

**LECTURENOTES**

**ON**

**ENTREPRENEURSHIP&MANAGEMENT&SMART  
TECHNOLOGY**



**by**

**Supriya Priyadarshini**

(Asst.Prof. in Department of Computer Science & Engineering, CVRP,BBSR)

# UNIT 1

## ENTREPRENEUR

**Entrepreneurship :** Entrepreneurship is a process of actions of an entrepreneur who is a person always in search of something new and exploits such ideas into gainful opportunities by accepting the risk and uncertainty with the enterprise. Entrepreneurship is the process to develop, organize and run a new business enterprise by accepting some risks and challenges in order to make profit. Entrepreneurship is considered to be the combination of “Entrepreneur” and “Enterprise”. Organizing an enterprise is described as Entrepreneurship. Here enterprise is defined as a unit of economic activities or an economic organization especially a business organization.

Entrepreneurship prefers to the general trend of setting up new enterprise in a society. Entrepreneurship was traditionally believed to be an inborn quality and hence it was believed that entrepreneurs are born and not made but recent studies have proved that entrepreneurship can be planned and developed through creation of opportunities, extending facilities, allowing incentives and developing sensitiveness to the above factors in a person. So, it can be believed that entrepreneurs are not only born but entrepreneur can be made and anyone can become an entrepreneur.

**According to J. Schumpeter “Entrepreneurship can be defined as a creative activity, the entrepreneur being an innovator who introduces something new in to the economy”.**

**Entrepreneur:** The word “entrepreneur” is derived from the French verb **entreprendre**, which means ‘to undertake’. This refers to those who “undertake” the risk of new enterprises. An enterprise is created by an entrepreneur. The process of creation is called “entrepreneurship”. An Entrepreneur is an individual who starts a new business accepting some risks and challenges and enjoying the profits. In other words Entrepreneur is described as an individual who takes risk to organize a business to make his career. Entrepreneur is one who organizes, manages and assumes the risk of a business enterprise. Entrepreneur is also described as a person who runs a business at his own financial risk. Entrepreneurs are usually calculated risk takers. An entrepreneur avoids low risk situations because there is a lack of challenges in it. He also avoids high risk situations because he wants to succeed. That is why an entrepreneur likes achievable challenges and is called a calculated risk taker.

**According to Webster dictionary an Entrepreneur is defined as someone who runs a business at his own financial risk.**

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### **Need of Entrepreneurship: The following are the needs of Entrepreneurship:**

1. **Increased profit:** Profits can be increased in any enterprise either by increasing sales revenue or reducing cost.
2. **Employment opportunity:** Entrepreneurship provides the maximum employment. Entrepreneurship firms contributed a large share of new jobs. The small enterprises are the only sector that generates a large portion of total employment every year.
3. **Social benefit:** It is not only beneficial to the business enterprise but to the society in the form of providing diversified products, good quality products and services at the lower cost by their innovation. The standard of living is a concept built on an increase in the amount of consumption of a variety of goods and services over a particular period by a household.
4. **Provide Innovation:** Entrepreneurship provides new ideas, imagination and vision to the enterprise. An entrepreneur is an innovator who tries to find new technology, products and markets which leads to increase Gross Domestic Products and standard of living of the people.
5. **Lifeline of a Nation:** No country can progress without the development of entrepreneurship. Every country tries to promote its trade so that it is able to share the benefits of development.
6. **Develops Entrepreneurship:** Entrepreneurship is the nursing ground for new inexperienced entrepreneurs. It is the field where a person can start his/her idea of the venture, which may be ended up in a giant enterprise. All the large industrial ventures started as a small entrepreneurial enterprise.
7. **Impact on community development :** It promotes, a higher level of township, better sanitation facilities and promotes recreation, and religious activities along with education. Thus, entrepreneurship leads to more stability and a higher quality of community life.
8. **Promotes research and development:** Entrepreneurship promotes different types of techniques, ideas and methodology which can be tested through different experiments. Therefore entrepreneurship provides funds for research and development with universities and research institutions. This promotes the general development, research and development in the economy.

### **Characteristics of Entrepreneur**

#### **1. Ability to take Risks**

This is the first and foremost trait of entrepreneurship. Starting any business involves a considerable amount of risk of failure. Therefore, the courage and capacity to take the said risk are essential for an entrepreneur.

#### **2. Innovation**

In a world, where almost everything has been done, innovation is a priceless gift to have.

Innovation basically means generating a new idea with which you can start a business and achieve a

substantial amount of profits. Innovation can be in the form of a product, i.e., launching a product that no one is selling in the market. It can also be in the form of process, i.e., doing the same work in a more efficient and economical way.

### **3. Leadership**

An entrepreneur has a vision. However, it takes a lot of resources to turn that vision into reality. One of these resources are the people that the entrepreneur hires to perform various functions like production, supplying, accounting, etc. A single person cannot perform all the tasks and therefore it is important to bring some more people to do it. In this regard, leadership is very important because a leader provides the required direction to the efforts of the employees. Without proper leadership, everyone would be working independently without achieving the desired results.

### **4. OpenMinded**

A good entrepreneur realizes that every situation can be a business opportunity. Thus can be utilized for the benefit of the organization.

### **5. Confident and Well Informed**

An entrepreneur needs to be confident about his ideas and skills. This confidence also inspires the confidence of the people working for him as well as the other stakeholders involved in his business.

**6. Flexible-** An entrepreneur should be flexible and open to change according to the situation. To be on the top, a business person should be equipped to embrace change in a product and service as and when needed.

**7. Know about the Product-** A company owner should be the product offerings, and also the latest trend in the market. It is essential to know if the available product or service meets the demands of the current market. The entrepreneur should know the detail information about the product.

**8. Creativity:** Entrepreneurship starts with an idea. To be successful, a person needs to always be thinking of new ideas and better ways of doing things.

**9. Initiative:** This is the unique characteristic of an entrepreneur. He should have the potential to take the initiative regarding different products, ways of actions, production techniques, etc. Therefore, taking initiative with such end and qualification is the prime characteristic of entrepreneur in every economy.

**10. Independent thought and action:** Every entrepreneur should have potential to take independent thought as well as way of action for the benefit of the enterprise. They should not depend upon the others.

**11. Problemsolving attitude:** Nowadays in the competitive market the entrepreneur may face many problems and in this regard he should have the problemsolving attitude to overcome all types of problem.

**12. Ability to find opportunities:** This is one of the major characteristics of an entrepreneur. He always tries to find the opportunities along with take the benefits of those opportunities which will ultimately lead to the benefit of the enterprise.

### **Qualities of Entrepreneur:**

#### **1. Hard Work:**

The successful entrepreneurs are very handworkers. They are not the lazy people. They believe in smart work. They think logically and then act. They continuously make planning. They never sit idle. They always try to progress and expand the business.

#### **2. Strong Leadership:**

Starting a new company can be a harrowing experience full of uncertainty and risk. Successfully bringing a small organization through these trying periods requires a lot of leadership skills.

#### **3. The Organizer:**

An entrepreneur is one who is expert in organizing the resources for building the business and running it successfully. He combines labor, land, machines, finance and material for the business and has a great knowledge of utilizing all the resources in an optimum way. He sells products in the market, earns profit, pays loan, distributes salaries of employees, purchases required stuff for business and keeps remaining for his own.

#### **4. Risk Takers:**

Entrepreneurial success is usually experienced by people who are not afraid to take a chance with a new idea or concept. These folks are more daring than most and tend more of a 'what if' approach by following through on innovative ideas that others may shy away from. These people are not only thinking outside the box but they are also living there as well and in most cases quite comfortably! They watch the crowd and go in the opposite direction because they know there will be less competition.

#### **5. The Creative or Artist:**

This business personality is the reserved but highly creative type. Their creativity moves forward their business. They are very artistic persons and also they show their artistic work in the business. They hold the things in a different way. They have expertise in providing the things in a different way. They have the unique ideas.

#### **6. Open Minded:**

Entrepreneurs develop the habit of learning from experience the limitations of achievements. They modify the goal according to the environmental challenges and threats. This modification does not mean avoiding the problems or the tasks; instead, they like to face it. The modification is done in order to make it possible to achieve the goal within the given environmental conditions.

### **7. Creativity:**

Mental ability consists of intelligence, an analytical approach and creative things. An entrepreneur should have creative thinking and be able to engage in the analysis of various problems and situations in order to deal with them. The entrepreneur should anticipate changes and must be able to study various situations in which decisions may have to be made.

### **8. Clarity:**

An entrepreneur should have clear objective as to the exact nature of the business, the nature of the goods to be produced and the subsidiary activities to be undertaken.

### **9. Commitment:**

He must be a person with full commitment to his objectives to his tasks and to his profession. This commitment must be extended to his entire principles of running his business and also commitment to his life.

### **10. Competence:**

An entrepreneur should be a man of competence which would involve knowledge, information and wisdom.

The knowledge is so fast exploding, thanks to the rapid changes in technology, that this knowledge must be up-to-date and relevant to his responsibilities. An entrepreneur must be a well-informed person and he must take all decisions based on verified facts and figures. The information he collects must be up-to-date and relevant.

### **11. Credibility:**

Credibility is the foundation of the entire enterprise. The enterpriser will have to remember that he is credible to his customers and also to everyone who is directly or indirectly contributing to his business. All the decisions that he takes must be relevant to the needs of customers. He just exists for customers just as doctors exist for their patients and teachers are supposed to exist for their students.

### **12. Self-Confidence:**

An entrepreneur must have self-confidence in his ability to complete the task or to meet a challenge.

Once he takes a decision, he has to be firm in the implementation of the decision, though there may be initially no success or there may be some opposition to his decision. Opposition is not to be ruled out arrogantly. The enterpriser must listen carefully to the points made by those opposing the decision.

### **13. Expertise:**

An entrepreneur accumulates expertise day in and day out. He learns by trial and error. He is up-to-date regarding latest technology and also is aware of the trends in marketing. He should have the skill in managing finance before starting the business as also of managing cash flow and the funds flow during the course of the business.

#### **14. Sense of Effectiveness:**

Entrepreneurs like to see the problem solved through their involved efforts. They do not like to avoid the problems but like to be effective or be instrumental in solving problems rather than avoiding them. Their attitudes towards a problem is always one of directing the efforts and finding ways and means to give solution to such problems.

**15. Honesty** – Honesty is the basic requirement of an entrepreneur. With the quality of honesty, an entrepreneur gets profits by producing goods at low cost with durability and sale to customer at less price.

**16. Loyal** – An entrepreneur should be loyal towards enterprise, employees and external party. Under external party, it includes customers, investors, government, other firms etc. ‘

**17. Co-operative** – Co-operation is one of the important qualities of an entrepreneur. An entrepreneur should do all functions and efforts by keeping this fact in mind. By co-operation, he can maintain the conducive and healthy environment within enterprise as well as outside too.

**18. Politeness** – Politeness is one of the important qualities of an entrepreneur. By politeness, he can develop sound relation with employees and customers, investors and other persons too.

#### **Types of Entrepreneur**

##### **1. Trading Entrepreneur:**

As the name itself suggests, the trading entrepreneur undertakes the trading activities. They procure the finished products from the manufacturers and sell these to the customers directly or through a retailer. These serve as the middlemen as wholesalers, dealers, and retailers between the manufacturers and customers.

##### **2. Manufacturing Entrepreneur:**

The manufacturing entrepreneurs manufacture products. They identify the needs of the customers and then explore the resources and technology to be used to manufacture the products to satisfy the customers' needs. In other words, the manufacturing entrepreneurs convert raw materials into finished products.

##### **3. Agricultural Entrepreneur:**

The entrepreneurs who undertake agricultural items are called agricultural entrepreneurs. They cover a wide varieties of agricultural activities like cultivation, marketing of agricultural products, irrigation, mechanization and technology.

##### **4. Small-Scale Entrepreneur:**

An entrepreneur who has made investment in plant and machinery up to Rs 1.00 crore is called ‘small-scale entrepreneur.’

##### **5. Medium-Scale Entrepreneur:**

The entrepreneur who has made investment in plant and machinery above Rs 1.00 crore but below Rs 5.00 crore is called ‘medium-scale entrepreneur.’

## 6. Large-Scale entrepreneur:

The entrepreneur who has made investment in plant and machinery more than Rs 5.00 crore is called 'large-scale entrepreneur.'

**7. Imitating Entrepreneur:** The imitating entrepreneurs are those who immediately copy the new inventions made by the innovative entrepreneurs. .

**8. Innovative Entrepreneur :** An **innovative entrepreneur** is a person who discovers totally new things. An **innovative** owner is a person who creates **innovative** products and services. An **innovative entrepreneur** is a person who innovates the business processes in his business. An **innovative** person is a person who is not afraid to take a risk.

**9. Fabian Entrepreneur :** **Fabian entrepreneurs** are those **entrepreneurs** who are very much doubtful or skeptical in their approach in adopting or innovating new technologies in their enterprise. They are not adaptable to the changing environment. They love to remain in the existing business with the age-old technique of production.

**10. Drone Entrepreneur :** These **entrepreneurs** are reluctant to change since they are very conservative and do not want to make any changes in the organization. They are happy with their present mode of business and do not want to change even if they are suffering the losses.

**11. Industrial Entrepreneur:** Industrial entrepreneur is essentially a manufacturer who identifies the needs of customers and creates products or services to serve them. He is product-oriented who starts through an industrial unit to create a product like electronic industry, textile unit, machine tools.

**12. Corporate Entrepreneur:** These entrepreneurs used his innovative skill in organizing and managing a corporate undertaking. A corporate undertaking is a form of business organization which is registered under some statute or Act like a trust registered under the Trust Act, or a company registered under the Companies Act. These corporate work as separate legal entity. He is thus an individual who plans, develops and manages a corporate body.

## Function of Entrepreneur

**1. Innovation:** A very important function performed by entrepreneur is that of innovation. They analyze the existing state of company's affairs and try to reach a new level of equilibrium by trying new and productive combinations of existing resources. They think of creative ideas and use their managerial and innovative skills to put those ideas into reality. They combine the productive factors, bring them together and help in the economic development of a nation. According to Schumpeter, innovation can occur in the following forms: introduction of new goods, the use of new method of production, the opening of a new market and reorganization of any industry.



**2. Organizing and Management:** An entrepreneur brings together various resources of production, organizes them properly and converts them into a productive unit. An entrepreneur manages the following activities :

- a) measuring the suitability of business idea.
- b) Market Research and Selection of Product Line: The next important function of the entrepreneur is market research and product market research is the systematic collection of data regarding the product which the entrepreneur wants to manufacture. Entrepreneur has to undertake market research persistently in order to know the details of the intending product, i.e., the demand for the product, selection of product line, the price of the substitute product, the size of the customer, etc. while starting an enterprise.
- c) Studying the government rules, regulation and policies.
- d) Performing government formalities.
- e) Determination of Objectives: The next function of the entrepreneur is to determine and lay down the mission, vision, objectives and goals of the business. In other words, entrepreneur should be very much clear about future prospect of the venture.
- f) Managing of Funds: Fundraising is the most important function of an entrepreneur. All the activities of a business depend upon the finance and its proper management. It is the responsibility of the entrepreneur to raise funds internally as well as externally.
- g) Procurement of Raw Material : Entrepreneur has to identify the cheap and regular sources of supply of raw materials, which will help him to reduce the cost of production and face the competition.
- h) Procurement of Machinery: The next function of the entrepreneurs is to procure the machineries • and equipments for establishment of the venture.

**3. Assumption of Risk:** Entrepreneurs assume the risk of success or failure of the enterprise that they wish to launch. Such risks are not insurable. If they materialize, the entrepreneur has to bear the loss himself. Thus, risk-bearing or uncertainty-bearing still remains the most important function of an entrepreneur which he tries to reduce by his initiative, skill and good judgement.

**4. Idea Generation:** Entrepreneurs do not immediately think of ideas and put them into practice. Ideas can be generated through market survey. It is the function of the entrepreneurs to generate as many ideas as he can for the purpose of selecting the best business opportunities. They think of a variety of ideas, apply quantitative techniques to test their applicability, supplement them with empirical findings, arrive at the best alternative and apply it in practice.

**5. Decision Making:** Arthur H. Cole has described the entrepreneur as a 'decision maker'. He takes various decisions regarding following matters:

- a) The development of an organization, including efficient relations with subordinates and all employees

b) Securing adequate financial resources, and maintaining good relations with the existing and potential investors .

c) The requisition of efficient technological equipment and the revision of it as new machinery appeared

d) The development of a market for the products and the devising of new products to meet or anticipate consumer's demand; and The maintenance of good relations with public authorities and with the society at large

**6. Leading:** As an entrepreneurial venture flourishes, an entrepreneur takes on a new role of a leader. He acts as a visionary leader. The entrepreneur's leading function is drawing the best out of his human resources. He must create teamwork, motivation among employees. As a leader, entrepreneurs must shift from the command-and-control style of managing to a coach-and-collaboration style. 66

**7. Managing Growth:** The entrepreneur must manage the enterprise's growth. It includes such activities as developing and designing appropriate growth strategies, dealing with crises, exploring various ways for financing growth and placing a value on the venture.

**8. Support to Social Environment:** Social environment is characterized by social customs, culture, values and beliefs. Changes are not easily acceptable in a given socio-economic environment of a country. Entrepreneurs discover new sources of materials, new markets, and new opportunities and establish new and more profitable forms of organizations. This is a reflection of their willpower, enthusiasm and energy and helps in overcoming the society's resistance to change.

**9. Economic Development:** Entrepreneurs play an important role in accelerating the rate of economic development of developed and under-developed countries. They exploit the country's resources (land, labor, capital and technology) and optimize their utilization to result in development of that country.

