infringing on its IP. The judgement was in favour of Tips Industries.
4. **The Designs Act, 2000, and Designs Rules, 2001**
5. **The Geographical Indications of Goods (Registration and Protection) Act, 1999**
6. **The Semiconductor Integrated Circuits Layout Design Act, 2000**
7. **The Protection of Plant Varieties and Farmers' Right Act, 2001**

While these laws provide domestic protection to intellectual property rights, India has also signed agreements with various countries for safeguarding intellectual property.

### **How to protect your intellectual property in India**

The intellectual property laws in the country are designed to support innovation and research. In order to reap the benefits of intellectual property rights in the country, the first step is to register your creation. You can register your intellectual property for patents, trademarks or copyrights. In case of an infringement, you can challenge the same as civil disputes in the court of law.

## Advantages of intellectual property rights

Here's why it is important to look after intellectual property rights:

1. **Ownership:** In a competitive world, entrepreneurs, businesses and researchers are constantly trying to outdo each other. A determining factor to win in this competition is ownership of the creation. Intellectual property rights ensure that the creator holds the sole authority over their creation.
2. **Infringement:** With intellectual property rights, creators are protected against any competitor illegally contravening on the creation. For example, an entrepreneur's scientific invention is their own. They are the sole owner of the creation and can choose to do what they wish with it. Anybody using the scientific invention for any purpose without paying due credit or royalty to the creator is liable to face legal action.
3. **Commercialisation:** Intellectual property rights are of great importance when a creator wishes to commercialise their product. It paves the way for the creator to issue a licence for mass production of the product in exchange for monetary benefits and royalty.
4. **Learning:** While registering a new intellectual property, the creator has to reveal details of the product to the general public. This practice encourages a culture of sharing of information that can be used for further development by contemporaries in the field.

Final note: Intellectual property rights are important drivers of the economic growth of a country. For inventors and entrepreneurs, who are constantly competing with each other to stand out in the market, intellectual property rights are essential.

In India, intellectual property rights safeguard the interests of the inventor. You can bring civil or criminal cases against competitors to enforce your intellectual property rights, depending on the infringement or violation.

There are only three ways to protect intellectual property in the United States: through the use patents, trademarks or copyrights. A patent applies to a specific product design; a trademark to a name, phrase or symbol; and a copyright to a written document. All three methods have limitations—there's no one perfect way to protect an idea.

## Copyright Protection

A copyright will protect the following categories of works:

- literary works
- musical works, including any accompanying words
- dramatic works, including any accompanying music
- pantomimes and choreographic works
- pictorial, graphic and sculptural works
- motion pictures and other audiovisual works
- sound recordings
- architectural works
- computer programs (sometimes the graphical user interface) and websites

Copyright protection gives the copyright holder the exclusive right to copy the work, modify it (that is, create "derivative works"), and distribute, perform and display the work publicly.

Ideas or concepts do not have copyright protection. Copyright protects the expression of the idea, but not the ideas themselves. For example, if I ask you what a chair is, you get a picture in your head; the

picture I get in my head is different from the picture you get in your head and probably also different from the picture Buffy gets in her head. These are the "ideas" of what a chair is. However, if you were to draw the chair you envisioned in your head or use words to describe that chair, it's an "expression" of the idea--and that's what's protected by copyright.

Generally, the only protection for ideas and concepts is through trade secret law and/or confidentiality agreements, which provide a contractual remedy for misuse or disclosure of the idea.

## Patents

Patents protect processes, methods and inventions that are "novel," "non-obvious" and "useful." If granted, a patent gives you a 20-year monopoly on selling, using, making or importing an invention into the United States. The requirements for a patent are complex, but here they are in a nutshell:

- **Your work must be novel.** This means it must not be known or used by others in this country, or patented or described in a printed publication here or abroad, or in public use or for sale in this country more than one year prior to the application for patent.
- **Your work must be non-obvious.** This means it must not be obvious to a person having ordinary skill in the pertinent art as it existed when the invention was made.
- **Your work must be useful.** This means that it must have current, significant, beneficial use as process, machine, manufacture, composition of matter or improvements to one of these. According to the Patent Office: "The word 'process' is defined by law as a process, act or method, and primarily includes industrial or technical processes. The term 'machine' used in the statute needs no explanation. The term 'manufacture' refers to articles that are made, and includes all manufactured articles. The term 'composition of matter' relates to chemical compositions and may include mixtures of ingredients as well as new chemical compounds. These classes of subject matter taken together include practically everything which is made by man and the processes for making the products."

Patent protection requires full public disclosure of the work in detail and therefore precludes maintaining any trade secret protection in the same work.