## **Barriers to Entrepreneurship**

### **1. Finances**

Finance is the major barrier to entrepreneur. And getting a sound financial investment or funding can be one of the biggest barriers to entrepreneurship as many of banks, private investors and organizations find it quite difficult to believe in the start-up ideas owing to the risk of failure and losing their money.

### **2. Fear of not to be a success**

We all go through the fear of failure. And if the fear is associated with the risks and stakes taken in the stream of business and entrepreneurship, the level of fear increases

### **3. No strategic plan in place**

Lack of proper planning and strategy in place is one of the most common barriers to entrepreneurship. Many of us think to build a business out of a hobby without having any sort of long term and short term vision and plan in mind. Running a fully-fledged business or being an entrepreneur requires a huge amount of skill set, passion for excelling, strategic vision, the mission to accomplish the goals, market research, and

alotmore.Rightfromthetargetmarket,finances,humanresourcesandproperstrategicplanisrequiredto build a successful business or a brand in the market.

#### **4. Humanresourceissues**

Entrepreneurs cannot handle and run a business alone by themselves. They require the support of human resource to carve a niche in the market.

Employees with the required knowledge, expertise, and experience are needed for the efficiencyof the business processes and high levels of productivity.

First of all, it is quite difficult to find the employees that share the same vision and wavelength of the business. And secondly, it is also difficult to manage human resources as each of us work with a different mindset and perspective. Hence, human resources and employees can be as one of the Barriers to Entrepreneurship.

#### **5. Stringentrulesandregulationsofthemarket**

It is not very easy for entrepreneurs to enter the newmarket as there are quite many rules and regulations imposed bythe government authorities. Apartfrom, therearevarious laws and compliancestobe adhered to such as taxation, environmental regulations, licenses, property rights, and much more than act as the Barriers to Entrepreneurship.

#### **6. Fewer opportunities**

Eventhoughthereisalotoftalentandambiguousentrepreneurshavingwiththeideas,but the opportunitiespresented to them are quite less and fewer which are become the mainBarriers to Entrepreneurship.

#### **7. Lackof capacity**

Even if there are opportunities presented to the wiling entrepreneurs, there is a lack of capacity in some them to accept the opportunities with open arms. The reasons can vary from lack of knowledge, lack of education, lack of willingness, lack of strategic knowledge, and cultural barriers amongst others; but the factorofmotivationandzealgetsmissing.Tostartanewbusinessventureamidstalltherisksandmarket-related issues, it requires a lot of hard work, passion, and high capacity to handle all of it.

#### **8. Lessmarketexperience**

TheexpertsalwaysmentionthatoneshouldneVERRUSHinsettingupabusiness.Itisquitenecessarytogain arelativeamount ofworkexperiencebyworkingintheindustrydomainorsectorofchoiceandasperthe education levels. It also helps to sharpen the required expertise and find the ground in the career graph. Once the person is ready to take risks and have a relative amount of market exposure, he is ready to take the entrepreneurial challenge.

#### **9. Lackofrisk-takingcapacity**

It is always said that entrepreneurs never sail in safe waters and are never confined to their comfort zones. Lack of risk-taking capacity is the psychological mindset and perspective towards the business and acts as one of the major Barriers to Entrepreneurship. The budding entrepreneur has to have a structured and organized approach towards the various business elements and should take risks rather than averting them.

#### **10. Corrupt business situations**

If the business situations and the environment are not very supportive and corrupt for the young and aspiring entrepreneurs, it acts as one of the top Barriers to Entrepreneurship. Bribing, rampant corruption, unfriendly ties of government with other nations, inconsistent laws, stringent compliances, and enforcing regulations that are unhealthy and negative in their approach hamper the growth of businesses in the country. Russia is one of the examples of having an unhealthy and unsupportive business environment.

#### **11. Inadequate training**

With no proper education, development, training, entrepreneurial skills, and technical knowledge an entrepreneur cannot succeed and that will become the Barriers to Entrepreneurship.

#### **12. Lack of practical knowledge**

Having a strong educational background is just not enough to pursue business as it requires practical knowledge as well to stay relevant amidst the various market cycles. And many entrepreneurs lack practical knowledge.

#### **Entrepreneur vs. Manager**

The difference between entrepreneur and manager can be drawn clearly on the following grounds:

- A person who creates an enterprise, by taking a financial risk in order to get profit, is called an entrepreneur. An individual who takes the responsibility of controlling and administering the organization is known as a manager.
- An entrepreneur focuses on business startup whereas the main focus of a manager is to manage ongoing operations.
- Achievements work as a motivation for entrepreneurs. On the other hand, the primary motivation of manager is the power.
- The manager's approach to the task is formal which is just opposite of an entrepreneur.
- An entrepreneur is the owner of the enterprise while a manager is just an employee of the company.
- A manager gets salary as remuneration for the work performed by him. Conversely, profit is the reward for the entrepreneur.
- The major driving force of an entrepreneur is creativity and innovation. As against this, a manager maintains the existing state of affairs.
- While entrepreneur is a risk taker, the manager doesn't take any risk.
- Entrepreneur works as a single person while manager works as a team.

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- Entrepreneur sets goal while manager executes to achieve the goal.
- He takes full risk of losses while manager is not directly responsible for losses.
- He gets full return of profit while manager may not get profit.
- An entrepreneur is not getting involved in fraudulent behavior while a manager may involve or cheat by not working hard.
- An entrepreneur is an innovator while manager is the executor.

### **Forms of Business Ownership**

There are different forms of business organization depending on how they have been started and managed which are given below :

- A) **Sole-Proprietorship**
- B) **Partnership**
- C) **Joint Hindu Family**
- D) **Cooperative Society**
- E) **Joint Stock Company (Private Limited Company, Public Limited company and Public Sector Undertakings)**

**A) Sole-Proprietorship** : Sole Proprietorship in simple words is a one-man business organization. Furthermore, a sole proprietor is a natural person (not a legal person/entity) who fully owns and manages this type of entity. In fact, the business and the man are the same, it does not have a separate legal entity.

#### **Features:**

##### **1) Lack of Legal Formalities**

A sole proprietorship does not have a separate law to govern it. And so there are not many special rules and regulations to follow. Furthermore, it does not require registration of any kind. In fact, in most cases, it need only the license to carry out the desired business.

##### **2) Liability**

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

##### **3) Risk and Profit**

The business owner is the only risk bearer in a sole proprietorship. Since he is the only one financially invested in the company. As a result, he must also bear all the risk. In other words, 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 transaction of business.

#### **5) Continuity**

As seen above the business and the owner has 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 such situations, the proprietorship will the business will come to an end.

### **SOLE PROPRIETORSHIP ADVANTAGES**

- Owner receives all the profits.
- Owner makes all decisions and is in complete control of the company (could also be a disadvantage).
- Easiest and least expensive form of ownership to organize.
- proprietor will have complete control of the entire business. Thus this will facilitate quick decisions and freedom to do business.

### **• SOLE PROPRIETORSHIP DISADVANTAGES**

- One of the biggest limitations of a sole proprietorship is the *unlimited personal liability of the owner*. If the business fails it can wipe out the personal wealth of the owner as well as affect his future business prospects too.
- Another problem is that a sole proprietor has access to *limited capital*. The money he can borrow from his own personal savings may not be enough to expand the business.
- A sole proprietor also has *limited managerial ability*. He cannot be an expert in all the fields of the business. As a result, the business may suffer from mismanagement and poor decision.

#### **B) Partnership**

In a Partnership, two or more people share ownership of a single business.

**Features** The essential features and characteristics of a partnership are:

1. **Agreement:** The partnership arises out of an agreement between two or more persons.
2. **Profit sharing:** There should be an agreement among the partners to share the profits of the business.
3. **Lawful business:** The business to be carried on by a partnership must always be lawful.
4. **Membership:** There must be at least two persons to form a partnership. The maximum number is 20. But in case of banking business the maximum is 10 members.
5. **Unlimited liability:** The liability of every partner is unlimited, joint and several.

**6. Principal-agent relationship:** Every partner is an agent of the firm. He can act on behalf of the firm. He is responsible for his own acts and also for the acts done on behalf of the other partners.

**7. Collective management:** The firm and the partners are one. When a contract is made in the name of the firm all the partners are responsible for it individually and collectively.

**8. Non-transferability of shares:** A partner cannot transfer his share of interest to others without the consent of the other partners.

### **Advantages**

#### **1. Ease of Formation:**

It is easy to form a partnership. No elaborate legal procedures are needed to bring a firm into existence. There is no need for registering a firm. Even when required, a firm can be registered quite easily. Likewise, one can close down a firm relatively easily.

#### **2. Financial Resources:**

Partners can pool their resources and expand the financial base of a firm. Creditors would be more willing to extend credit facilities to a firm based on the reputation of partners and the soundness of business carried out by the partners.

#### **3. Talent can be Pooled:**

Partners can divide work among themselves, depending on their individual skills and talents. This helps the firm to grow quickly.

#### **4. Flexibility:**

Partners can carry out day-to-day activities in a flexible way. The nature and place of business can be altered at will. New partners can join a firm when required. Partners can change hats depending on situational requirements. Capital infusion, profit sharing, pricing policies, etc., can be altered in sync with market demands.

#### **5. Reward for Effort:**

Partners can work jointly and severally for improving business and get adequately rewarded. Since there is no separation of ownership from management, everyone can work hard, and take the firm to commanding heights.

#### **6. Informed, Balanced and Careful Decisions:**

Partners can bring their skills, knowledge, and expertise to the table. Since they are jointly held responsible for losses, they are compelled to take a careful, cautious path. They are forced to take all the necessary steps for the benefit of the enterprise.

#### **7. Secrecy:**

Partners can keep business secrets close to their chest. They need not reveal them to

anyone. The firm need not even get its accounts published and audited.

### **Disadvantages**

**1. Unlimited liability** – The liability of partners in a firm is unlimited. Partners are said to be individually and jointly liable. This means that in case, the assets of the firm are insufficient to settle the claims against it, the personal assets of the partners may be utilized for the same.

**2. Limited resources** – The Partnership Act places a restriction on the number of partners that may run a firm. Consequently, it may be difficult for a firm to raise capital beyond a certain limit in order to finance its expansion plans.

**3. Possibility of conflicts** – In a partnership firm the right to decision making and control is shared among all the partners. Sometimes, there may be difference of opinions among them which may not only lead to delay in decision making but also result in conflicts.

**1. Lack of continuity** – Partnership is not considered to be a very stable form of business organization. This is because the death, retirement, insolvency or insanity of any partner can bring the business to an end.

**2. Lack of public confidence** – It is generally believed that a partnership firm does not enjoy confidence of public in its working. This outlook is based on the fact, that a firm is not expected to publish its books of account. Hence, that can very easily hide its true financial status from general public.

### **3. Uncertain Future:**

The firm may be closed down in case of death, failure, madness of anyone of the partners. New partners can be inducted into a firm, only when all existing partners agree unanimously.

### **4. Not a Legal Entity:**

A partnership firm has no legal entity separate from the members. It dies upon the death of a partner or upon separation between them. Partners are responsible for all the debts of the firm.

### **Types of partners**

#### **1. Active Partner**

This type of partner is found in all partnerships. Such partners not only contribute capital but also take part in the day-to-day running of the business and also take active participation in the conduct and management of the business firm.

#### **2. Sleeping partner**



This type of partner is also known as “Dormant partner”. Such a partner contributes capital to the partnership firm but does not take active part in the management of partnership. Such a partner has no voice in the management. But the liability of such partner is unlimited.

### **3. Nominal partner**

Such a partner neither contributes capital to the firm nor takes active part in the management of the partnership firm. This type of partner does not get any direct profit from the partnership.

### **4. Partners in profit only**

There are some partners whom may be interested in the profit of the partnership only but they are not share the losses. Such partner usually contribute capital but are not allowed to take active part in the management of the partnership firm.

### **5. Partner by Estoppel**

A partner by estoppel is a partner who displays by his words, actions or conduct that he is the partner of the firm. In simple words, even though he is not the partner in the firm but he has represented himself in such a manner which shows that he has become a partner by estoppel.

### **6. Minor Partner**

A person below 18 years of age is treated as minor. Hence a minor person can be admitted to partnership. He can contribute capital to the partnership firm but can not take active part in the day to day management of the firm. He shares the profit and loss of the firm.

### **C) Joint Hindu Family**

The Joint Hindu Family Business or the Hindu Undivided Family (HUF) is a unique type of business entity. It is governed and dictated by the Hindu Law, which is one of the several religious laws prevalent in India. The business of Joint Hindu Family is controlled under the Hindu Law instead of Partnership Act. The membership in this form of business organization can be acquired only by birth or by marriage to a male person who is already a member of Joint Hindu Family. The business of the Joint Hindu Family is controlled and managed by one person who is called ‘Karta’ or ‘Manager’. The Karta or manager works in consultation with other members of the family but ultimately he has a final say. The liability of Karta is unlimited while the liability of other members is limited to their shares in the business. It refers to a form of business organization which is owned and carried on jointly by the members of the Hindu Undivided Family (HUF). It is also known as Hindu Undivided Family Business.

**Features:****Formation**

- There should be at least two male members in the family to form a HUF.
- Ancestral property should have been inherited by members of HUF.
- All of the members enjoy this property and have an equal share in that Property.
- Thus, any child taking birth in that family becomes a member of the HUF.
- There is no requirement for an agreement to become a member.

**Liability**

- There is limited liability of all the members or co-parceners in the Hindu Undivided Family business.
- All the co-parceners have equal rights and shares in the property of Hindu Undivided Family business.
- The Karta has unlimited liability.

**Control**

- Karta is the person who has full control over the Hindu Undivided Family business.
- Karta can take advice from all the members but he is not bound to accept their decisions.

**Continuity**

- After the "Karta" is deceased, the very next eldest member takes up the position of Karta in Hindu Undivided Family business.
- The business can be divided and ended up by the mutual consent of the members.
- Minor Members
- The person who has taken birth in Hindu Undivided Family can be a member of the family business.
- Therefore, a minor can also be a member of the family.

**Advantages****Effective Control**

- The Karta has full control over the business activities and takes a decision quickly.
- No one can interfere in the decision of Karta as every member is bound to accept this decision.
- Hence, it avoids clashes among the members and results in very speedy decision making.

**Continued Business Existence**

- After the death of Karta, the next eldest member takes up his position. So, it does not affect the activities of the business.
- Hence, all the business activities are done smoothly, continuously without any threat.

**Limited Liability of Members**

- As all the liability of the members is restricted to the extent of their share in the business.

- But the Karta has unlimited liability due to his complete hold on the business.
- Hence, in case of dissolution of the business, Karta's personal assets and his share will be liable.

### **Expanded Loyalty and Cooperation**

- All the business operations are carried on by the members of a family jointly.
- So, this increases loyalty and cooperation with each other without any hindrance.
- Therefore, all the targets of the business can be achieved by the cooperation among the members and the Karta.

### **Disadvantages**

#### **Limited Resources**

- All the members of Joint Hindu Family Business totally depend upon the ancestral property due to their limited liability.
- Many commercial banks resist extending the credit limit due to the weak financial position of the business.
- Hence, this will result in limited expansion and growth of the business.

#### **Unlimited Liability of Karta**

- All the important decisions regarding management of various business activities are taken by Karta.
- But there is a disadvantage with the Karta that he has unlimited liability.
- Hence, all the business debts are repaid by using the personal assets of the Karta.

#### **Dominance of Karta**

- The Karta takes all the decisions individually and manages the business.
- He also involves other members in decision making.
- But Karta is not bound to accept the decisions of the members which may create conflicts between the Karta and the other members.
- Hence, due to clashes in decision making, lack of cooperation between Karta and other members occurs.

#### **Limited Managerial Skills**

- Sometimes the members suffer due to unfair decisions taken by the Karta in respect of business operations.
- Unfair decisions are taken due to the lack of managerial skills.
- So, the Karta cannot be knowledgeable or proficient in all managerial functions.
- Nowadays the joint Hindu family business is declining due to the decreasing number of joint Hindu families in the nation.

### **D) Cooperative Society**

A co-operative society is a voluntary association of persons who join together with the motive of welfare of the members. A co-operative is a private business organization that is owned and controlled by the people who use its products, supplies or services. In other words it may be defined as Co-operative organization is a voluntary association of usually economically weaker sections of society; who join together to achieve a common objective by fighting against some social evil-through working collectively according to established principles of co-operation or in other words it may be defined as “when a group of persons belonging to a particular class or category or group associate themselves and start a business for their mutual benefit, it is called **Cooperative society**”.

### **Features:**

#### **1. Registration:**

A co-operative society must be registered under the Co-operative Societies Act, 1912 or under a State Co-operative Societies Act. On registration, the society becomes a body corporate, having a separate legal entity of its own, with perpetual succession and limited liability of its members.

#### **2. Voluntary Association:** A co-operative organization is a voluntary association of persons.

Everyone having a common interest is free to join a co-operative society; irrespective of caste, religion. No person can be forced to become the member of a co-operative society or continue as a member. A member after giving proper notice can leave the society; and will get back his capital according to the rules of the co-operative. But no member can transfer his shares to another person.

#### **3. Minimum Ten Persons Needed:**

A minimum of ten adult persons are needed to form a co-operative organization. Maximum number of members is 100, in a co-operative credit society; with no such limit in non-credit co-operative societies.

#### **4. Service-Motive:**

The primary aim of a co-operative society is to provide some service or benefit to its members (or even general public's) by fighting against some social evil.

#### **5. Finance:**

The capital of a co-operative is raised from members through issue of shares. A co-operative can also obtain loans from the Central or State Co-operative Banks.

#### **6. Limited Liability:**

The liability of each member of a co-operative is limited to the extent of the value of shares held by him, in the share capital of the co-operative.

## **7. Democratic Management:**

Business of a co-operative society is managed by a managing committee; which is selected by the members. The members lay down the broad policy guidelines within which the managing committee manages the affairs of the co-operative society. The managing committee usually consists of the following office-bearers: 1. President 2. Vice-president. 3. Secretary 4. Joint Secretary 5. Treasurer.

## **8. State Control**

Government exercises control over co-operatives to protect the interests of members of co-operatives; who, otherwise, are economically quite weak. Every co-operative society must furnish annual accounts and reports to the Registrar of Co-operatives. Further, accounts of all co-operatives are subject to compulsory audit.

## **Advantages**

### **1. Easy to Form:**

A co-operative society is easy to form. Its registration is very simple and does not involve many legal formalities.

### **2. Universal Brotherhood:**

Membership of a co-operative is open to all having a common interest; irrespective of caste and religion. Any member may leave the society, after giving proper notice. There is no compulsion to stick to the co-operative against one's will.

### **3. Fully Democratic Management:**

Managing committee of a co-operative is elected, by members. Further, 'one-man one-vote' principle is followed in all co-operatives. As such, each member has equal rights and equal voice in the management of the co-operative.

### **4. Perpetual Succession**

After registration, a co-operative society acquires a separate legal status with perpetual succession. Its life is not affected by the death, insolvency or lunacy of members. Co-operatives exist for long periods-benefiting members and the community.

### **5. Limited Liability:**

Liability of members of a co-operative society is limited to the extent of the value of their shares. Members do not run personal risk; while being members of the co-operative. This fact encourages even poor people to join co-operatives.

### **6. Governmental Patronage:**

As a matter of social welfare policy, Government extends all support to co-operatives e.g. loans at low rates of interest, relief in taxation etc.

## **7. Internal Financing:**

A large part of the profit of a co-operative is transferred to general reserve every year. Through ploughing back of profits, a co-operative can undertake schemes for its growth and expansion.

## **8. Lower Operating Costs:**

**Operating costs of a co-operative are quite low; because:**

1. Office bearers offer honorary services.
2. There is no expenditure incurred on advertising and marketing activities.

## **9. Social Welfare Aspect:**

Co-operatives are non-business organizations. They spread ideals of co-operation in society. They promote feelings of equality, independence, hard work among people in a society and help them morally upgrade themselves.

## **Disadvantages**

### **1. Limited Capital:**

**Co-operative organizations have very limited capital; because of the following reasons:**

- (a) Members of a co-operative are economically backward, in most of the cases.
- (b) Co-operatives do not give more than 10% interest on capital invested. This provides not much incentive to invest huge amounts in co-operatives.
- (c) The principle of 'one-man-one-vote' discourages people to buy a large number of shares in a co-operative organization.

All told, limited finances stand in the way of growth of activities indulged in by a co-operative.

### **2. Inefficient Management:**

Management of a co-operative organization is called inefficient. In fact, members of managing committee are part-time and inexperienced people. They usually possess no specialized knowledge of modern management principles and techniques. Because of limited financial capacity, a co-operative is unable to hire the services of professional managers; who charge very high for their services, in the present-day-times.

### **3. Rift among Members:**

Co-operatives are started with a sense of lot of enthusiasm about co-operation; Over a period of time, differences develop among members as to how to run the society. Selfish interests of dominating members prevail upon the genuine interests of poor members. Differences among members usually lead to a decline of co-operative activities.

#### **4. Rigid Rules and Regulations:**

Co-operatives have to function according to rigid rules and regulations. They are subject to excessive Governmental control over their functioning. The result is lack of flexibility of operations in the functioning of co-operatives; which does not permit their growth in view of environmental opportunities.

#### **5. Political Interference:**

Government also invests in co-operative organizations. There are, then, members in managing committee, who represent interests of political parties. In fact, members of political parties dominate the working of the co-operative; and the co-operative organization very often turns into a political organization. Thus the very purpose and philosophy of co-operation, which is the basis of a co-operative organization meets with frustration.

#### **6. Lack of Motivation:**

The office-bearers of a co-operative are honorary officials. They have no incentive to work hard for the co-operative. In the absence of remuneration, they just work minimum and justify their status, in the eyes of the members.

#### **E) Joint Stock Company:**

When many persons start a business, it may be a joint stock company. Joint-stock companies are most popular form of business organization not only in India but also world wide. It is governed and regulated by an Act in the Parliament known as "The Indian Companies Act, 1956". It is owned by its investors, with each investor owning a share based on the amount of stock purchased. In other words a joint stock company is a voluntary association formed for the purpose of carrying on some business. Legally, it is an artificial person and having a distinctive name and a common seal. Lord Justice Lindley of England has defined joint-stock company as "an association of many persons who contribute money or moneys' worth to a common stock and employ it for a common purpose.

#### **Features:**

##### **1. Flexible:**

A joint stock company is treated as an independent and separate body apart from its members. It enjoys separate legal status. It is treated as an individual in the eye of law. It can enter into an agreement with anybody. It can purchase properties in its name. Any one can file case in the name of joint stock company and the joint stock company can also file case in the name of any individual. Even the owner of the company can file case in the name of joint stock company and vice versa. A joint stock company enjoys all the privileges. A joint stock company can be penalized or rewarded as needed.

**2. Perpetual succession :** Once a joint stock company formed, it continues to carry on its activities for an unlimited period of time. No events like the death or insolvency of any or all members can lead to the closure of joint stock company. This is known as perpetual succession.

### **3. Limited Liability:**

The liabilities of all members of a joint stock company are limited to the extent of their share in the company. If they have paid the full value of shares they can not be called upon to pay any further amount.

### **4. Minimum Number of Members:**

Forming a public company minimum 7 persons are required and maximum is unlimited and for forming a private company at least 2 persons are required and maximum is fifty. If not registered it would be treated as illegal association.

### **5. Transferability of shares:**

The shares of a joint stock company are freely transferable and any one can become a member of a joint stock company by purchasing the shares of that company.

### **6. Artificial legal person:**

The shareholders of a company are the members, who are the owners of that company. But the owners do not take active part in the management of the company. They elect a group of persons among themselves who manage the company on behalf of all the members.

### **7. Govt. control:**

A joint stock company collects a large amount of money from the general public, so the Government usually puts more control over the working of the joint stock company.

**8. Certificate for registration:** The promoter of joint stock company has to get certificate of registration from the Registrar of companies and they have to apply for certificate for commencement of business when the company becomes ready to start its business.

### **Private Limited Company**

Private limited company is held by few individuals privately having a separate legal entity. In this, the shareholders cannot trade publicly shares. It restricts its number of shares to 50. Shareholders cannot sell their shares without the approval of other shareholders. It is a company which restricts the right of its members to transfer its shares and it doesn't send the invitation to the public for subscription of its shares.

### **Features:**

**1. Members**—To start a company, a minimum number of 2 members are required and a maximum number of 200 members as per the provisions of the companies act 2013.

**2. Limited Liability**—The liability of each member or shareholders is limited. It means that if a company faces loss under any circumstance then its shareholders are liable to sell their own assets for payment. The personal, individual assets of the shareholders are not at risk.

**3. Perpetual succession**—The company keeps on existing in the eyes of law even in the case of death, insolvency, the bankruptcy of any of its members. This leads to the perpetual succession of the company. The life of the company keeps on existing forever.

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**4. A number of directors**—When it comes to directors a private company need to have only two directors. With the existence of 2 directors, a private company can come into operations.

**5. Prospectus**—Prospectus is a detailed statement of the company affairs which is issued by a company for its public. However, in the case of **a private limited company**, there is no such need to issue a prospectus because in this public is not invited to subscribe for the shares of the company.

**6. Name**—It is mandatory for all the private companies to use the word private limited after its name.

### **Public Limited Company**

According to the Companies Act 2013, a public limited company is a separate legal entity. Further, the members of such a company have limited liability. Also, a public company offers shares to the general public.

### **Features**

**1. Paid-up Capital** —There is no requirement of a minimum paid-up capital. Hence, you can incorporate a public company with any amount of capital.

**2. Minimum number of Directors** —You need a minimum of 3 directors to incorporate a public company with a maximum of 15 directors. However, no. of directors can exceed 15 after obtaining Special Resolution.

**3. Minimum number of Shareholders** — You need a minimum of 7 members to incorporate a public company.

**4. Name of the company**—Every public company must have the word “Limited” at the end of the company name.

**5. Transfer of shares**—There are no restrictions on the transfer of shares in a public company.

**6. Liability**—The liability of each member of a public company cannot exceed the amount of investment in shares of the member. This limit is non-extendable.

**7. Issue of securities**—There is no restriction on the issue of securities to the public. The company can issue the same via an initial public offer (IPO) or a bonus issue through private placement. Also, the company needs to issue the securities in the Dematerialized format.

**8. Quorum**— Every public company must have at least five members personally present to form a quorum to constitute the meeting.

**9. Managerial Remuneration**—In a public company, the managerial remuneration paid to the director and manager and that should not exceed 11% of the net profits of the company subject to other provisions of the law.

### **Types of Industries**

Depending on the nature of industrial activities, industries can be classified into five categories such as:

- Manufacturing Industries,

- Extractive Industries,
- Genetic Industries,
- Construction Industries and
- Service Industries.

### **Manufacturing Industries**

Manufacturing industries are understood to be the factories and mills where raw materials are introduced and finished product are found out through the help of men and machines.

Examples are Toyota, Yamaha, Panasonic, LG, Samsung and Tata Motors.

### **Extractive Industries**

Extractive industry can be defined as a processes that involve different activities that lead to the extraction of raw materials from the earth and nature such as mining of ore, metals, mineral, collection of forest products etc. This type of industries directly depend on nature and their activities are directed toward exploitation of nature to collect something useful for their business activities.

### **Genetic Industries**

Genetic industries are those industries which are engaged in re-production and multiplication of species of plants and animals with the sole objective of sale.

These industries are engaged in activities such as animal breeding, cattle breeding, etc. Dairying and poultry are the example of genetic industry.

### **Construction Industries**

This type of industries are engaged in the construction of various infrastructure like road, dam, bridge, canal, flyover, building, factory etc. Such types of industries carry on their activities at the sites where the structure is required.

### **Service Industry**

This type of industries provide services of various types to the people, to the industries and to the other organizations. Such industries do not produce any commodities but produce or create services for the needy. Examples are service stations, garage for automobiles, hotels, hospitals, internet, telephone service, courier service etc.

### **Concept of Start-ups**

The term startup refers to a company in the first stage of its operations. Startups are founded by one or more entrepreneurs who want to develop a product or service for which they believe there is a demand.

### **Features:**

- Risk taking is the first and foremost trait of entrepreneurship. Starting any business involves a considerable amount of risk of failure. Therefore, the courage and capacity to take the said risk are essential for an entrepreneur.
- An innovation plays an essential role in the success of a startup, so entrepreneurs should seriously consider this aspect.
- An entrepreneur should be flexible and open to change according to the situation.
- Another quality of successful startups is their ability to adjust to feedback. Whether the feedback comes from investors, advisors, mentors, or customers, successful startups extract value from feedback to help improve their product, service, or business model.
- When starting from the ground up, especially with a small team, they should concentrate on a limited product according to market demand instead of introducing many products.
- Nowadays in the present competition market work culture plays a vital role for the existing of the enterprise. So, the entrepreneurs put emphasis on work culture.
- In a long term a start-up company may turn into a bigger one.

#### **Entrepreneurial support agencies at National, State and District level (Source)**

Industrialization plays a significant role in the economic development of any country.

The industrial structure of a country consists of large, medium, and small scale industries. Of these three types of industrialization, the role of small scale industries in the industrial development of a country is of paramount importance.

The following institutions or agencies are the principal financial institution for the promotion, financing and development of industry in the small, tiny and cottage sectors such as DIC, NSIC, OSIC, SIDBI, NABARD, Commercial Banks and KVIC.

#### **District Industries Centre (DIC)**

A District Industries Centre is an institution established at the district level so as to provide them to set up small and village industries there. Before the setting up of DIC, a prospective entrepreneur had to go to several agencies, many of them far from his district, in order to get the necessary assistance and facilities. This caused considerable delay, waste of time and money. Now suitable powers have been delegated by several departments of the State Government to

the District Industries Center. Thus an entrepreneur can get all the assistance he needs from a single agency itself i.e. DIC.

### **Functions of DIC**

- The District Industries Center conducts survey of the existing traditional and new industries and raw materials and human resources.
- It makes market forecasts of various products.
- The District Industries Center also conducts training courses for the entrepreneurs of small and tiny units.
- It acts as an intermediary between the entrepreneurs and the small industries in order to introduce new and quality product developed by the latter to the former.
- The District Industries Center indicates the locations where from machinery and equipment can be acquired and also arrange for supply of machinery on hire purchase basis.
- The District Industries Center obtains the details regarding the materials required by various units and arrange for purchase of the same in bulk.
- Thereby it enables the small units to get their raw materials at reasonable prices.
- It makes the necessary arrangements with Lead Banks and other Financial Institutions in order to provide financial assistance to the entrepreneurs.
- The District Industries Center conducts market surveys and market development programs.
- It also organizes marketing outlets, contact with Government procurement agencies and make the entrepreneurs well informed of the market intelligence.
- District Industries Centers give special attention to the development of khadi and village industries and other cottage industries.
- It also keeps close contact with the State Khadi Board and organizes training programs for rural artisans.

### **National Small Industries Corporation (NSIC)**

The National Small Industries Corporation Ltd (NSIC) was set up in 1955 as a central government undertaking, the main aim of which is to fulfill the requirement of machinery and equipment for

the development of the small entrepreneurs. It is observed that the main constraint faced by the entrepreneurs is the dearth or shortage of investible funds to purchase machinery and equipment. Non-availability of finance deprives many new entrepreneurs from availing entrepreneurial opportunities.

#### **Functions of NSIC**

- The National Small Industries Corporation Ltd (NSIC) was set up in 1955 as a central government undertaking, the main aim of which is to fulfill the requirement of machinery and equipment for the development of the small entrepreneurs.
- Assists in marketing of the products of SSIs.
- Helps in exporting the products of SSIs.
- Provides training to workers of SSIs in various trades.
- Helps in the development and upgradation of technology and modernization of the industries.
- Undertakes construction of industrial estates.
- Purchases huge quantity of important raw materials and distributes the same to SSIs at reasonable rates.
- Develops prototype machines and equipment to pass on to SSIs for commercial production.
- Sets up small scale industries in other developing countries on turn-key basis.

#### **Odisha Small Industries Corporation (OSIC)**

OSIC was established on 3rd April, 1972 as a wholly owned Corporation of Government of Odisha. The basic objective of the Corporation is to assist and promote the MSMEs in the State for their sustained growth and development to gear up the industrialization process in the State.

#### **Functions of OSIC**

- This is the only corporation in the state exclusively engaged in the development of MSMEs which form the back bone of industrial sector in the state.
- The basic objective of the Corporation is to assist and promote the MSMEs in the State.
- It acts as the facilitator for the industrial growth of the MSMEs of the state.
- To provide quality raw material to MSMEs of the state.

- To provide quality building material to MSME sector of the state.
- To assist in marketing the product of the MSME sector.
- To market the MSME produces by creating common brand name with quality assurance.
- Examples of MSME are napkins, tissues, chocolates, toothpick, water bottles, small toys, pens (Micro and Small scale), cotton, textile, jute textile, iron & steel industry etc. (Medium scale)

**Small Industrial Development Bank of India (SIDBI)** is a development financial institution in India, headquartered at Lucknow and having its offices all over the country. Its purpose is to provide refinance facilities and short term lending to industries, and serves as the principal financial institution in the Micro, Small and Medium Enterprises (MSME) sector. SIDBI also coordinates the functions of institutions engaged in similar activities. It was established on April 2, 1990, through an Act of Parliament. It is headquartered in Lucknow. SIDBI operates under the Department of Financial Services, Government of India.

#### **Functions of SIDBI**

- SIDBI offers indirect assistance by providing Refinance to PLIs (Primary Lending Institutions), comprising of banks, State Level Financial Institutions, etc. with an extensive branch network across the country.
- The key objective of the refinancing scheme is to raise the resource position of Primary Lending Institutions that would ultimately enable the flow of credit to the MSME sector.
- Small Industries Development Bank of India offers microfinance to small businessmen and entrepreneurs for establishing their business.
- Small Industries Development Bank of India refines loans that are extended by the PLIs to the small-scale industrial units and also offers resources assistance to them
- It also helps in expanding marketing channels for the products of SSI (Small Scale Industries) sector both in the domestic as well as international markets.
- It offers services like factoring, leasing etc. to the industrial concerns in the small-scale sector.

- It promotes employment oriented industries particularly in semi-urban areas for creating employment opportunities and thus checking relocation of people to the urban areas
- It also initiates steps for modernization and technological up-gradation of current units
- It also enables the timely flow of credit for working capital as well as term loans to Small Scale Industries in cooperation with commercial banks

### **National Bank for Agriculture and Rural Development (NABARD)**

NABARD stands for National Bank for Agriculture and Rural Development. It was established on 12 July 1982 by an act of parliament to implement the National Bank for Agriculture and Rural Development Act 1981.

It is an apex development bank that provides a facility to credit flow for development of small industries, agriculture, cottage industries and other small businesses in rural areas. NABARD is headquartered in Mumbai, Maharashtra and its branches are located all over the country.