## Trademarks

A trademark is like a brand name. It is any word(s) or symbol(s) that represent a product to identify and distinguish it from other products in the marketplace. A trademark word example would be "Rollerblades." A trademark symbol would be the peacock used by NBC.

A trademark can be registered in three ways:

1. By filing a "use" application after the mark has been used.
2. By filing an "intent to use" application if the mark has not yet been used.
3. In certain circumstances in which a foreign application exists, you can rely on that.

The (TM) mark may be used immediately next to your mark. The ® registration symbol may only be used when the mark is registered with the PTO. It is unlawful to use this symbol with your mark before receiving an issued registration from the PTO.

What qualities make for a strong trademark? The cardinal rule is that a mark must be distinctive. The more distinctive it is, the easier your trademark will be to enforce. This is why so many trademarked products have unique spellings.



Trademark rights last indefinitely if the company continues to use the mark to identify its goods or services. When the mark is no longer being used, the registration is terminated. The initial term of federal trademark registration is 10 years, with 10-year renewal terms.

### **Trade Secrets**

There is a great deal of confusion regarding trade secrets. Many people think that a trade secret is some type of protection provided by the government that allows them to seek recourse in court should someone infringe upon their idea. However, unlike copyrights, trademarks and patents, a trade secret is not registered with any government office to provide a verifiable public record of any claims to the secret. You can, however, declare one to a patent lawyer in a notarized and signed disclosure. In this manner the trade secret belongs to you forever--or until someone leaks it.

Trade secrets refer to items such as recipes that are unique and provide a business with a competitive advantage, but which cannot be safeguarded under current forms of idea protection such as copyright, trademark or patent. The best form of protection for these items is to keep them a secret. One of the most famous and best-kept trade secrets is the formula for Coca-Cola.

The best way to secure the information for a trade secret is to restrict access to the secret and have individuals and companies sign nondisclosure agreements with you should you enter into a relationship with them which will require them to know some aspects of the secret. If someone independently develops or reverse-engineers your trade secret, there's nothing you can do. If someone does leak it, you can sue for theft. Suing, however, cannot stop the person from using the leaked information. So although you may get money from the suit, you lose the larger potential profits you could have made from the idea. Still, if your luck holds and your trade secret remains secret, royalty income from it can last significantly longer than the patent period.

## **FEATURES OF FACTORY ACT 1948**

### **Introduction**

The Factories Act of 1948 was enacted to protect the welfare of workers in a factory by regulating employment conditions, working conditions, the working environment, and other welfare requirements of specific industries. The Court held in *Ravi Shankar Sharma v. State of Rajasthan* (1993) that the Factory Act is social legislation that covers the health, safety, welfare, and other aspects of factory workers. The Factories Act lays out guidelines and safety measures for using machinery, and with its strict compliance, it also provides owners with instructions. When factory workers were taken advantage of and exploited by paying them low wages, the Factories Act was passed.

A factory is a building or group of buildings where people work with machinery to make goods. The primary goal of the Factories Act is to safeguard employees in a factory from industrial and occupational risks. This Act gives the owner or occupier of a factory a particular responsibility to secure and protect employees from employment in conditions harmful to their health and safety in order to safeguard workers. It is stated in the Act that the purpose of the Factories Act is to amend and consolidate the legal framework governing factory labour. The Bhopal gas tragedy case (1984) raised public awareness of factory pollution and risks, necessitating government action to allow legislation amendments.

Salient features of Factories Act, 1948 with Amendment:-

The important features of the 1948 Act are as follows:

- The word "factory" has been expanded by the Factories (Amendment) Act of 1976 to include contract labour when determining whether a factory has a minimum of 10 or 20 employees.
- The Act increased the minimum age for children to work in workplaces from 12 to 14 and reduced their daily working hours from 5 to 4 and a half.
- The Act forbids women and children from working in factories from 7 p.m. to 6 a.m.
- The difference between a seasonal and non-seasonal factory has been abolished by the Act.
- The Act, which has provisions for factory registration and licencing.
- The state government is required to make sure that all factories are registered and also have valid licences that are renewed from time to time.
- The Act gives state governments the authority to enact rules and regulations that ask for management and employee association for the benefit of employees.
- The state government has the authority to apply the Act's requirements to any establishment, regardless of the number of employees inside and regardless of whether the establishment engages in manufacturing operations.
- In *Rabindra Agarwal v. State of Jharkhand* (2010), the Jharkhand High Court held that the Factories Act, special legislation would prevail over the Indian Penal Code.