### **Functions of NABARD**

- It refines and regulates the financial institutions which finance the rural sector.
- It regulates the cooperative banks.
- It provides training facility to the institutions which work for rural development.
- It also promotes research in rural banking and agriculture and rural development.
- It provides financial support for the commercial banks and Regional Rural Banks, and the training institutes of cooperative banks.
- It communicates and consults the RBI in matters such as issuing of licenses for new banks and to open the branches of rural banks.
- Help banks to improve their MIS system, modernize their technology, and develop human resources.
- It promotes rural industries, small scale and cottage industries by providing loans to commercial and Co-operative banks.
- During natural calamities, such as droughts, crop failure and floods, the bank helps by refinancing commercial and cooperative banks, so that the farmers are tied over their tough period.

- NABARD gives foremost priority to projects formed under the Integrated Rural Development Program (IRDP).
- NABARD is an apex institution which has the power to deal with various matters concerning policy, planning and operation in providing credit for agriculture and other economic activities in the rural areas.

### **Commercial Bank**

The term commercial bank refers to a financial institution that accepts deposits, offers checking account services, makes various loans, and offers basic financial products like certificates of deposit (CDs) and savings accounts to individuals and small businesses. A commercial bank is where most people do their banking. Commercial banks make money by providing and earning interest from loans such as mortgages, auto loans, business loans, and personal loans. Customer deposits provide banks with the capital to make these loans. Few examples of commercial banks in India are.

- State Bank of India (SBI)
- Housing Development Finance Corporation (HDFC) Bank
- Industrial Credit and Investment Corporation of India (ICICI) Bank
- Dena Bank
- Corporation Bank

### **Functions of Commercial Bank**

- The bank takes deposits in the form of saving, current, and fixed deposits.
- Another critical function of this bank is to offer loans and advances to the entrepreneurs and business people and collect interest.
- The bank offers you with the facility of selling and buying these securities.
- Bank provides lockers facility to the customers to keep their valuable belongings or documents safely. Banks charge a minimum of an annual fee for this service.
- Collection and payment of rent, interest and dividend.
- Collection and payment of cheques and bills.
- Payment of insurance premium and subscriptions.
- ATM card, credit card and debit card facility.
- Issue of demand draft, pay order and traveler's cheque.



- Internet and mobile banking
- Sale of application forms of competitive exams.
- Banks assist in the transfer of funds from one person to another or from one place to another through its credit instruments.

### **Khadi and Village Industries Commission (KVIC)**

The Khadi and Village Industries Commission (KVIC) is a statutory body formed in April by the Government of India, under the Act of Parliament, 'Khadi and Village Industries Commission Act of 1956' with the objective to plan, promote, organize and implement the programs for development of khadi and village industries in rural areas. Examples are dhoti, kurta, handloom sarees, tussar silk etc.

### **Functions of KVIC**

- To plan, promote, organize and implement the programs for development of Khadi and village industries in rural areas.
- Creating and managing reserves of raw materials and supplying them to producers, creating common service facilities for processing of raw material and semi-finished goods.
- To promote sales and marketing of Khadi Products.
- To encourage and promote research in the production techniques and equipments in Khadi Industries.
- To plan and organize training of persons employed or desirous of seeking employment in Khadi and village industries.
- To promote the sale and marketing of Khadi or products of Village Industries or handicrafts and for this purpose and keep links with established marketing agencies wherever necessary and feasible.
- To build up reserves of raw materials and supply them to persons engaged or likely to be engaged in production of handspun yarn or Khadi or Village Industries at such rates as the Commission may decide.
- To undertake experiments or pilot projects which in the opinion of the Commission are necessary for the development of Khadi and Village Industries.

- To encourage and promote research in the technology used in Khadi and Village Industries, including the use of non-conventional energy and electric power with a view to increasing productivity.

**Department of science and technology has set up many technology business incubators(TBI) and science and technology entrepreneurship parks(STEPS) across the country in premier academic institutions to nurture entrepreneurs in various knowledge and technology field. These incubators and parks provide modern infrastructure, facilities and useful guidelines to the entrepreneurs.**

### **Technology Business Incubation (TBI)**

Technology Business Incubation (TBI) is one of the strategies identified by Department of Science and Technology (DOST) to promote innovation and techno-entrepreneurship for the Country's socio-economic development. TBI involves an ecosystem where innovation is promoted and supported towards commercialization. It aims to help startup technology based businesses by providing a range of resources, , services and facilities, furnished office space, mentoring support in developing stage of entrepreneurs.

### **Objective of TBI**

- To promote new technology/knowledge/innovation based startups.
- To provide cost effective, value added services to startups like mentoring, legal, financial, technical services.
- It also provides office space, business meeting or conference room, training room and storage room.
- They provide Networking activities
- They provide Marketing assistance.
- Incubators help in Market Research.
- They provide High-speed Internet access.
- Incubators Help with accounting/financial management.
- They help in providing Access to bank loans.
- Incubators help with presentation skills.
- They organize Comprehensive business training programs.
- They act as Advisory boards and mentors.
- They provide Technology commercialization assistance.

### **Science&TechnologyEntrepreneurshipParks(STEPs)**

The Science Parks and similar initiatives help in creating an atmosphere for innovation and entrepreneurship;foractiveinteractionbetweenacademicinstitutionsandindustriesforsharing ideas, knowledge, experience and facilities for the development of new technologies and their rapid transfer to the end user or entrepreneur.

ASTEPcreatestheneccessaryclimateforinnovation,informationexchange,sharingofexperience and facilities and opening new avenues for students, teachers, researchers and industrial managers to grow for starting a successful economic venture. The major objectives of STEP are toestablishlinkagesamongacademicandR&Dinstitutionsononehandandtheindustryonthe other and also promote innovative enterprise through S &T persons. Some of the examples of STEPareAmityBusinessIncubator,Noida,Societyforinnovationandentrepreneurship,Mumbai, Technology Business Incubator, Chennai etc.

### **Objectives**

- Tobuildacloselinkagebetweenuniversities,academicandR&Dinstitutionsononehand and industry on the other.
- TopromoteentrepreneurshipamongScienceandTechnologypersons.
- To provide R&D support to the small-scale industry mostly through interaction with research institutions.
- Topromoteinnovationbasedenterprises.
- It offers facilities such as nursery sheds, testing and calibration facilities, central workshop, prototype development, business facilitation, computing, library and documentation, communication, seminar hall/conference room.
- Italsoprovidescommonfacilitiessuchasphone,telex,fax,photocopying.
- Itoffersservicesliketestingandcalibration,consultancy.
- It also provides Training, technical support services, business facilitation services, database and documentation services and quality assurance services.

## UNIT 2

### MARKET SURVEY AND OPPORTUNITY IDENTIFICATION (BUSINESS PLANNING)

**What is Business planning?** A business plan is a blue print of the step by step procedure that would be followed in order to convert a business idea into a successful venture. It involves the following tasks :

- Identifying business opportunities and an innovative idea.
- Researching the external environment opportunities and threats.
- Identifying the internal strengths and weakness.
- Assessing the feasibility of that idea.
- Allocating resources in the best possible manner.
- Process of Business planning

#### **Objectives of Business Planning:**

- **Dedicating enough time for planning**

A workable business plan cannot be created overnight. It is bound to take its own time to develop. So, a perfect business plan will attempt to spend enough time and hard work to achieve successful implementation. This should be one of the crucial stages in a business plan.

- **Create goals and objectives**

An organization depends heavily on the business plan to arrive at the description of business it performs. There are several areas that a company will focus on if it wants to realize its objectives, understand the market that it is planned to operate in and the strategy to achieve the goals.

- **Evaluating Performance**

A business needs proper planning and control over the activities for enhanced performance. It will be an essential step towards achieving the long term survival of the organization as a whole. The business plan also comes with a financial part to it and is used for comparing the actual performance with the estimated one.

- **Gauging business strategy and applying due correction**

A business plan does assist entrepreneur in assessing the efficiency of his strategies for achieving business goals. In an ideal condition, a business needs to have the planned results with which the actual results can be compared, and the way forward is decided. If any of the strategies are found to be unsuccessful in achieving the relevant results, it may be a perfect idea to modify the strategy or take corrective actions. It is wise to have a good business plan so that the management does have a reference with which it can have a healthy comparison of the actual result achieved.

- **Arranging financial resources**

A business plan can be much helpful and instrumental in acquiring adequate business financing. Banks and lenders look for a proper business plan before giving any sort of finance to the entrepreneur. A business plan should be prepared in such a manner that the banks will have a clear understanding of the business perspective before giving any finance.

- **Stay Consistent**

This should be yet another objective that a business plan needs to be focused with is being consistent. A good business plan should place proper value on the exact process and its adherence to the planned goals. Through consistent schedule the enterprise can achieve the goal effectively. This will also help the employees and other staff to fall into a proper routine. This will help the concept of planning to be a part of the business culture.

- **Keep the goals 'SMART'**

The goals in the business plan should be SMART (Specific, Measurable, Actionable, Realistic, and Time-Bound) to achieve success. This will help the entrepreneurs to achieve the business goals as laid out in the business plan effectively and efficiently. It would be practical to have the team member of the enterprise to analyze the goals set so that the entrepreneur will get back to a realistic approach.

- **Performing SWOT analysis**

SWOT Analysis is one of the best options you would want to go with when it comes to focus on an effective business plan. Having perfect knowledge of the strengths and weaknesses of your organization helps you come up with a better insight into the realistic goals. The SWOT analysis also takes into account the opportunities and threats that the organization can come to face to face. This will assist you to focus on the positive factor and take corrective actions against the negatives.

- **Marketing analysis**

Marketing analysis is an integral part of a business and so does with the business plan. This part of the business plan should be focused on determining the potential of the product or service. The marketing analysis part of the business plan should ideally provide the entrepreneur with a means of understanding their industry as a whole.

### **Process of Business Planning:**

#### **1. Recognizing Need for Action**

**An important part of the planning process is to be aware of the business opportunities in the firm's**

external environment as well as within the firm. Once such opportunities get recognized the managers can recognize the actions that need to be taken to realize them. A realistic look must be taken at the prospect of these new opportunities and SWOT analysis **should be done**.

## **2. Setting Objectives**

- This is the second and perhaps the most important step of the planning process. Here we establish the objectives for the whole organization and also individual departments. Organizational objectives provide a general direction, objectives of departments will be more planned and detailed.
- Objectives can belong to long term and short term as well. They indicate the end result the company wishes to achieve. So objectives will percolate down from the managers and will also guide and push the employees in the correct direction.

## **3. Developing Premises**

Planning is always done keeping the future in mind, however, the future is always uncertain. So in the function of management certain assumptions will have to be made. These assumptions are the premises. Such assumptions are made in the form of forecasts, existing plans, past policies, etc. These planning premises are also of two types – internal and external. External assumptions deal with factors such as political environment, social environment, the advancement of technology, competition, government policies, etc. Internal assumptions deal with policies, availability of resources, quality of management, etc. These assumptions being made should be uniform across the organization. All managers should be aware of these premises and should agree with them.

## **4. Identifying Alternatives**

The fourth step of the planning process is to identify the alternatives available to the managers. There is no way to achieve the objectives of the firm, there is a multitude of choices. All of these alternative courses should be identified. There must be options available to the manager.

## **5. Examining Alternate Course of Action**

The next step of the planning process is to evaluate and closely examine each of the alternative plans. Every option will go through an examination where all their pros and cons will be weighed. The alternative plans need to be evaluated in light of the organizational objectives. For example, if it is a financial plan, then in that case its risk-return evaluation will be done. Detailed calculation and analysis are done to ensure that the plan is capable of achieving the objectives in the best and most efficient manner possible.

## **6. Selecting the Alternative**

Finally, we reach the decision making stage of the planning process. Now the best and most feasible plan will be chosen to be implemented. The ideal plan is the most profitable one with the least amount of negative consequences and is also adaptable to dynamic situations. The choice is obviously based on Entrepreneurship & Management & Smart Technology

scientific analysis and mathematical equations. But a managers intuition and experience should also play a big part in this decision. Sometimes a few different aspects of different plans are combined to come up with the one ideal plan.

### **7. Formulating Supporting Plan**

Once you have chosen the plan to be implemented, managers will have to come up with one or more supporting plans. These secondary plans help with the implementation of the main plan. For example plans to hire more people, train personnel, expand the office etc are supporting plans for the main plan of launching a new product. So all these secondary plans are in fact part of the main plan.

### **8. Implementation of the Plan**

And finally, we come to the last step of the planning process, implementation of the plan. This is when all the other functions of management come into play and the plan is put into action to achieve the objectives of the organization. The tools required for such implementation involve the types of plans- procedures, policies, budgets, rules, standards etc.

#### **Advantages of Business Planning**

- It makes an entrepreneur consider every aspect of the startup so they can try to eliminate failures.
- It makes the entrepreneur aware of what skills they are missing so that they can hire experts in that particular field.
- Venture capital may be available to the business if investors like the business plans..

#### **Disadvantages of Business planning**

- The business plan is only a plan and does not guarantee success. For example, sales may be lower than predicted as they can be affected by a range of issues.
- If the plan is too rigid some problems may arise, it must be flexible to adapt to market changes.
- High sales expectations may cause overspending in other areas such as stock and staffing.

### **Small Scale Industries (SSI)**

Small scale industries 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, plants, and industries, but it does not exceed Rs 1 Crore. **Examples and Ideas of Small Scale Industries** are Bakeries, School stationeries, Water bottles, Leather belt, Small toys, Paper Bags, Photography, Beauty parlours.

#### **Characteristic 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 labor 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.
- **Resource utilization:** They use local and readily available resources which helps the economy fully utilize natural resources with minimum wastage.

### **Role in the Indian economy**

- **Employment:** SSI's are a major source of employment for developing countries like India. Because of the limited technology and resource availability, they tend to use labor and manpower for their production activities.
- **Total Production:** These enterprises account for almost 40% of the total production of goods and services in India. They are one of the main reasons for the growth and strengthening of the economy.
- **Make in India:** SSI's are the best examples for the Make in India initiative. They focus on the mission to manufacture in India and sell the products worldwide. This also helps create more demands from all over the world.
- **Export contribution:** India's export industry majorly relies on these small industries for their growth and development. Nearly half of the goods that are exported from India are manufactured or produced by these industries.
- **Public Welfare:** These industries have an opportunity to earn wealth and create employment. SSI's are also important for the social growth and development of our country.

### **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 utilization 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.

## **Advantages of small scale industries**

### **1. Equitable distribution**

Large scale industries lead to inequalities in income distribution and concentration of economic power. But small scale industries distribute resources and wealth more equitably. It is because income is distributed among more number of workers since it is labor intensive. This results in both economic and social welfare.

### **2. Use of domestic resources**

Small Scale Industries use locally available resources in a productive manner which would have otherwise gone waste. Small amounts of savings which would have remained idle is channelized into setting up of small enterprises. This increases capital formation and investment in the economy.

### **3. Opportunities for entrepreneurship**

Small Scale Industries provide opportunities for entrepreneurs with limited capital. Setting up of an SSI requires less capital and lower investment in technology and machines when compared to large scale enterprises. Therefore small entrepreneurs can start Small Scale Industries easily and succeed. Japan which was devastated by the Second World War became a major economic power because of many small entrepreneurs, who contributed greatly to the nation's development.

### **4. Cost efficiency**

Small scale units can adopt lean production method, which offer better quality and more variety at a lower cost. They can be more cost efficient when compared to large scale units because their expenses are lower.

**5. Requirement of less capital:** Small Scale Industries require less capital when compared to large scale industries. India is a capital scarce country and therefore Small Scale Industries are more suitable in the Indian context. They can be started and run by small entrepreneurs who have limited capital resources

### **6. Potential for large employment**

Small Scale Industries have potential to create employment opportunities on a massive scale. They are labor intensive in character. They use more labor than other factors of production. They can be set up in short time and can provide employment opportunities to more number of people. This is important for a labor abundant country like India.

### **8. Contribution to industrial output**

Products manufactured by Small Scale Industries form a significant portion of the industrial output of the country. They produce a number of consumer goods as well as industrial components in large quantities and satisfy the needs of consumers. The consumer goods produced by Small Scale Industries are cheaper and satisfy the requirements of the poorer sections.

### **9. Contribution to exports**

Small Scale Industries contribute nearly 40 per cent to the industrial exports of the country. Products such as hosiery, knitwear, handloom, gems and jewellery, handicrafts, coir products, textiles, sports goods, finished leather, leather products, woollen garments, processed food, chemicals and allied products and a large number of engineering goods produced by the SSI sector contribute substantially to India's exports. Further products produced by Small Scale Industries are used in the manufacture of products manufactured and exported by large scale industries. Therefore they contribute both directly and indirectly to exports and earn valuable foreign exchange.

### **10. Cost efficiency**

Small scale units can adopt a lean production method which offers better quality and more variety at a lower cost. They can be more cost efficient when compared to large scale units because their expenses are lower.

### **11. Suitable for non-standardized products**

Large scale enterprises are suitable for manufacturing standardized products on a large scale whereas Small Scale Industries are more suitable for manufacturing non-standardized products.

### **12. Flexibility in operation**

Small scale enterprises are more flexible. They can adapt themselves to changing market requirements very fast and benefit from new opportunities.

### **13. Quick decisions**

Since the enterprise is small and there is not much hierarchy, quick decisions can be taken. Quick decisions are helpful in solving problems in the initial stages and also to exploit market opportunities.

### **14. Adaptability to change**

Small Scale Industries can understand the changing requirements of the customers and adapt themselves much quickly. They can change their procedures, methods and techniques faster and cater to new requirements of their customers.

### **15. Small market size**

In case the market size is small, producing products on a large scale would not be feasible. In such cases, Small Scale Industries are more suitable since they produce limited quantities.

### **Disadvantages of small scale industries**

**1. Difficulty with meeting demand:** When products are in high demand, small scale industries can often struggle to increase their output sufficiently to meet that demand.

**2. Geographically restricted:** Small scale industries may be concentrated in a particular town or even in one single building. This can limit their ability to become household names across the globe.

**3. Less financial power:** Small scale industries usually deal with less money (both in terms of incoming's and outgoing's) than larger factories and so have less financial weight.

**4. Access to machinery:** Small scale industries usually do not have the space or the money to use large scale machinery. However, they may have access to expensive, specialized equipment.

**5. A niche business:** What makes the products of small scale industries attractive to some – i.e. their niceness and uniqueness – may make them less attractive to others. Small scale industries often do not have the capacity to please all tastes.

#### **Ancillary Unit:**

An **ancillary unit** is the **unit** which supplies not less than 50% of its production to the parent **unit**. That means an ancillary unit providing necessary support to the primary unit. The examples are manufacturing automobiles, railway engines, tractors, etc.

A **tiny unit** is the business enterprise whose investment in plant and machinery is not more than Rs. 25 lakh. Investment limit in such unit is Rs. 25 lacs. The examples are small shops, STD booths, photocopy centres etc.

#### **Difference between Tiny Unit and Ancillary Unit:**

##### **Tiny Unit**

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.

##### **Ancillary Unit:**

1. It is that type in which it 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.

**Service Sector Unit:** The **Service Sector**, also called **tertiary sector**, is the third of the three traditional economic sectors. Activities in the **service sector** include retail, banks, hotels, real estate, education, health, social work, computer **services**, recreation, media, communications, electricity, gas and water supply.

**Time Schedule Plan:** Time scheduling is the art of planning the activities. So that the entrepreneur can achieve his/her goals. In other words, scheduling is the process by which the entrepreneur can make plan to complete his assignments within that time schedule. (Daily/weekly)

Follow this six-step process to prepare the schedule:

- **Identify the time:** Start by establishing the time the entrepreneur wants to make available for his/her work. How much time they spend at work should reflect the design of their job.
- **Block in the essential task:** Next, block in the actions the entrepreneur must take to do a good job. These will often be the things they are assessed against. For example, if they manage people, make sure that they have enough time available to deal with team members' personal issues, coaching, and supervision activities.
- **Schedule high-priority urgent tasks:** In the time schedule the entrepreneur should keep some time for urgent activities like schedule meeting to discuss different issues related to their business.
- **Block in appropriate contingency time to handle unpredictable events and interruptions:** The entrepreneur should keep some time for emergency activities like sudden policies changes and strike by employees etc.
- **Schedule the activities that address the priorities and personal goals in the time that remains:** The entrepreneur should keep some time for any types of personal work like attend marriage or birthday party or any other activities.
- **Analyze your activities to identify tasks that can be delegated, outsourced or cut altogether:** In this the entrepreneur has to analyze the entire activities if necessary they can modify the time schedule according to the priority of their assignments.

**Project Implementation Unit** is a technical **project** management **unit** that serves as the technical secretariat for the GPC. PIU reports directly to GPC and is tasked to **implement** daily tasks, and manage and oversee the **project** development.

Some of the agencies contacted for project implementation are given below:

- Don Bosco Tech Society, Nangoli Road, Najafgarh-110043, New Delhi.
- Orion Edutech, Orion House, 28, Chinar Park, Rajarhat Road, Kolkata-700157.
- Shriram New Horizons Ltd., A-12, Sector-59, Noida, 201301.
- Human Welfare Organization, 344, 1st Floor, BDAC Complex, Shivaji Nagar, Bhopal, MP.
- National Institute for Entrepreneurship and Small Business Development, A-23, Institutional Area, Noida.
- Indian Institute of Natural Resource Management, C-29, Acharya Niketan, Mayur Vihar-1, New Delhi-110091.
- Indian Institute of Skill Development, B-13, Infocity, Sector-34 Gurgaon-122002, Haryana.

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- National Institute for Technical Training, 3-A, Private Opposite Church, Gandhi Nagar, Jammu-180004.
- Asia Pacific Institute of Management, 3 and 4, Institutional Area, Jasola, New Delhi.
- NIC Institute of Technology, Kalabaria, Rajarhat, Kolkata-700135.

### **Assessing the demand and supply**

**What is demand?** Demand is the amount of goods or services that consumers are willing to pay at each price point. It is based on wants and needs and the ability to pay. If consumers are unable to pay for goods and services, demand does not exist. When the price of a good or service rises, demand decreases. Conversely, if the price of a good or service falls, demand goes up. This law of demand represents an inverse relationship between price and quantity demanded.

**What is supply?** Supply is the amount of goods or services available or produced, based on a number of factors such as input resources, labor, technology and regulations.

### **The following factors are to be considered for assessing the demand and supply: Price**

#### **Fluctuations**

Price fluctuations are a strong factor affecting supply and demand. When a product gets expensive enough that the average consumer no longer feels it is worth it to buy the product, then the demand declines. This leads to cuts in production that will hopefully stabilize the product's value. Lowering the price of a product may increase demand, indicating that the public feels the product is suddenly a great value. This may also cause changes in production to increase to keep up with the demand.

#### **Income and Credit**

Changes in income level and credit availability can affect supply and demand in a major way. The housing market is a prime example of this type of impact. During a recession when there are fewer jobs available and there is less money to spend, the price of homes tends to drop. Also, the availability of credit may be less because of the average person's inability to qualify for a loan. To help encourage those who can afford to buy, prices fall which can boost sales, and even more so if interest rates decrease. When there is an economic boom, unemployment is very low and people are spending money readily, the price of homes and other major purchases tends to rise and so do interest rates.

#### **Availability of Alternatives or Competition**

When an alternative product hits the market, the competition between the existing product and the new one can cause demand to drop for the existing product. Just as many people may be buying the product, a large portion of them may elect to buy the alternative brand. This leads to price wars that ultimately lower the price of the product and may require a cut in supply to fall in line with the decrease in demand.

#### **Trends or Tastes and preferences**

Demand rises and falls on trends in many cases. Consumer tastes are constantly changing, and demand for products rises and falls as a result. For example, if the customers are interested to wear jeans, the demand for jeans will increase.

### **Prices of substitutes.**

An increase in the price of one product can increase the demand for its substitute. Coca-Cola and Pepsi are excellent examples of this effect. If Pepsi increases its price, consumers will quickly switch to buying more Coke.

### **Commercial Advertising**

Commercials on television, internet and radio have an effect on supply and demand in that they make more people aware of the availability of a product. People do not buy what they don't know is for sale. If it is an appealing ad, there is a good chance of both demand and supply will increase.

### **Seasons**

These seasons can affect supply and demand drastically. The supply and demand for toys peaks around Christmas and fireworks boom during Dewali, etc.

### **Potential areas of growth**

Growth potential is an organization's future ability to generate larger profits, expand its workforce and increase production. In the business sense, an organization's growth potential depends heavily upon its leadership's expectations for success, and the quantitative and qualitative measures used to determine expansion readiness. Growth potential can be gauged from an organization's planned movement into new markets, the development of new product lines, the adaptability of more effective marketing techniques, or other methods that grow a business from a niche market to a more volume operation.

The following are the potential areas to be developed:

**1. Keep Financial Score:** The business organization should keep their financial status daily, weekly, and monthly and that should be maintained regularly. It's vital that to spend the necessary time keeping current on cash flow. If necessary, the entrepreneur should appoint an accountant for these activities.

#### **2. Set Goals**

Setting goals and objectives is an essential part of business success. So in this regard, the entrepreneur should gather all the information related to the business and apply appropriate methodology to fulfill the objective for the organization.

#### **3. Use High-Impact Marketing**

Wasting money on ineffective marketing is easy. The entrepreneur should implement low-budget, high-impact marketing strategies to improve their small business. Test one or two new tactics and see which perform best before adding them to their marketing strategy. Social media is an excellent low-cost and low-

riskwaytopromoteyourbusiness.LinkedIn,Facebook,Twitter,andInstagramareafewgoodtools to build a socialpresence and attract attention to the business.

**4. Sharpen the Selling Skills** A high-return area for business improvement is the sales function. In this regardtheentrepreneurshouldimplementdifferentmethodsforsalesimprovementbyappointingefficient sales team along with sales Manager.

#### **5. Find Best Practices**

Keepingeverythingtransparentisanimportantactivities.Thatmeans,communicatingeffectively,testing, andmonitoringandapprovingtheprocessesinordertokeepeverythingrunningssmoothly.Example is documenting the processes to avoid any miscommunication

#### **6. Motivate Staff**

Talented and motivated staff members can bring on big improvements in business. So, the entrepreneur should applydifferentstrategiesto motivate the potential employees bygivingssome bonus or incentives so that the employees will think that the organization is ours.

#### **7. Customer satisfaction**

Employee satisfaction is key for a business' success, but customer satisfaction is critical. The customer's satisfactionwiththeproduct/serviceorcompanyisanotherstrongindicatorofthebusinessperformance.

TheentrepreneurshouldConductregularcustomersatisfactionssurveysaspartofhiscustomerrelationship management program, and determine of customer satisfaction changes over time.

#### **Identify the business opportunity:**

There are a lot of opportunities available in the world of business, but they are not visible to everybody. Theyarevisibleonlytothosewhoconstantlyremaininsearchofthem.Opportunity doesnotcometoany one by chance, but the entrepreneur has to struggle for it. The entrepreneur has to collect necessary resources to convert the opportunity into a successful business venture. Business opportunity can be described as an economic ideathrough which theentrepreneur can make a business and earn profits. He hastocollecttheinformationfromexternalenvironmentandanalyzethemsothathewillbeabletoselect best opportunity related to his business.

Abusinessopportunitywillbeconsideredonthefollowingfactors:

**1. A good market scope for the product he is going to produce:** Theentrepreneurhastoanalyzethegap between demand and supply of the product in which he is going to make business. The demand must be higherthanthesupply.Heshouldconsidernotonlythepresentdemandandsupplyoftheproductbutalso he should put emphasis onthe future forecast demand and supply.In this regard the entrepreneur has to establish new units and inter regional flow of commodities to analyze the demand and supply.

**2. An attractive, acceptable and adequate rate of return on the investment:** The next opportunity is therateofreturn.Iftherateofreturnontheinvestmentisnotattractivetheentrepreneurcannotmove

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forward. So, the rate of return must be higher which can cover the remuneration of the entrepreneur, salary of employees, maintenance, loan payment along with other payments and also receive some extra money so that that can be used for expansion, modernization and for launching new projects and products.

**3. Feasibility or practicability of the idea:** The idea adopted by the entrepreneur must be feasible and practicable. If a business opportunity has all the ingredients but the idea is not feasible or can not be put into practice, it is useless. If permission or license is not available due to some reasons the entrepreneur may abandon the idea..

**4. Competence of the entrepreneur to convert the idea into real business practice.** : The entrepreneur is the main element of an enterprise. So, the entrepreneur must be capable of turning the idea into economic activities. Different business activities require different levels of skill, knowledge, ideas etc. He must have the competence to overcome the hurdles.

**5. Assurance for future growth:** Lastly there must be an assurance for a prosperous future and steady growth of the activities of the entrepreneur and enterprise. If all the components discussed above are there but there is a lot of uncertainties about the future prospects of the enterprise the entrepreneur can not consider it to be a good business opportunity. Apart from an attractive and acceptable rate of return on investment and a good market scope the entrepreneur has to study several other factors for the project relating to technical, production, managerial and feasibility point of view. These factors are so interlinked that a decision about one affects the others. So, the identification of a business opportunity for an entrepreneur requires intensive efforts and special skill. To collect all the information necessary to select an appropriate business opportunity, the entrepreneur has to remain in close touch with a number of entrepreneurs, institutions, and business publications so that he acquires a lot of knowledge and gain exposure on his projects.

### **Major criteria for final selection of a business opportunity**

Before arriving at a conclusion on a business opportunity, an entrepreneur has to collect a lot of information on various business opportunities and examine all the opportunities minutely. He has to examine the business environment, present scenario and trend in a business, impact of changes in technology and behavior of the target group for whom the product is going to be made. To make a final decision on business opportunities, various types of products and services available in the market, their merits and demerits, the expectation of the consumers should be studied. He should see if he can make a product best suited to the market, consumers, dealers and environment.

Although the amount of investment and nature of technology play an important role in the final selection of a business opportunity, yet the entrepreneur has to first select the **enterprise, product and project.**

### **Selection of Enterprise**



After collecting all the required information and analyzing the information, the entrepreneur has to select the industry he may establish. He may select industry relating to consumer goods, producer goods or intermediate goods. While deciding the industry, the entrepreneur has to study the present business environment and industrial climate for the particular industry. What would be the expected future of the industry must be examined? While deciding the industry, he has to think for diversification, modernization and flexibility of the industry in future. While deciding the industry the entrepreneur may take into account his preferences, technical capabilities, familiarizes and support from others in the same line. He has also to take into account Government policies for the industry. He has to see the present position of such industry in the country as well as abroad forecast the future. On the basis of the above information, the entrepreneur may decide the industry.

### **Selection of product or Final Product Selection**

After the selection of an industry, the entrepreneur has to select the product to be manufactured by him. While doing so, he has to make a comparison of all the products he has thought in mind. Producing a product is less important than marketing the product. So he has to select a product keeping an eye on the market. Market survey plays an important role in the selection of a product. Entry point into the market is important for the entrepreneur. For a new entrepreneur it is always better to enter the market with an essential commodity of daily use, so that he finds a ready market for his product and entry will also be easier. However, he may select any product which may be classified as essential items, luxury or comfort items. But, before making a selection, the entrepreneur has to study the behavior of the competitors and consumers for a new entrants. Similarly, the entrepreneur has also to take into account all the probable factors which may influence the future business activities. He has to analyze the market scope of the product and the rate of return on the investment before finally selecting a product.

### **Selection of Project**

After the selection of an industry and product, the next problem for the entrepreneur is to select the project. The selection of a project depends upon the personal preferences of the entrepreneur, earnings of the entrepreneur, returns on investment and future prospects of the product. How much cash the entrepreneur can invest in his enterprise also plays an important role in the selection of a project. He should also study the Govt. policies for the particular project. All the formalities, licenses or permissions needed for the project should be examined by entrepreneur. Whether such licenses or permissions are available easily or not should also be examined. The entrepreneur has also to see if any restriction or control is there for the raw materials, finished products, the price of raw materials and finished product and their movements etc. which may affect the prospects of the project. He should also examine the possibility of restrictions on such matters in future. The project should be viable and acceptable to all the agencies. Again the entrepreneur has to examine the future prospects of his project. Examine the future includes study of the technology,

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possibilities of changes in technology, changes in the taste, fashion and custom of people. These factors will influence the future demand and prospects of the product and project.

### **UNIT3**

#### **PROJECTREPORTPREPARATION**

**Project Report:** After the selection of the industry and product, the entrepreneur should prepare the project report on his project. This project report is necessary to get registration, license, permission and loans from financial institutions for his project. Project report is the mirror through which one can see the entire picture of an organization in advance. Project report can be of two types i.e. Preliminary Project Report (PPT) and Detailed Project Report (DPR).

**Preliminary Project Report :** A preliminary project report is a brief summary of a project describing the expected inputs and outputs like finance, manpower, materials, machinery, technology, expenses, production, profits, sales etc. of a project before the project is actually implemented. A preliminary project report justifies the techno-economic feasibility of a project. An entrepreneur may make few preliminary project reports on different products to see which one is more suitable to be accepted. So, a PPR is a rough

estimate of the project through which the entrepreneur makes a detailed project report and start working on it. A PPR may be the picture of a project in the mind of the entrepreneur which has been put into paper in a desired manner to convince others regarding its viability. It is a short description of the project by the entrepreneur.

A Performa of a Preliminary Project Report is given below:

### PRELIMINARY PROJECT REPORT

#### 1. Introduction

##### A. Information about the Entrepreneur:

Name: \_\_\_\_\_

Date of birth: \_\_\_\_\_

Address: \_\_\_\_\_

Age: \_\_\_\_\_

Sex: \_\_\_\_\_

Presently monthly income: RS. \_\_\_\_\_

Educational Qualification: \_\_\_\_\_

Special training, if any: \_\_\_\_\_

Work experience: \_\_\_\_\_

Category: SC/ST/Ex-military/NRI/Physically handicapped/General: \_\_\_\_\_

##### B. Information about the proposed product/project

Product : \_\_\_\_\_

Location of the project: \_\_\_\_\_

Type of organization: \_\_\_\_\_

Name of the firm: \_\_\_\_\_

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## 2. FinancialDetails:

### A. Landand Building

Area	Value
------	-------

i) land

ii) Building

### B. DetailsofMachineryandEquipments

SlNo	Descriptionofmachinery	Norequired	Price	Totalvalue	Name&addressof suppliers
1.	_____	_____	_____	_____	_____
2.	_____	_____	_____	_____	_____
Total valueinRs. _____					

### C. MiscellaneousFixedAssets

1. Tools	RS. _____
2. Furniture	Rs. _____
3. OfficeEquipments	Rs. _____
Total	Rs. _____

D. Preliminary and Preparative Expenses : This includes the amount to be spent by the entrepreneur to get registration, license, permission, security deposits along with travelling expenses and also mention the total expenses

a) Rawmaterials RS. \_\_\_\_\_

b) Salariesandwagesoflabor/staffpermonth Rs. \_\_\_\_\_

c) Utilities:

Electricity,water,coal,oil,LPG	Rs. _____
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d) OtherContingentExpenses:

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Repair and Maintenance, Transport, postage and stationary, telephone, rent, Advertising Rs. \_\_\_\_\_

### **Importance of Preliminary Project Report**

- A Project Report represents what the business is all about or what it intends to be over the time. It offers guideline to start-ups and existing businesses too.
- A Project Report is essential for those, who are seeking financial assistance from different financial institutions and banks, for their business.
- It acts as a guide in the all business operations, taking all financial decisions related to the business.
- It gives full visibility of every activity related to that particular business, and it will give full insights of the business.