#### Objectives of Factories Act, 1948

- The major goal of the Factories Act of 1948 is to establish adequate safety measures and to enhance the health and welfare of workers employed in a factory. The Act also protects workers from various industrial and occupational hazards.
  - **Health:** According to the Act, all factories must be kept clean, and all essential safeguards must be taken to safeguard the health of workers. The factory must have a sufficient drainage system, adequate lighting, ventilation, temperature, etc. There must be clean water supplies. Separate restrooms and urinals must be built in convenient locations for males and females. These must be freely accessible to employees and kept clean.
  - **Safety:** The Act requires that machines be properly fenced; that no young adults work on any dangerous machines in enclosed places, and also that appropriate manholes be provided so that employees may escape in an emergency.
  - **Welfare:** The Act specifies that appropriate and suitable washing facilities for workers must be provided and maintained in every factory. There must be storage and drying facilities, as well as sitting areas, first-aid equipment, shelters, restrooms and lunch rooms.
- The Act also imposes some restrictions on the employment of women, small children, and teenagers, such as working hours, intervals, holidays, etc., as well as on annual leave with pay, etc.
  - **Working hours:** The Act sets working hours for all workers, and no adult worker must be permitted to work in a workplace for more than 48 hours per week. Weekly holidays need to be granted.
- The Act also imposes specific restrictions on owners, occupiers, or the manufacturer's head in order to safeguard employees and ensure their health and safety precautions.
- The Act protects workers from exploitation and improves working conditions and the environment within factory premises.
  - **Penalties:** The Act also specifies specific rules created with provisions under the Act, and written orders that are violated. It is an offence, and penalties will be imposed, imprisonment for up to a year; a fine of up to one lakh rupees; or both fine and

imprisonment. Any employee who misuses equipment related to the welfare, safety, and health of other employees, or those connected to the performance of his duties, suffers a Rs.500 fine.

### What is "Wages"?

Wage is monetary compensation or remuneration, personnel expenses, of the labor paid by an employer to the employees in exchange for work done. Wage may be calculated as a fixed amount for each task completed or at an hourly / daily rate / based on an easily measured quantity of work done.

Wages include all remunerations which are expressed in terms of money and "includes" the following:

- Amount payable under the terms of employment.
- Payable under any award / settlement or order of a Court.
- Paid as Overtime work or for holidays / leave period
- Payable on account of Termination of employment'

Wages does "not include" the following Payments:

- Bonus which does not form a part of remuneration
- Value of any house accommodation, supply of light, water, medical assistance etc.
- Any traveling concession
- Contribution payable by employer to any pension or provident fund
- Any sum paid to defray special expenses incurred as requirement of the Employment
- Gratuity payable on termination of employment

### Objectives:

- Regulate payment of wages to specific class of workers employed in industry without any wrongful deductions apart from what is mentioned in the Act
- Define regulations around fixing of wage period, time and mode of payment of wages
- Regulates the rights of the workers covered under this Act

### Applicability:

This Act is applicable to all persons employed, whether directly or through contractors, in a factory or certain specified industrial or other establishments.

- The Central Government is responsible for enforcement of the Act in Railways, Mines, Oilfields and air transport services.
- The State Government are responsible for it all other establishment (factories and other establishments)
- The Act does not cover those whose wage is Rs. 24,000/- or more per month

### Salient Features of the Act:

#### **A. Obligations of Employers:**

Every employer is responsible for the payment of wages to all the employees that he employs. Additionally, apart from the Employer, all the person so named / person so responsible to the employer / the person so nominated shall also be responsible for such payment.

#### **B. Wage Period:**

Every person responsible for Wage Payment shall fix periods in respect of which such wages shall be payable. No wage-period shall exceed one month.

#### **C. Time and Mode of Payment of Wages:**

Every establishment having employees in excess of 1,000 person shall pay the wages before the expiry of the 10<sup>th</sup> day. All other employers shall make the Wage payment by the expiry of 07<sup>th</sup> day.

Employers shall make the payment of wages in current currency notes i.e. cash or via Bank transfer.

#### **D. Deductions from Wages:**

Employers shall ensure that wages are paid to all employees without deduction of any kind except those authorized by or under this Act.

Deduction includes the reduction of wages for the following:

- Fines
- Absence from duty
- Damage to or loss of goods including loss of money where such damage or loss is directly attributable to employee's neglect or default
- Recovery of advances / loans and the interest due in respect thereof
- Adjustment of over-payments of wages
- Payments made by the employed person to the employer or his agent shall also be deemed to be a deduction from wages:

Deductions **does not include** following penalties (provided the rules w.r.t. penalty are in conformity with the requirements as specified by the State Government):

- Withholding of increment or promotion
- Reduction to a lower post
- Suspension

#### **A. Compliance Requirements:**

##### **Maintenance of Registers:**

Employers shall maintain Registers and records giving the following details:

- Particulars of persons employed
- Work performed by Employees
- Wages paid to employees and deductions made from their wages

All these Registers are required to be preserved for a period of 03 Years.