### **Benefits:**

**Tracking :** Through tracking the entrepreneur can track the current progress of the project against the original plan. Which include Tasks, Issues, Risks, budget, schedule, and overall project activities.

**Identifies risks:** Identifying risks is a key step to better projects. With the right reports, the entrepreneur can spot a risk early on and makes it easier for the team to work on the problem.

**Cost management:** Cost management is tricky. But with regular reporting, it's easy to view the expenditure clearly and manage the budget with full visibility.

**Visibility:** Reporting increases the amount of visibility of the projects and will give full insight into how the project is performing, be it good or bad.

**Control :** Reporting puts the project under control.. It allows to see the progress, stagnation, or regress of certain elements, how team members are performing, and the quality of work completed.

**Learning:** Information provided by project reporting on completed tasks can inform future actions. For example, the entrepreneur may figure out that project communication was an issue and make changes to the communication plan for the next project.

### **Detailed Project Report (DPR)**

Detailed project report is nothing but a detailed elaboration of each and every information and estimate mentioned in the Preliminary Project Report . While preparing a detailed project report the entrepreneur may take the help of experts to do the job. Preparation of the DPR requires a lot of time.

A DPR is a final, detailed appraisal report on the project and a blueprint for its execution and eventual operation. It provides details of the basic program, the roles and responsibilities, all the activities to be carried out and the resources required and possible risk with recommended measure to counter them. **Objectives of DPR**

- The reports should be with sufficient detail to indicate the possible fate of the project when implemented.

- The report should meet the questions raised during the project appraisals, i.e. the various types of analyses—be it financial, economic, technical, social etc.—should also be taken care of in the DPR.

### **Contents of DPR:**

The project report contains detailed information about Land and buildings required, Manufacturing Capacity per annum, Manufacturing Process, Machinery & **equipment** along with their prices and specifications, Requirements of raw materials, Requirements of Power & **Water**, Manpower needs, total Cost of the Project.

### **Difference between PPR and DPR**

- PPR is a brief summary of each and every information related to business while DPR is a detailed elaboration of each and every information mentioned in the PPR.
- Preparation of PPR requires less time while it takes more time to prepare DPR.
- PPR can be easily prepared while it is a tedious task for preparing DPR.
- PPR can be prepared for getting license and permission to start a project while the status and future prospects depend on DPR.

### **Advantages:**

- The entrepreneur can monitor operations procedures within the enterprise.
- Allowing managers to use the report to review and corrective actions that are not effective.
- Supplying upper management important information to make decisions.
- Offering insight into the attitude and motivation of the employees.
- Providing employee performance evaluations to determine that work is being done properly and efficiently.
- Evaluating investment proposals.

### **Disadvantages:**

- Reports are time-consuming to create.
- They are expensive to research and write.
- Technical reports can be difficult to understand.
- Implementing report recommendations can prove difficult.

**Techno Economic Feasibility:** It is a report which is to determine the technical **feasibility** and financial viability of the project, assess the risks associated with the project and implement actions that are required to be taken.

It is a methodology framework to analyze the technical and economic performance of a process, product or service. In other words we can say that

- it refers to the estimation of project and choice of optimal technology.
- It is an analysis on the existing market and technology.

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- It analyzes the project on individual criteria on different aspects and sets the stage for detailed design development.

#### **Factors to be considered for Technoeconomic feasibility report**

- Objective and scope of the report.
- Product characteristics.
- Market position and trends.
- Raw material requirement, prices, sources and properties of raw materials.
- Manufacturing processes, selection of process, production schedule and techniques.
- Plant and machinery.

#### **Objectives:**

- It determines the technical feasibility and financial viability of the project.
- It assesses the risks associated with the project.
- It executes the action that are required to be taken for the betterment of the project.

#### **Benefits:**

- The entrepreneur can get the idea about the total costs associated with the project.
- The entrepreneur can execute the most appropriate technology to manufacture the products.
- The entrepreneur can analyze the existing market and technology.
- The entrepreneur can get an overall information about the project and then it will be easy for him to go for detailed design development.

#### **Project viability:**

Viability for a project refers to the assessment of whether the project has the capacity to meet the defined objectives and in addition to generate significant financial and economic gains to the stakeholders and to the economy in general.

Project viability depends on a number of factors which are given below:

**Cost:** A project is not typically considered viable if its value exceeds its costs. Sometimes the cost viability of a project can change over the course of the project's development or implementation. For example, if you have a particular amount of money designated for a project, and it appears actual costs will exceed the budget, the project is likely to lose its viability. Many factors can impact costs, such as an increase in the cost of supplies or materials or the scope of the project.

#### **Time:**

A project that is not on track from a deadline perspective can lose its viability. For example, if you have a project to design and print invitations for a grand opening event, if time delays result in the invitations going to print the day before the event, the project loses its viability. Invitations issued after an event has taken

place are worthless, and continuing to pursue their production wastes time and money. Likewise, delays that result in additional fees -- such as rushed late printing fees -- may also render a project non-viable.

**Manpower:**

Losing key members or staff can cause a project to lose its viability. For example, if the entrepreneur has a graphic designer who is developing new logo, and that person quits without notice, the project may lose its viability, because the manpower anticipated for the role no longer exists. The project has the potential to regain its viability if someone else can take over the task or it can be effectively outsourced to another party.

**Quality:**

If the quality of a project is not attainable as anticipated, it can lose its viability. For example, if an entrepreneur owns a small construction business and provides an estimate for building a custom home, that estimate is based largely on the current price of home-building materials. If the price goes up suddenly or the same quality of materials is no longer available, the project, as planned, loses its viability. It can regain its viability if materials of equal quality and similar price can be obtained.

## UNIT 4

### MANAGEMENT PRINCIPLE

**Definition of Management:**

- Management may be defined as the art of getting work done through people with satisfaction of employer, employees and the public.
- Management is a process for getting the work done through the efforts of other people, it is necessary to guide, direct, coordinate and control human effort towards the fulfillment of the goals of the enterprise.
- Management is an art because management means coordinating and getting work done through others.

**Principle of Management:**

The fourteen principles of management created by Henri Fayol also known as “father of modern management theory” are explained below:

**1. Division of Work** - According to this principle the whole work is divided into small tasks and it is also based on the theory that if workers are given a specialized task to do, they will become skillful and more efficient in it which leads to specialization and specialization helps to increase efficiency and efficiency which results in improvements on the productivity and profitability of the organization.



**2. Authority and Responsibility**-Authority and responsibility should go together and must be related.

Authority means the right of a superior to give enhance or order to his subordinates and responsibility makes them responsible for the work done under their guidance or leadership. Responsibility without authority or vice versa is meaningless.

**3. Discipline** -Without discipline, nothing can be accomplished. It is the core value for any project or any management. Good performance and sensible interrelation make the management job easy and comprehensive. Employees' good behavior also helps them smoothly build and progress in their professional careers. Discipline is absolutely necessary for efficient functioning of all enterprises.

**4. Unity of Command** - This principle states that each subordinate should receive orders and be accountable to one and only one superior. If an employee receives orders from more than one superior, it is likely to create confusion and conflict.

**5. Unity of Direction.** This means all the person working in a company should have one goal and motive which will make the work easier and achieve the set goal easily. It implies that there should be one plan and one head for each group of activities having the same objective. That means there should be one common plan for an enterprise as a whole.

**6. Subordination of Individual Interest**-This indicates a company should work unitedly towards the interest of a company rather than personal interest. That means the interests of an individual person should not be permitted and this is necessary to maintain unity and to avoid friction among employees.

**7. Remuneration**-Remuneration is the price paid to the employees for the services rendered by them for the enterprise and this is also a chief motivation of employees and therefore it puts influences on productivity. The quantum and methods of remuneration payable should be fair, reasonable and bring maximum satisfaction to both employees and the employer.

**8. The Degree of Centralization:** Centralization implies that the decision making process should be taken at top management. In any company, the management or any authority responsible for the decision-making process should be neutral. However, this depends on the size of an organization. Henri Fayol stressed on the point that there should be a balance between the hierarchy and division of power.

**9. Line of Authority/Scalar Chain**-This refers to the chain of superiors ranging from top management to the lowest rank. The principle suggests that there should be a clear line of authority from top to bottom linking all managers at all levels. This is necessary so that every employee knows their immediate senior and also they should be able to contact any, if needed.

**10. Order**-.A company should maintain a well-defined work order to have a favorable work culture. The positive atmosphere in the workplace will boost more positive productivity. Material order ensures safety and efficiency in the workplace. Order should be acceptable under the rules of the company.

**11. Equity** - Employees must be treated kindly, and Managers should be fair and impartial when dealing with employees, giving equal attention towards all employees. This will make employees more loyal and devoted towards the management or enterprise.

**12. Stability of Tenure of Personnel** - Stable and secure workforce is an asset to the enterprise because unnecessary labor turnover is costly. 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 potential employees.

**13. Initiative** - Initiative of employees can add strength and new ideas to an organization. Initiative on the part of employees is a source of strength for organization because it provides new and better ideas.

Employees are likely to take greater interest in the functioning of the organization. In this regard manager should encourage his subordinates to take initiative.

**14. Esprit de Corps/Team Spirit** - 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. This refers to the need of managers to ensure and develop morale in the workplace; individually and communally. Team spirit helps develop an atmosphere of mutual trust and understanding. Team spirit helps to finish the task on time.

**Functions of Management:** Broadly speaking, management includes everything which is necessary for the performance of work. All the activities performed by managers at various levels to get the desired result may be the functions of management. Usually, there are nine major functions of management such as **Forecasting, Planning, Organizing, Staffing, Coordination, Directing, Motivation, Communication and Control.**

**1. Forecasting:** Forecasting is the first thing in the management process through which plans are made and actions are taken. Forecasting forms the base for planning process. The efficiency of planning depends on the accuracy of forecasting. Forecasting is nothing but the prediction on the future or estimate the future events by comparative study and analysis of various factors and forces. Forecasting is based on the analysis of the past, study of the present and estimate of future. Forecasting helps to add certain level of to the future events and helps to meet the future challenges. Forecasting may be for short run or long run. A short run forecast is likely to be more accurate than the long run forecast. In case of long run forecast may be required for revision due to changes in different factors and forces. Result of forecast should be made available to all the planners to plan the activities suitably.

**2. Planning:** Planning is the most important among all the managerial functions. It is the function of management usually performed by all the managers at all the levels of work. If planning is wrong or defective, the entire work shall be defective and all the efforts shall be fruitless. Planning is considered to be the foundation of work. Planning means deciding a future course of action to be performed by all the employees in the management process. Planning involves study of future. It also includes selection of the

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best alternatives among the alternatives available. Selection of the best alternative requires study, analysis and comparison of various alternatives. So, planning involves selection of the best alternative for the entire organization. Planning is deciding in advance the work to be performed in a desired manner in future. Planning also involves deciding what to do? When to do? Where to do? How to do? Planning aims at maximum result at minimum possible efforts.

**3. Organizing:** Organizing is the management process which helps to carry out the plans. Organizing includes putting life to plans by bringing together the physical facilities, executives, personnel, workers, capital, machineries, materials, services to carry out the plans. When all these resources are assembled then the organization comes to life. Organizing provides for the establishment of relationship among posts, departments, section, units, resources, jobs etc. and creates routes for delegation of authority and responsibility. Organizing is a managerial process through which a manager groups his men to get the things done effectively and efficiently to achieve the best possible result. Organizing is an effective mechanism for management for achieving the plans. Organizing also defines the relationship among the persons and decides who will do what for the implementation of the plans and for the achievement of the goals.

**4. Staffing:** Organization creates a structure of duties and functions to be performed by various persons in the organization. So, staffing is nothing but filling up the positions created in the organization structure. Staffing functions include recruitment, selection, training, placement, transfer, promotion, etc. Staffing aims at optimum utilization of human resources of an organization. It is the duty of management to fill up the vacancies created in the organization by appointing competent, qualified, efficient and appropriate persons for each job.

**5. Coordination:** Coordination is the function of management which ensures that different departments and group work in synchronization to achieve the common objectives of the organization. Therefore, there is unity of action among the employees, groups and departments. Unity of efforts can not be achieved automatically. So, a manager has to coordinate the activities of all the individuals to provide unity of action for the achievement of common goal. Coordination includes division of work and distribution of duties and responsibilities among various individuals and groups working in the organization. Coordination ensures that all the individuals and group work together effectively, economically and harmoniously to achieve common goal of the enterprise. Coordination is a function linking all the functions of management through unification of both human and other resources.

**6. Directing:** Simply appointing competent persons in different positions is not enough to get good results. They need direction that means proper orders and instructions as per requirement. So, directing is entirely a human function which involves managing the managers and workers through motivation, proper leadership, effective communication and coordination. A manager with the help of leadership and

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motivational qualities has to direct and guide all his subordinates and get the work done through them. To direct and guide the subordinates a manager must develop his abilities to command people. A manager must know how to direct, how to issue orders and instructions to the subordinates without creating confusion. Directing helps the plans to be converted into performance. It is the process through which people are made aware as to what and how they are expected to do.

**7. Motivation:** Without motivation things do not move smoothly. Motivation is nothing but creating an internal desire in the mind of a person to do something. In the management process motivation is a powerful tool to achieve the goal effectively. Motivation can set into motion a person to carry out some activities. To carry out the plans properly and smoothly a manager has to make use of motivation as a tool to motivate the subordinates to get the work done through them. Motivation is the process of inspiring people in order to intensify their desire and willingness for executing their duties effectively and for co-operating to achieve the common objectives of an enterprise. The manager should adopt different methodology to motivate the subordinates in the form of adequate financial incentive, proper working environment, provision for promotion, non monetary facilities like travelling, medical treatment, education etc.

**8. Communication:** Communication is the management process which refers to the transmission of messages, news, information, suggestion, instruction and ideas from one person to another. Through communication an effective link is created and maintained among all the employees of the organization. Communication is always objective oriented. There are various modes of communication but oral or verbal communication is the best form of communication. The communication may be from the bottom to top or top to bottom. The manager has to develop good communication skill and he should be a good communicator and should ensure that there is no communication gap. So, it is the duty of the manager to see that the information or messages are properly communicated to the appropriate persons or not.

**9. Control:** Control is a continuous process. Controlling is one of the important functions of a manager. In order to seek planned results from the subordinates, a manager needs to exercise effective control over the activities of the subordinates. In other words, the meaning of controlling function can be defined as ensuring that activities in an organization are performed as per the plans. Controlling also ensures that an organization's resources are being used effectively & efficiently for the achievement of predetermined goals. Managers at all levels of management top, middle & lower – need to perform controlling function to keep control over activities in their areas. Therefore, controlling is very much important in an educational institutions, military, hospital, or in any business organization. A good control system helps an organization in the form of accomplishing organizational goals, judging accuracy of standards, making efficient use of resources, improving employee motivation, ensuring order & discipline and facilitating coordination in action. Control helps realization of the plans as per expectation.

**Level of management in an organization:** According to duties and responsibilities the level of management in an organization is broadly classified into three categories as

1. Top-Level Management/Administrative level,
2. Middle-Level Management/Executory and
3. Low-level Management/Supervisory.

### **1. Top Level of Management**

It consists of board of directors, chief executive or managing director. The top management is the ultimate source of authority and it manages goals and policies for an enterprise. It devotes more time on planning and coordinating functions.

The role of the top management can be summarized as follows-

- Top management lays down the objectives and broad policies of the enterprise.
- It issues necessary instructions for preparation of department budgets, procedures, schedules etc.
- It prepares strategic plans & policies for the enterprise.
- It appoints the executive for middle level i.e. departmental managers.
- It controls & coordinates the activities of all the departments.
- It is also responsible for maintaining a contact with the outside world.
- It provides guidance and direction.
- The top management is also responsible towards the shareholders for the performance of the enterprise.

### **2. Middle Level of Management**

The branch managers and departmental managers constitute middle level. They are responsible to the top management for the functioning of their department. They devote more time to organizational and directional functions. In small organization, there is only one layer of middle level of management but in big enterprises, there may be senior and junior middle level management.

Their role can be emphasized as -

- They execute the plans of the organization in accordance with the policies and directives of the top management.
- They make plans for the sub-unit of the organization.
- They participate in employment & training of lower level management.
- They interpret and explain policies from top level management to lower level.
- They are responsible for coordinating the activities within the division or department.
- It also sends important reports and other important data to top level management.
- They evaluate performance of junior managers.
- They are also responsible for inspiring lower level managers towards better performance.

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### 3. Lower Level of Management

Lower level is also known as supervisory/operative level of management. It consists of supervisors, foreman, section officers, superintendent etc. Their activities include:

- Assigning of jobs and tasks to various workers.
- They guide and instruct workers for day-to-day activities.
- They are responsible for the quality as well as quantity of production.
- They are also entrusted with the responsibility of maintaining good relation in the organization.
- They communicate workers' problems, suggestions, and recommendatory appeals to the higher level.
- They supervise & guide the subordinates.
- They are responsible for providing training to the workers.
- They arrange necessary materials, machines, tools etc. for getting the things done.
- They prepare periodical reports about the performance of the workers.
- They ensure discipline in the enterprise and motivate workers.
- They are the image builders of the enterprise because they are in direct contact with the workers.