#### **Display of Notice of Abstracts:**

All Employers shall display Notice containing such abstracts of this Act and of the rules made thereunder in English and in the language of the majority of the persons employed in the factory. It includes the following:-

- List of acts and omissions approved under Rule 12.
- Rates of wages payable to employees (excluding those in supervisor / manager positions).

#### **A. Penalties for Offences under the Act:**

If Employers fails to maintain registers required under this act or wilfully refuses to furnish such information or return or wilfully furnishes false information shall be punishable with fine up to Rs. 1,500 and may extend to Rs. 7,500.

Additionally, If Employers fails to pay the wages by the date fixed by the authority shall be punishable with an additional fine which may extend to Rs. 750 / Day.

#### **B. Un-disbursed Wages in event of Death of an Employee:**

In case the Wages cannot be paid on account death of an employee or non-availability of details of his / her whereabouts, such amounts is required to be paid to person nominated by him in this behalf. In case employee has not nominated anyone, such amount shall be deposited with the prescribed authority.

## **UNIT-9**

### **SMART TECHNOLOGY**

- **Concept of IOT, How IOT works**
- **Components of IOT, Characteristics of IOT, Categories of IOT**
- **Applications of IOT- Smart Cities, Smart Transportation, Smart Home, Smart Healthcare, Smart Industry, Smart Agriculture, Smart Energy Management etc.**

The Internet of Things (IoT) describes the network of physical objects—"things"—that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the internet.

"The Internet of Things (IoT) is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction."

#### **Internet of Things :**

According to the definition of IoT, it is the way to interconnection with the help of the internet devices that can be embedded to implement the functionality in everyday objects by enabling them to send and receive data. Today data is everything and everywhere. Hence, IoT can also be defined as the analysis of the data generate a meaning action, triggered subsequently after the interchange of data. IoT can be used to build applications for agriculture, assets tracking, energy sector, safety and security sector, defense, embedded applications, education, waste management, healthcare product, telemedicine, smart city applications, etc.

## The Internet of Things

From connecting devices to human value



However, all complete IoT systems are the same in that they represent the integration of four distinct components: sensors/devices, connectivity, data processing, and a user interface.

### How an IoT System Actually Works

As you saw in the previous chapter, the applications for IoT extend across a broad variety of use cases and verticals. However, all complete IoT systems are the same in that they represent the integration of four distinct components: sensors/devices, connectivity, data processing, and a user interface.

We'll outline what each one means in the sections below and how they come together to form a complete IoT system. Each of these sections will also serve as the organizational structure of the rest of this ebook, and we'll dive into these components more deeply in the chapters to follow.

#### 1) Sensors/Devices

First, sensors or devices collect data from their environment. This data could be as simple as a temperature reading or as complex as a full video feed.

We use "sensors/devices," because multiple sensors can be bundled together or sensors can be part of a device that does more than just sense things. For example, your phone is a device that has multiple sensors (camera, accelerometer, GPS, etc), but your phone is not just a sensor since it can also perform many actions.

However, whether it's a standalone sensor or a full device, in this first step data is being collected from the environment by *something*.

#### 2) Connectivity

Next, that data is sent to the cloud, but it needs a way to get there!

The sensors/devices can be connected to the cloud through a variety of methods including: cellular, satellite, WiFi, Bluetooth, low-power wide-area networks (LPWAN), connecting via a gateway/router or connecting directly to the internet via ethernet (don't worry, we'll explain more about what these all mean in our connectivity section).

Each option has tradeoffs between power consumption, range, and bandwidth. Choosing which connectivity option is best comes down to the specific IoT application, but they all accomplish the same task: getting data to the cloud.

### **3) Data Processing**

Once the data gets to the cloud (we'll cover what the cloud means in our data processing section), software performs some kind of processing on it.

This could be very simple, such as checking that the temperature reading is within an acceptable range. Or it could also be very complex, such as using computer vision on video to identify objects (such as intruders on a property).

But what happens when the temperature is too high or if there is an intruder on property? That's where the user comes in.

### **4) User Interface**

Next, the information is made useful to the end-user in some way. This could be via an alert to the user (email, text, notification, etc). For example, a text alert when the temperature is too high in the company's cold storage.

A user might have an interface that allows them to proactively check in on the system. For example, a user might want to check the video feeds on various properties via a phone app or a web browser.

However, it's not always a one-way street. Depending on the IoT application, the user may also be able to perform an action and affect the system. For example, the user might remotely adjust the temperature in the cold storage via an app on their phone.

And some actions are performed automatically. Rather than waiting for you to adjust the temperature, the system could do it automatically via predefined rules. Rather than just call you to alert you of an intruder, the IoT system could also automatically notify security teams or relevant authorities.

Modern technology offers much interactive design to ease complex tasks into simple touch panels controls. Multicolor touch panels have replaced hard switches in our household appliances and the trend is increasing for almost every smart home devices.

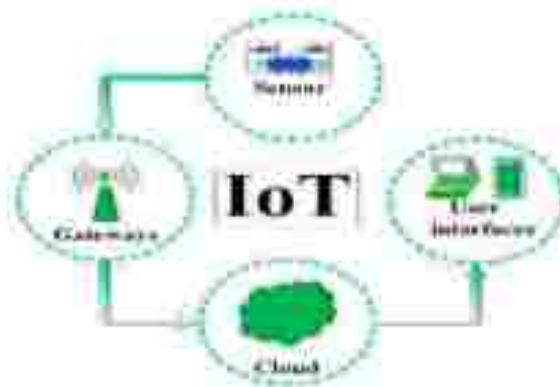
User interface design has higher significance in today's competitive market, it often determines the user whether to choose a particular device or appliance. Users will be interested to buy new devices or smart gadgets if it is very user friendly and compatible with common wireless standards.

## Components of IoT

The basic three components of IoT includes "Things", "Internet", and "Connectivity".

<b>IoT Components</b>	<b>Description</b>	<b>Example</b>
<b>Things:</b>	Physical objects	
	Sensors	It sense the physical environment e.g. Speed of a car
	Actuators	It affect the physical environment e.g. Brake controller of car
<b>Internet</b>	Platforms	Type of middleware used to connect IoT components (objects, people, services, etc) to IoT. Provide numerous functions: <ul style="list-style-type: none"> <li>- Access to devices</li> <li>- Ensuring proper installation/behavior of device</li> <li>- Data analytics</li> <li>- Interoperable connection to local network, cloud or other devices.</li> </ul>
	Services	e.g. Cloud services can be used to: <ul style="list-style-type: none"> <li>- Process big data and turn it into valuable information</li> <li>- Build and run innovative applications</li> <li>- Optimize business processes by integrating device data</li> </ul>
<b>Connectivity</b>	Network	IoT components are tied together by networks, using various wireless and wireline technologies, standards, and protocols to provide pervasive connectivity.
		<ul style="list-style-type: none"> <li>- RFID</li> </ul>





## **CHARACTERISTICS OF THE INTERNET OF THINGS:**

There are the following characteristics of IoT as follows.

1. Connectivity is an important requirement of the IoT infrastructure. Things of IoT should be connected to the IoT infrastructure. Anyone, anywhere, anytime connectivity should be guaranteed at all times. Without connection, nothing makes sense.

2. Intelligence and Identity -

The extraction of knowledge from the generated data is very important. For example, a sensor generates data, but that data will only be useful if it is interpreted properly. Each IoT device has a unique identity. This identification is helpful in tracking the equipment and at times for querying its status.

3. Enormous Scalability -

The number of elements connected to the IoT zone is increasing day by day. Hence, an IoT setup should be capable of handling the massive expansion. The data generated as an outcome is enormous, and it should be handled appropriately.

4. Dynamic and Self-Adapting (Complexity) -

IoT devices should dynamically adapt themselves to the changing contexts and scenarios. Assume a camera meant for the surveillance. It should be adaptable to work in different conditions and different light situations (morning, afternoon, night).

5. Architecture

IoT architecture cannot be homogeneous in nature. It should be hybrid, supporting different manufacturers' products to function in the IoT network. IoT is not owned by anyone engineering branch. IoT is a reality when multiple domains come together.

6. Safety

There is a danger of the sensitive personal details of the users getting compromised when all his/her devices are connected to the internet. This can cause a loss to the user. Hence, data security is the major challenge. Besides, the equipment involved is huge. IoT networks may also be at the risk. Therefore, equipment safety is also critical.