## UNIT 5

### FUNCTIONAL AREAS OF MANAGEMENT

**A ) Production Management:** Production management means planning, organizing, directing and controlling of production activities. Production management deals with converting raw materials into finished goods or products. It brings together the 6M's i.e. men, money, machines, materials, methods and market to satisfy the wants of the people. Production management also deals with decision-making regarding the quality, quantity, cost, etc., of production. It applies management principles to production.

Production management is a part of business management. It is also called "Production Function."

Production management is slowly being replaced by operations management. The main objective of production management is to produce goods and services of the right quality, right quantity, at the right time and at minimum cost. It also tries to improve the efficiency. An efficient organization can face competition effectively. Production management ensures full or optimum utilization of available production capacity.

#### Functions:

**1. Selection of Product and Design:** Production management first selects the right product for production. Then it selects the right design for the product. Care must be taken while selecting the product and design.

because the survival and success of the company depend on it. The product must be selected only after detailed evaluation of all the other alternative products. After selecting the right product, the right design must be selected. The design must be according to the customers' requirements. It must give the customers maximum value at the lowest cost. So, production management must use techniques such as value engineering and value analysis.

**2. Selection of Production Process:** Production management must select the right production process. They must decide about the type of technology, machines, material handling system, etc.

**3. Selecting Right Production Capacity:** Production management must select the right production capacity to match the demand for the product. This is because more or less capacity will create problems. The production manager must plan the capacity for both short and long term's production. He must use break-even analysis for capacity planning.

**4. Production Planning:** Production management includes production planning. Here, the production manager decides about the routing and scheduling. Routing means deciding the path of work and the sequence of operations. The main objective of routing is to find out the best and most economical sequence of operations to be followed in the manufacturing process. Routing ensures a smooth flow of work. Scheduling means to decide when to start and when to complete a particular production activity.

**5. Production Control:** Production management also includes production control. The manager has to monitor and control the production. He has to find out whether the actual production is done as per plans or not. He has to compare actual production with the plans and find out the deviations. He then takes necessary steps to correct these deviations.

**6. Quality and Cost Control:** Production management also includes quality and cost control. Quality and Cost Control are given a lot of importance in today's competitive world. Customers all over the world want good-quality products at cheapest prices. To satisfy this demand of consumers, the production manager must continuously improve the quality of his products. Along with this, he must also take essential steps to reduce the cost of his products.

**7. Inventory control:** Production management also includes inventory control. The production manager must monitor the level of inventories. There must be neither overstocking nor understocking of inventories. If there is an overstocking, then the working capital will be blocked, and the materials may be spoiled, wasted or misused. If there is an under-stocking, then production will not take place as per schedule, and deliveries will be affected.

**8. Maintenance and Replacement of Machines:** Production management ensures proper maintenance and replacement of machines and equipments. The production manager must have an efficient system for continuous inspection (routine checks), cleaning, oiling, maintenance and replacement of machines, equipments, spare parts, etc. This prevents breakdown of machines and avoids production halts.

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### **Activities:**

- 1. Accomplishment of firm's objectives:** Production management helps the business firm to achieve all its objectives. It produces products, which satisfy the customers' needs and wants. So, the firm will increase its sales. This will help it to achieve its objectives.
- 2. Reputation, Goodwill and Image:** Production management helps the firm to satisfy its customers. This increases the firm's reputation, goodwill and image. A good image helps the firm to expand and grow.
- 3. Helps to introduce new products:** Production management helps to introduce new products in the market. It conducts Research and development (R&D). This helps the firm to develop newer and better quality products. These products are successful in the market because they give full satisfaction to the customers.
- 4. Supports other functional areas:** Production management supports other functional areas in an organization, such as marketing, finance, and personnel. The marketing department will find it easier to sell good-quality products, and the finance department will get more funds due to increase in sales. It will also get more loans and share capital for expansion and modernization. The personnel department will be able to manage the human resources effectively due to the better performance of the production department.
- 5. Helps to face competition :** Production management helps the firm to face competition in the market. This is because production management produces products of right quantity, right quality, right price and at the right time. These products are delivered to the customers as per their requirements.
- 6. Optimum utilization of resources :** Production management facilitates optimum utilization of resources such as manpower, machines, etc. So, the firm can meet its capacity utilization objective. This will bring higher returns to the organization.
- 7. Minimizes cost of production:** Production management helps to minimize the cost of production. It tries to maximize the output and minimize the inputs. This helps the firm to achieve its cost reduction and efficiency objective.
- 8. Expansion of the firm :** The Production management helps the firm to expand and grow. This is because it tries to improve quality and reduce costs. This helps the firm to earn higher profits. These profits help the firm to expand and grow.

### **Productivity:**

**Productivity** is commonly defined as a ratio between the output volume and the volume of inputs. In other words, it measures how efficiently production inputs, such as labor and capital, are being used in an economy to produce a given level of output. **Productivity** is typically measured by comparing the amount of goods and services produced with the inputs used in production.

### **Benefits:**

- 1. Higher profit:** Higher productivity enables the company to produce more output. This results in
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more profit to it. This profit can be used for expansion and other activities.

**2. Employees welfare :** Higher productivity brings more profit to the company. This profit can be used to provide better facilities and working conditions to the employees. So, it results in welfare of the employees.

**3. Better return:** The company gets better return on investment due to higher productivity. So, they pay a better dividend (share of profit) to the shareholders. The market price of the share will also increase.

**4. Nice relations:** Higher productivity results in nice relations between the management and the employees. Good working conditions, facilities and incentives motivate employees to give their best to the organization.

**5. Customer satisfaction :** Higher productivity results in better customer satisfaction. This is because customers are provided with good-quality products at low prices. Satisfaction of customers will result in their loyalty towards the company.

**6. Good credit rating :** Higher productivity results in a good credit rating by financial institutions. This will enable the company to get cheap funds from the market to meet working and fixed capital requirements.

**7. Goodwill:** Due to higher productivity, the company will have a good corporate image (goodwill) in the minds of social entities. This includes: The shareholders, government, suppliers, financial institutions, customers, etc.

**8. Better credit terms:** Higher productivity helps the company to get better terms from the suppliers. The suppliers may give better credit terms due to its goodwill.

**9. Low turnover :** Higher productivity enables the company to provide better facilities and working conditions to the employees. This will make the employees loyal. Hence, employee turnover and absenteeism will reduce.

### **Quality Control:**

Quality control (QC) is a process through which a business seeks to ensure that product quality is maintained or improved. Quality control requires the business to create an environment in which both management and employees strive for perfection. This is done by training personnel, creating benchmarks for product quality and testing products to check for statistically significant variations.

Quality is a relative concept. It is related to certain predetermined characteristics such as shape, dimensions, composition, finish, color, weight, etc. In simple words, quality is the performance of the product as per the commitment made by the producer to the consumer. J. M. Juran (1970) who is considered the father of quality research has defined quality as “the performance of the product as per the commitment made by the producer to the consumer.”

### **Objectives of Quality Control**

1. Establish the desired quality standards which are acceptable to the customers.

2. To discover flaws or variations in the raw materials and the manufacturing processes in order to ensure smooth and uninterrupted production.
3. To evaluate the methods and processes of production and suggest further improvements in their functioning.
4. To study and determine the extent of quality deviation in a product during the manufacturing process.
5. To analyze in detail the causes responsible for such deviation.
6. To undertake such steps which are helpful in achieving the desired quality of the product.

### **Advantages of Quality Control**

1. The brand products build up goodwill or image which ultimately increases sales.
2. It helps the manufacturers/entrepreneurs in fixing responsibility of workers in the production process.
3. Quality control also helps in minimizing the costs by increasing efficiency, standardization, working conditions, etc.
4. It also enables the entrepreneur to know the cost of his/her product quite in advance which helps him in determining competitive prices of his product.
5. Last but not the least; the entrepreneur can confirm whether the product manufactured by him/ her is in accordance with the standard set by the Government. It further facilitates the entrepreneur to take necessary actions to comply with the standard set.

### **Methods of quality control:**

#### **Inspection:**

Inspection means checking the product through visual or testing examination, at the input stage, transformation stage or output stage, against standards. The task of carrying out inspection is inspection function and the people who perform inspection are called inspectors. Inspectors measure quality of goods against standards and separate acceptable units from the non-acceptable ones. It is divided into two types i.e.

- **Product inspection** which relates to the final product sent into the market. The main purpose of product inspection is to ensure that the products sent into the market comply with the set standard for quality. In other words, it is to ensure that the product ready for sale is perfect and free of defects.
- **Process Inspection:** Process inspection proceeds to product inspection. It is aimed at ensuring that the raw material and machines and equipment's used in the production process are of prescribed quality and mark.

#### **Statistical Quality Control:**

It is an advanced method or technique used to control the quality of a product. This method is based on statistical techniques to determine and control the quality. Sampling, probability, and other statistical

inferences are used in this method for controlling the quality of a product. It is widely used in process control in continuous process industries and in industries producing goods on a mass scale.

**Production Planning and Control:** Production planning and control is a predetermined process that plans, manages and controls the allocation of human resource, raw material, and machinery to achieve maximum efficiency. Production planning is a sequence of steps that empower manufacturers to work efficiently and optimize their production process in the best possible manner. Production planning and control programs involve the function of planning, directing and regulating the orderly movement of materials through the entire manufacturing cycle from the requisitioning of raw materials to the delivery of finished goods and ensure proper customer satisfaction by maintaining minimum inventory with maximum efficiency.

**What is Production?** Production is nothing but the conversion of raw materials into finished products. It is an organized activity of organization through which raw materials with the help of other inputs are transformed into finished products.

**What is Planning?** Planning is nothing but forecasting and deciding in advance a future course of action. Planning is essential to carry out certain activities in the best possible manner. It involves selection of desired course of action to achieve the goal of the enterprise. Planning makes uncertainties into certainties and makes the target achievable. Planning involves study of future and taking appropriate steps to ensure success. Planning involves the selection of best alternatives among the alternatives available.

**Production Planning:** Production planning can be defined as the forecasting or deciding in advance as to when, by whom and how the raw material shall be converted into finished product. Production planning ensures smooth flow of production programs to achieve economy and efficiency.

**What is Control?** Controlling involves checking and ensuring that the plans are carried on as per expectation. Control also includes checking and ensuring that the actual performance does not deviate from the standard set earlier. Control helps the realization of the plans in the best possible manner. Without control things may not happen as per wish.

**What is Production Control ?** Production control guides the flow of production. So, that products of desired quality are produced at the appropriate time in the most economical manner. The main aim of production control is to facilitate the task of manufacturing and ensure that all the production activities are carried on as per plans.

**Importance of Production Planning and Control:** The following are the importance of production planning and Control:

1. Production planning and control program helps to increase productivity by means of planning production and Controlling production at each and every stage to ensure speedy , economical and efficient use of all available resources. An efficient production planning and control technique helps to reduce the idleness of men, machines, materials and money.

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2. Production planning and control program arranges the production process in such sequence that production target is achieved in time.
3. Production planning and control is an important tool for the management in case of continuous industries where production is continuous and units produced are identical in nature. But it is not suitable in the industries where varieties of products are produced as per order however this tool ensures proper utilization of all available resources to achieve efficiency, economy and performance of work as per plans.
4. Production planning and control program is highly essential for cost control purposes. A well organized production planning and control mechanism ensures optimum utilization of men, machines, materials and money so that they can work at their full capacity.
5. Production planning and control program helps in regulating production and maintain quality. It controls the production activities and ensures orderly flow of materials from one process to another and also ensures timely supply of tools and equipment to achieve full utilization of all the available resources.
6. Production planning and control program brings many benefits to many persons. The manufacturers achieve increased production, higher productivity, delivery of goods to customers in time, qualitative production, low cost production and higher profits. It will help the producer to have better control over the production activities. The customers get quality products at cheaper price and also in time. The workers get adequate wages, stable employment, job security, improved working condition and timely payment of wages. Similarly, the investors get an adequate rate of return on their investment and security of their investment.

**Steps in production planning and control:** The following steps are adopted for implementation of the production planning and control programs such as **planning, routing, scheduling, loading, dispatching, follow up and inspection.**

**1. Planning :** It is the first step in production planning and control program. Under this the management has to prepare a broad plan for the production activities of the organization. At this stage the management decides the products to be produced. It will also decide the ingredients, raw materials, size, color, design, shape, quality, specification, quantity of production and cost of production. Planning also includes planning for the procurement of all the resources required to carry on the production plan.

**2. Routing:** Routing determines the way or the exact path through which all the raw materials will flow from one process to another until its completion as finished products. Routing decides in advance the path over which the work will flow from one stage to another. The main aim of routing is to find out the best and cheapest way of production. Routing also includes the selection of men, machines, and processes to carry out the work in desired manner.

**3. Scheduling:** After the exact route is decided, the next step is to make a schedule i.e. a list or timetable for the production activities. Scheduling involves fixation of time and date for starting and completion of each operation. Determination of time for each operation is possible when the entire work is divided into

many parts and assign each part of the work to a particular person by allocating responsibilities and accountabilities for the performance of the work. Scheduling provides a timetable for manufacturing and all the other activities starting from the procurement of raw materials to the delivery of finished goods to the customers as per schedule.

**4. Loading:** It is associated with the quantity of works assigned to a machine or worker to be done or performed by that machine or individual. Loading of works to different machines, processes, sections, departments and individual is essential for proper distribution of duties as per the capacities of the departments or machine or individual. There should be neither over load or under load of works to any one. There should be a perfect balance between the both. If there is over load it will lead to dissatisfaction and mismanagement. On the other hand under load will lead to idleness of resources which is loss. Under load or over load may be due to improper planning of activities and improper evaluation of load bearing capacity.

**5. Dispatching:** Dispatching involves actual execution of the plans in the manner prescribed and route decided. It also includes issue of order and instructions to carry on the work as per plans. Dispatching functions include the following :

- a. Issue of necessary material to different individuals, jobs, process, departments or sections..
- b. Allocation of appropriate labor force and required machinery for the performance of the work.
- c. Issue of necessary tools and equipment to individuals in time.
- d. Maintenance of records for all the orders issued from time to time.

**6. Follow up:** It involves checking the progress of the work and see whether the work is being performed as per plans. Follow up ensures the progress of work according to plans. If there are any deviations at any stage it has been taken into account and corrective measures should be taken to ensure smooth performance of work as per plans. It also includes evaluation of efficiency of men, machines and materials while the work is in progress.

**7. Inspection:** Inspection is the last stage of production planning and control. It involves checking the quality of goods produced and ensure that the quality of standard is up to mark. This can be done by comparing and testing the completed products with the help of the standards already established.

**B) Inventory Management:** Inventory management is a systematic approach to sourcing, storing, and selling inventory—both raw materials (components) and finished goods (products). In business terms, inventory management means the right stock, at the right levels, in the right place, at the right time, and at the right cost as well as price. In other words Inventory management is a systematic process to control and maintaining the storage of stock, controlling the amount of product for sale and order fulfillment. Today, inventory management has become vital for the survival of an organization. If entrepreneurs don't have good control over their inventory, the day is not far when they will lose control of their profits.

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## **Need for Inventory Management**

### **1. Tracking Inventory**

A good system will help the entrepreneurs keep track of their inventory and offer a centralized view of stock across sales channels – how much is in stock, and where. It will also allow allocating inventory to specific sales channels, which is important if they have warehouse and distribution centers at multiple locations, thus, enabling Warehouse management.

### **2. Control costs**

Keeping reports about their inventory it helps them understand what stocks are doing well, versus which are just taking up shelf space. Lack of the right inventory at the right time can mean back orders, excess inventory, etc. which drive up costs.

### **3. Improve delivery**

Late delivery due to stock-outs is bound to give them a bad reputation. For tracking, it is important for them to know when the vendor is shipping inventory and when it will arrive. This helps them manage customer expectations by delivery as, when and where they want.

### **4. Manage planning and forecasting**

The software can help them improve demand forecasting by analyzing data trends from well-performing stocks. This minimizes their holding and handling costs, improves revenues and frees up cash flows. Also, by planning and forecasting – they can deliver on customer expectations better.

### **5. Reduce the time for managing inventory**

With a good inventory management solution, the entrepreneurs can reduce the time taken to keep track of all the products they have on hand and on order. Additionally, the entrepreneur can save the time taken up in inventory recounts if their records are in place.

**6. Accurate:** The entrepreneurs will always have accurate reports with a computerized inventory system. There is always that possibility that errors can occur when inventory is done by hand and it could easily be overlooked. Wrong calculation could mean losses or additional expenses.

### **7. Customer satisfaction**

It is difficult to gain customer loyalty when the entrepreneurs cannot satisfy their needs when they want it. A good computerized inventory system allows them to quickly meet customer demands by having the right products as soon as their potential customer comes to order them.

### **8. Organize**

Through proper inventory system the entrepreneurs can be able to organize their inventory activities. They can keep or maintain all the products information that means they can find out which products enjoy the highest sales, so they can group them together for easier access. They can even categorize their stock for better identification and order processing.

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## Models/Techniques of Inventory Management

The following are the techniques of inventory management:

**1. Economic Order Quantity:** It is the order size that minimizes the sum of ordering and holding costs related to raw materials. In other words, it is the optimal inventory size that should be ordered with the supplier to minimize the total annual inventory cost of the business. The economic order quantity is computed by manufacturing companies. Manufacturing companies compute it to find the optimal order size of raw materials inventory. The two significant factors that are considered while determining the economic order quantity (EOQ) for any business are the *ordering costs* and the *holding costs*.