### **Applications of IoT:**

Before going to read about IoT applications, just watch this reference video-  
<https://youtu.be/91aXs9E0cAI>

The concept of the Internet of Things entered our lives in 1999. However, in fact, the first IoT application has entered our lives before. In 1991, a system was designed to send images of the coffee machine to the computers of academics at the University of Cambridge three times a minute. Due to the fact that it is online and in real time, this system is considered to be the first application of the Internet of Things in the world. Some of the applications are-

1. Wearables
2. Connected cars/smart cars
3. Smart cities
4. Smart industries
5. Smart agriculture
6. Smart retail
7. Energy management
8. Smart healthcare
9. Smart poultry and farming
10. Smart dust

### Smart City IoT Applications



**Smart city IoT applications** aim to ensure that citizens live in maximum comfort and resource consumption is made wisely. It aims to reduce and ultimately eliminate traffic density, air pollution, polluted water resources, garbage and waste problems, population agglomeration, and crime rates. In short, the goal of smart city IoT applications is basically to put an end to all problems that endanger human safety, health and well-being. Smart cities that solve the traffic problem with smart traffic lights or end the dirty water problem with clean water projects get very efficient results.

### Smart Farming IoT Applications



### Smart Farming IoT Applications

To understand **smart farming IoT applications**, first, let's define the concept of smart farming. Combining many advanced technologies and using them in agriculture is called smart farming. Smart farming and smart agriculture use modern informatics methods in agriculture and aim to increase productivity. Thanks to smart agriculture, the life of both producers and farmers is much easier.

Thanks to **IoT applications in agriculture**, control of agricultural areas can be done remotely. This saves time for everyone working in the agricultural sector. The simultaneous operation of agricultural machinery is one of the factors that save time and speed.

The use of **IoT based applications in agriculture** is also an action aimed at protecting the environment. With the spread of smart farming practices all over the world, it is aimed to prevent problems such as water scarcity and drought in time.

It is aimed to reduce the chemical products used in agriculture and thus to produce healthier products. Thus, the cost of such chemical products will be eliminated and savings will be provided.

**IoT based applications in agriculture**, which ensure that each natural resource is used only in the required amount, aim to avoid waste.

### Smart Grids IoT Applications

#### SMART GRID & IOT



It is aimed to establish mutual electronic communication between the supplier and the consumer through smart grids. Smart grids **IoT and its applications** work intertwined with each other. Smart grids IoT applications are encountered in many fields especially in the energy systems. It is aimed to add smart meters and monitoring systems to the electricity networks and thus to monitor a more reliable, quality and safe process.

### Smart Home IoT Applications



**IoT applications** used in smart homes and smart buildings are used to control the systems inside these buildings and homes. It provides control of systems that provide lighting, heating, security, alarm, entertainment systems and so on.

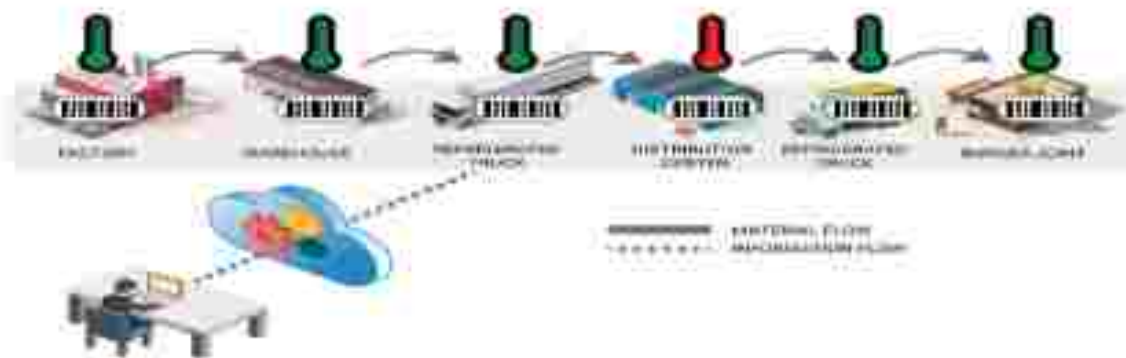
### Smart Retail IoT Applications



Internet of Things technology develops IoT applications to improve in-store customer experience and provide a higher quality service. It brings customers, objects, sales processes and transactions to the digital platform.

### Smart Supply Chain IoT Applications

## IoT Solutions are set to Revolutionize Supply Chain Revenue Opportunities



One of the areas that IoT technology has entered into the digitalization process is the smart supply chain IoT applications. IoT technology is able to control the complexity caused by the increasing number of data and the increasing number of complex variables on a global scale.

### Wearables IoT Applications



Wearable IoT applications are mainly used in the health and fitness sectors. Thanks to the wearable devices manufactured with IoT technology, it is possible to make measurements of people's body, disease follow-up and many other measurements at any time. The number of wearables IoT applications that are causing serious and positive changes especially in the health sector is increasing day by day.

### Connected Car IoT Applications



Connected car **IoT based applications** used in transportation have resulted in many solutions such as smart traffic control, unmanned autonomous navigation, smart parking systems, and the establishment of digital communication between the vehicle and the driver,

### Connected Health IoT Applications



Connected health **IoT applications ideas** in health and fitness have contributed greatly to the development of mobile digital medical systems. Many opportunities such as remote monitoring of patients' health status, emergency notification systems, wearable IoT devices and monitoring of patients' body values have been realized thanks to the ideas of health and fitness IoT applications.

### Industrial Internet IoT Applications



**Industrial IoT applications**, aka IIoT Applications, are a set of applications that fundamentally restructure the industry. Therefore, these developments in technology are also called as a new industrial revolution. It is a system where all the smart devices used in production or other industrial fields can communicate with each other and control this communication from a single device.

Industrial IoT applications can be seen in many areas. Frequently used in industrial automation, smart robot systems, smart sensors, wearable technology integration, logistics, software, security, energy management.

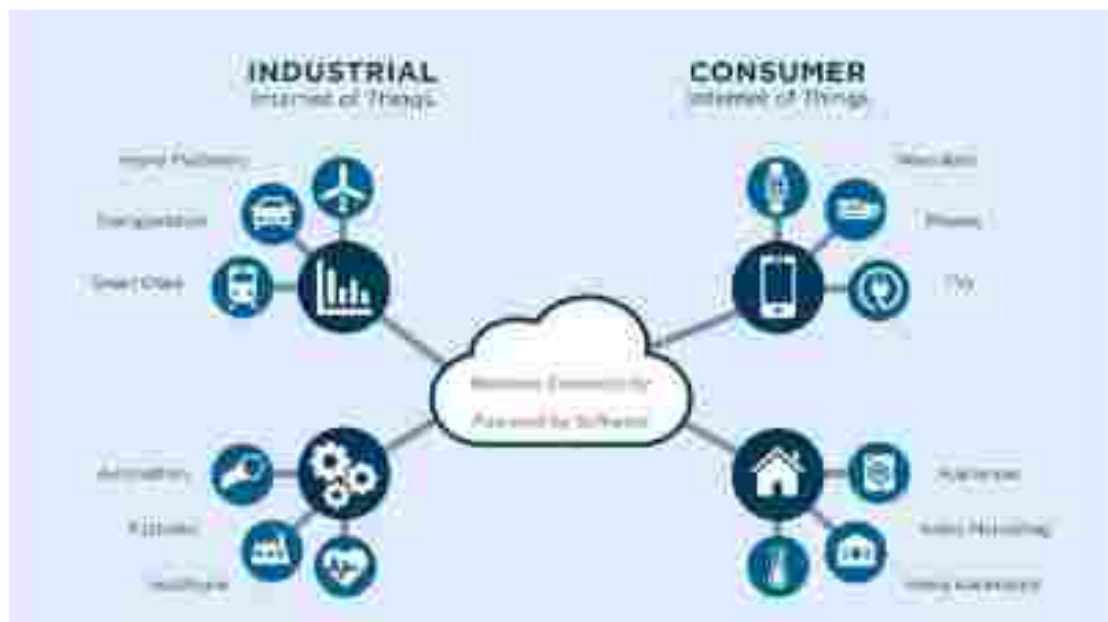
## IOT CATEGORIES

### **Defining IoT with a consumer part and an industrial/business segment**

The first distinction people started to make was between a consumer IoT and an Internet of Things for industrial applications or Industrial IoT as a way to distinguish between many types of IoT use cases and applications. Yet, as said and as with all terminology there were certainly overlaps in the definitions of these forms of IoT.

This is why some organizations and individuals, for instance, rather talk about the Internet of Everything, while others opt to drop the term IoT altogether and mention it in terms of specific use cases and contexts such as smart cities, smart metering, smart buildings, smart office, smart wearables, Industrial Internet or smart homes, all of course with their own meaning and, again, with more subdivisions.

### Consumer IoT (CIoT)



The Consumer Internet of Things or CIoT is where you will find applications and use cases to track your personal 'assets' (*asset tracking*), from your pet to your skateboard. Or where you will find the connected 'smart appliances' such as connected refrigerators, washing machines, light bulbs, etc.

Also wearables for consumer use (wearables are also used in healthcare and in factories, to name just two) and all sorts of consumer electronics such as smart wristwear belong to this category, along with all sorts of smart home appliances like thermostats or connected parking door openers.

The applications get better and smarter. They also get more independent from other devices such as smartphones. This is certainly the case with smart wearables.

A simple definition of the Consumer Internet of Things is all we need: the Internet of Things as it's used for consumer applications and consumer-oriented services.

## What is Consumer Internet of Things (CIoT)?

Consumer IoT (CIoT) refers to the use of IoT for consumer applications and devices. Common CIoT products include smartphones, wearables, smart assistants, home appliances, etc.

Typically, CIoT solutions leverage Wi-Fi, Bluetooth, and ZigBee to facilitate connectivity. These technologies offer short-range communication suitable for deployments in smaller venues, such as homes and offices.

Typically, in Consumer IoT, data volumes and data communication needs are low and limited. That's why there are many technologies of which some are specifically designed for consumer applications, ranging from smart home connectivity standards to special operating systems for wearables.

## IIoT (Industry 4.0)

The Industrial Internet of Things or IIoT describes typical industry use cases across a range of sectors. Two examples of Industrial IoT use cases: predictive maintenance and asset management. Some people see the Industrial Internet of Things more in a context of 'heavy' industries like manufacturing or utilities. But it is also used for use cases in, for example smart cities.

If we look at it as a sort of 'Business Internet of Things' it is clear that there are some overlaps with the Consumer Internet of Things. For instance if you have a smart thermostat and smart energy consumption meter in your house they are on one hand consumer applications because they are for personal usage.

But from the perspective of the company that uses it to send you invoices and to help optimize energy consumption it is a business matter (e.g. 'smart grid'). So, the terms are not that good but that's how it is and it's better to look at use cases than at these broad categories, because just as there are many different applications in the Consumer Internet of Things, there are also many in IIoT and some are hard to compare. Most industrial IoT applications relate to the digital transformation of manufacturing or to the rise of smart industry though.

## IoT Enablers and connectivity layers

### IoT Enablers:

- **RFIDs:** uses radio waves in order to electronically track the tags attached to each physical object.
- **Sensors:** devices that are able to detect changes in an environment (ex: motion detectors).
- **Nanotechnology:** as the name suggests, these are extremely small devices with dimensions usually less than a hundred nanometers.
- **Smart networks:** (ex: mesh topology).

The most basic architecture is a three-layer:

It was introduced in the early stages of research in this area. It has three layers, namely, the perception, network, and application layers.

(i)The perception layer is the physical layer, which has sensors for sensing and gathering information about the environment. It senses some physical parameters or identifies other smart objects in the environment.

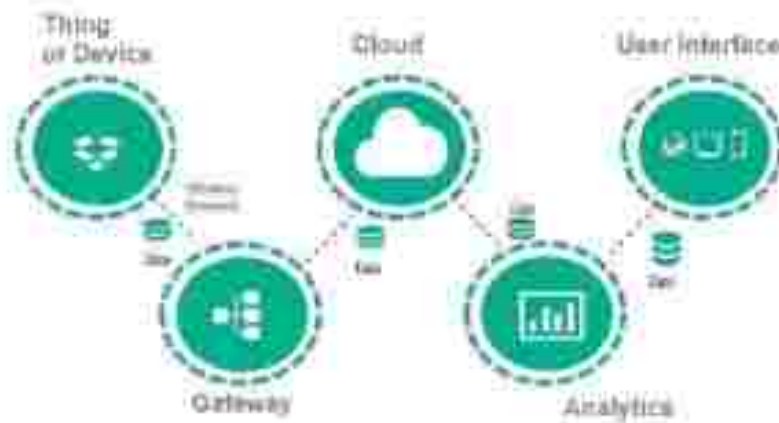


(ii) The network layer is responsible for connecting to other smart things, network devices, and servers. Its features are also used for transmitting and processing sensor data.

(iii) The application layer is responsible for delivering application specific services to the user. It defines various applications in which the Internet of Things can be deployed, for example, smart homes, smart cities, and smart health.

## What are the major components of Internet of Things

### Major Components of IoT



#### How the devices are connected?

Most of the modern smart devices and sensors can be connected to low power wireless networks like Wi-Fi, ZigBee, Bluetooth, Z-wave, LoRAWAN etc... Each of these wireless technologies has its own pros and cons in terms of power, data transfer rate and overall efficiency.

Developments in the low power, low cost wireless transmitting devices are promising in the area of IoT due to its long battery life and efficiency. Latest protocols like 6LoWPAN- IPv6 over Low Power Wireless Personal Area Networks have been adapted by many companies to implement energy efficient data transmission for IoT networks.

6LoWPAN uses reduced transmission time (typically short time pulses) and thus saves energy