The **ordering costs** are the costs that are incurred every time an order for inventory is placed with the supplier. Examples of these costs include telephone charges, delivery charges, invoice verification expenses and payment processing expenses etc. The total ordering cost usually varies according to the frequency of placing orders. Mostly, it is directly proportional to the number of orders placed during the year which means if the number of orders placed during the year increases, the annual ordering cost will also increase and if, on the other hand, the number of orders placed during the year decreases, the annual ordering cost will also decrease.

The **holding costs** (also known as carrying costs) are the costs that are incurred to hold the inventory in a store or warehouse. Examples of costs associated with holding of inventory include occupancy of storage space, rent, shrinkage, deterioration, obsolescence, insurance and property tax etc. The total holding cost usually depends upon the size of the order placed for inventory. Mostly, the larger the order size, the higher the annual holding cost and vice versa.

The EOQ is a order qty that minimizes company's optimal total costs related to ordering, receiving and holding inventory. EOQ formula:  $Q = \sqrt{(2SD/H)}$  where,

Q = EOQ units, D = Demand in units annually, S = Order cost (per purchase order)      H =

Holding cost (per unit per year). For examples

- For a company X, annual ordering costs are Rs.10000 and annual quantity demanded is 2000 and holding cost is Rs.5000. Economic Order Quantity is Calculated as:  $\sqrt{(2SD/H)}$
- $EOQ = \sqrt{2(10000)(2000)/5000}$
- $EOQ = \sqrt{8000}$
- $EOQ = 89.44$

So, the ideal order size is 89.44 to meet customer demands and minimize costs. It is also the reordering point at which new inventory should be ordered.

## 2. FIFO and LIFO.

**FIFO, or First in, First out**, assumes the older inventory is sold first. FIFO is a great way to keep inventory fresh. In other words, a FIFO is a warehouse or inventory management system in which the first or oldest

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stock is first used and the stock or inventory most recently produced or received is only used or dispatched until all the oldest stock in the warehouse or store is used or dispatched. This system ensures a company that its oldest stock is used first and eventually minimizes the costs of obsolete inventory. FIFO inventory system is even considered as the ideal stock rotation system, and most commonly used in a variety of industries.

**LIFO, or Last-in, First-out**, assumes the newer inventory is typically sold first. LIFO helps prevent inventory from going bad. In other words it is an **inventory valuation method which assumes that the last items placed in inventory are the first sold during an account year.**

### **3. Just-in-time inventory management.**

Just-in-time (JIT) inventory management is a technique that arranges raw material orders from suppliers in direct connection with production schedules. JIT is a great way to reduce inventory costs. Companies receive inventory on an as-needed basis instead of ordering too much and risking dead stock. Dead stock is inventory that was never sold or used by customers before being removed from sale status.

### **4. Demand forecasting.**

Demand forecasting should become a familiar inventory management technique to retailers. Demand forecasting is based on historical sales data to formulate an estimate of the expected forecast of customer demand. Essentially, it's an estimate of the goods and services a company expects customers to purchase in the future.

**5. Safety Stock Inventory:** Safety stock inventory management is extra inventory being ordered beyond expected demand. This technique is used to prevent stockouts typically caused by incorrect forecasting or unforeseen changes in customer demand.

**6. ABC analysis.** In inventory management, *ABC analysis* is an inventory categorization technique. ABC analysis

divides an inventory into three categories—"A items" with more important and accurate records, "B items" with important and good records, and "C items" with less important and minimal record. Examples: A items – 20% of the items accounts for 70% of the annual consumption value of the items (Laptop)

- B items – 30% of the items accounts for 25% of the annual consumption value of the items (Tablet)
- C items – 50% of the items accounts for 5% of the annual consumption value of the items (Desktop)

### **7. Minimum order quantity.**

On the supplier side, minimum order quantity (MOQ) is the smallest amount of set stock a supplier is willing to sell. If retailers are unable to purchase the MOQ of a product, the supplier won't sell it to them. In other words we can say that minimum Order Quantity is the minimum amount or order quantity set by a supplier that can be ordered by a company. This means a retailer or business owner cannot order any given quantity they desire, but they have to adhere to the MOQ threshold or estimated value. For example, let



essay, An entrepreneur of a company wants to buy 20 units of Toys. But as the MOQ is set at 50 units or for Rs. 5000/-, So, in this case the entrepreneur cannot order anything less than the set MOQ.

**C) Financial Management:** Financial management is all about planning, organizing, controlling, procurement, utilization and directing various activities of the organization related to finance. There are three elements of financial management required in an organization: investment decision, financial decision and dividend decision. These elements together ensure proper financial management of organizations. Financial management is the custodian of funds of an organization.

### **Objectives of Financial Management**

- There must be a regular inflow and outflow of funds for the proper functioning of every activity in the organization.
- In the availability of the funds, the amount must be used in the best possible way with minimum wastage.
- An organization must ensure safe investment so that a high rate of return can be achieved in the invested amount.
- The shareholders who have invested in the organization must be given high return which eventually depends upon the share's market price, their expectations and earning capacity.
- An organization must ensure that there is an equal balance in the firm's debt and equity level.

### **Functions of Financial Management**

#### **1. Financial Planning and Forecasting**

- It is the financial manager's responsibility to plan and estimate the business's financial needs. He needs to provide details regarding the amount of money that would be required to purchase different assets for the company.
- The management through the financial manager needs to know what they need to spend on working capital and fixed assets for the business too.

#### **2. Determination of capital composition**

Once the **Planning and Forecasting** have been made, the capital structure has to be decided. The mix of debt and equity used to finance the company's future profitable investment opportunities is referred to as capital structure.

#### **3. Fund Investment**

The financial manager has to ensure that funds made available to the business are used adequately to grow the business. The cost of acquiring the said fund and value of the returns need to be compared and balanced. The financial manager also needs to look into the channels of the business that is yielding higher returns and improve them.

#### **4. Maintain Proper Liquidity**

Cash is the best source for maintaining liquidity. The business requires it to buy raw materials, pay salaries, and tackle other financial needs of the company. However, the financial manager has to determine if there is a demand for liquid assets. He also has to arrange these assets in a manner that the business won't experience scarcity of funds.

#### **5. Disposal of Surplus**

Selling surplus assets and investing in more productive ways will increase profitability and therefore increase the ROCE. (Return on capital employed)

#### **6. Financial Controls**

Financial management monitors and controls the finances of business for maintaining a balance between risk and return. It exercises to minimize the risk and expenses associated with undergoing the required operations. Not only it plans, procures, and utilizes the funds efficiently but also monitors the overall finance of the business.

#### **7. Estimates Capital Requirement**

Financial management is concerned with the estimation of an adequate amount of funds required for an organization. The finance manager takes into account organization goals, objectives, and costs associated with them for determining the fund requirements. Future growth policies and programs of an organization are also considered by the finance manager. Proper estimation helps in procuring and utilizing required funds efficiently thereby improving the revenue of the business.

#### **Management of Working Capital What**

##### **is Working Capital?**

The amount of money invested by the business in the current assets and to meet day to day expenses is known as working capital. Investment in working capital is made to meet the day to day expenses of the business. Working capital is utilized to purchase raw materials, pay salaries, wages, spent on transport, advertising, insurance premium, pay for telephone and postage. Working capital is a financial concept describing the difference between current assets and current liabilities of a business. If current liabilities are greater than current assets, a business has a deficit of working capital, which means it could not pay off its current liabilities using its current assets. Thus, a healthy business should have a surplus of working capital. **How to manage working capital?**

##### **The following are the management of working capital:**

1. The management has to properly forecast the working capital needs of an organization and the working capital needs may be decided keeping in mind the budgets prepared for each and every element of working capital which includes cash budgets, production budgets, purchase budget, sales budget, maintenance budget, advertisement budget etc.

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2. If there is a mismanagement of working capital, the management may face difficulty to pay the payment to different parties like employees, advertisers, suppliers, bankers, government and other agencies which leads the company may lose their goodwill or image. So, in this regard the entrepreneur should assess the working capital properly and arrange the funds accordingly.
3. The requirement of working capital fluctuates throughout the year. So, how much working capital will be required at different periods that have to be estimated in advance and that should be done properly.
4. If the organization is labor-oriented, working capital requirement is more because the workers have to be paid wages and salaries as well as incentives. If the production activities are computerized, the labor force will be reduced and as a result the working capital will be reduced.
5. The inventory policies put direct effect on the working capital because if an organization wants to maintain huge stock of raw materials and finished products, it is required huge investment on working capital. If the stock will be maintained properly then the investment in working capital may be reduced.
6. Proper management of each and every steps of operating cycle which includes cash—raw materials—work-in-progress—finished goods—sales—debtors—cash is essential for ensuring smooth management of the working capital. All the activities of the operating cycle have to be performed with higher degree of accuracy and efficiency then the working capital can be properly managed.
7. If the time required to process the raw material to convert to finished product is more, the working capital will be considered high because a lot of raw material and other materials shall be blocked for a long time and the machineries, tools, equipments, workers and employees shall be busy for a long time and as a result it puts effect on working capital. So in this regard the management should make proper planning for processing the raw materials timely to manage the working capital properly.
8. Working capital requirement also depends upon the nature of products. If the products produced are small in size and low priced in nature, the working capital requirement shall be less.
9. **Ensure high return on capital:** To improve the funds of working capital the management or the entrepreneur should introduce different loan facility scheme and that they should provide loan to the debtors and ensure to collect the interest in time.

### **Advantages of working capital**

#### **1. Solvency of the Business:**

Adequate working capital helps in maintaining solvency of the business by providing uninterrupted flow of production.

#### **2. Goodwill:**

Sufficient working capital enables a business concern to make prompt payments and hence helps in creating maintaining goodwill.

### **3. Easy Loans:**

A concern having adequate working capital, high solvency and good credit standing can arrange loans from banks and others on easy and favorable terms.

### **4. Cash Discounts:**

Adequate working capital also enables a concern to avail cash discounts on the purchases and hence it reduces costs.

### **5. Regular Supply of Raw Materials:**

Sufficient working capital ensures regular supply of raw materials and continuous production.

### **6. Regular Payment of Salaries, Wages and Other Day-to-day Commitments:**

A company which has ample working capital can make regular payment of salaries, wages and other day-to-day commitments which raises the morale of its employees, increases their efficiency, reduces wastages and costs and enhances production and profits.

### **7. Ability to Face Crisis:**

Adequate working capital enables a concern to face business crisis in emergencies such as depression because during such periods, generally, there is much pressure on working capital.

## **Costing**

- Costing is any system for assigning costs to an element of a business. Costing is typically used to develop costs for any or all of the following:
  - Customers, employees, products, processes, entire companies, distribution channels etc.
  - Costing may involve only the assignment of variable costs, which are those costs that vary with some form of activity (such as sales or the number of employees). This type of costing is called direct costing. For example, the cost of materials varies with the number of units produced, and so is a variable cost.
  - Costing can also include the assignment of fixed costs, which are those costs that stay the same, irrespective of the level of activity. This type of costing is called absorption costing. Examples of fixed costs are rent, insurance, and property taxes.
  - Costing is used for two purposes:
    - Internal reporting. Management uses costing to learn about the cost of operations, so that it can work on refining operations to improve profitability. This information can also be used as the basis for developing product prices.

- *External reporting.* The various accounting frameworks require that costs be allocated to the inventory recorded in a company's balance sheet at the end of a reporting period. This calls for the use of a cost allocation system, consistently applied.
- **Break-even analysis**
- A break-even analysis is an economic tool which is used to determine the cost structure of a company or the number of units needs to be sold to cover the cost. Break-even is a circumstance where a company neither makes a profit nor loss, but recovers all the money spent.
- Break-even analysis is used to examine the relation between the fixed cost, variable cost, and revenue. Usually, an organization with low fixed cost will have a low break-even point of sale.

#### **Importance of Break-Even Analysis:**

- **Manages the Size of Units to be Sold-** With the help of break-even analysis, the company or the owner comes to know how much units need to be sold to cover the cost. The variable cost and the selling price of an individual product and the total cost are required to evaluate the break-even analysis.
- **Budgeting and Setting Targets-** Since a company or the owner know at which point a company can break-even, it makes it easy for them to fix a goal and set a budget for the firm accordingly. This analysis can also be practiced in establishing a realistic target for a company.
- **Manage the Margin of Safety-** In financial breakdown, the sales of a company tend to decrease. The break-even analysis helps the company to decide the least number of sales required to make profits. With the margin of safety report, the management can execute a high business decision.
- **Monitors and Controls Cost-** Companies profit margin can be affected by the fixed and variable cost; therefore, with break-even analysis, the management can detect if any effects are changing the cost.
- **Helps Design Pricing Strategy-** Break-even point can be affected if there is any change in the pricing of a product. For example, if the selling price is raised, the quantity of the product to be sold to break -even will be reduced. Similarly, if the selling price is reduced, a company needs to sell extra to break-even.

#### **Components of Break-Even Analysis:**

- **Fixed Cost-** These costs are also known as an overhead cost. These costs materialize once the financial activity of a business starts. The fixed price includes taxes, salaries, rent, depreciation cost, labor cost, interest, energy cost etc.
- **Variable Cost-** This cost fluctuates, and will decrease or increase according to the volume of the production. This cost includes packaging cost, cost of raw material, fuel, and other material related to production

### Uses of Break-Even Analysis:

- **New Business-** For a new venture, break-even analysis is essential. It guides the management with pricing strategy and be practical about the cost. This analysis also gives an idea if the new business is productive.
- **Manufacture New Product-** If an existing company is going to launch a new product, they still have to focus on break-even analysis before starting, and see if the product adds necessary expenditure to the company.
- **Change in Business Model-** Break-even analysis works even if there is a change in any business model, like shifting from retail business to wholesale business. This analysis will help the company to determine if the selling price of a product needs change.
- Break-Even Analysis Formula
- **Break-Even Point = Fixed Cost / Price Per Unit - Variable Cost**

### Example of Break-Even Analysis

- Company X sells a pen. The company first determined that the fixed costs of Company X are a lease, property tax, salaries, which make a sum of Rs.1,00,000. The variable cost linked with manufacturing one pen is ₹2 per unit. So, the pen is sold at a premium price of RS.10.
- Therefore, to determine the break-even point of Company X premium pen will be:
- **Break-Even Point = Fixed Cost / Price Per Unit - Variable Cost**
- $= \text{RS.1,00,000} / (\text{Rs.10} - \text{Rs.2}) = 10,000$
- Therefore, given the variable costs, fixed costs, and the selling price of the pen, Company X would need to sell 10,000 units of pens to break even.

### Book Keeping

Bookkeeping is the systematic recording and organizing of financial transaction in a Company.

Bookkeeping is the recording, on a day-to-day basis, of the financial transactions and information pertaining to a business. It ensures that records of the individual financial transactions are correct, up-to-date and comprehensive. Accuracy is therefore vital to the process of financial transactions in a company. Each transaction, whether it is a question of purchase or sale, must be recorded clearly. In other words we can say that the maintenance of all financial transaction record is known as book keeping.

Book means record and keeping is maintaining.

### Accounts

Almost all business organizations maintain their financial records under double entry system. To facilitate the maintenance of accounts under double entry system of book keeping. And all the accounts have two sides each. The left side of an account is known as the debit side shortly known as Dr. side and the right side is known as credit side shortly known as Cr. Side.

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**For personal account the rule is Debit the receiver and credit is giver:** That means if any one is receiving anything, it will be recorded on debit side of his account and if someone is giving anything it would be recorded on the credit side of his account. For example, the business gives some goods to Mr. Ram on credit. It would be recorded in the debit side of Ram's account as Ram is the receiver of goods. And the goods are going out of business, so it would be recorded on the credit side of goods account. If later on Mr. Ram gives cash of Rs.5000/- to the business for the goods taken by him earlier, in this transaction Ram is the giver, so his account shall be credited and the cash account shall be debited as cash is coming in to the business.

**Dr.**

**Cr.**

Date	Particulars	J.F.	Amount	Date	Particulars	J.F.
2.4.2020	Ram's a/c			2.4.2020	Goods a/c	
7.4.2020	Cash A/c	Rs.5000/-		7.4.2020	Ram's a/c	Rs.5000/-

For Nominal account the rule is Debit all expenses and losses and Credit all incomes and gains. That means all the expenses are written on the debit side of that expense a/c and all gains and profits shall be recorded on the credit side of that account. For example, suppose salary is paid of Rs.5000/-. Here salary is an expense so it would be recorded on the debit side of salary account and the cash is going out so it would be recorded on the credit side of cash account. Similarly if interest of Rs.500 is received it would be recorded on the credit side of the interest account as interest here is an income and the cash is going out it would be recorded on the debit side of cash account.

**Dr.**

**Cr.**

Date	Particulars	J.F.	Amount	Date	Particulars	J.F.
5.1.2020	Salary a/c		Rs.5000/-	5.1.2020	Cash a/c	Rs.5000/-
	a/c	Rs.500/-		5.2.2020	Interest a/c	Rs.500/-

### Journal Entry

Whenever a transaction takes place, it has to be recorded in the journal first which is known as the book of primary entry. Hence all the transactions are recorded in the journal and for that all the entries made in the journal are known as journal entry. The above rules of debit and credit are known as the rules of Entrepreneurship & Management & Smart Technology

journalizing. All the journal entries have to be made as per the above rules. For example, suppose salary is paid of Rs. 5000/- . Here salary is an expense so it would be recorded on the debit side of salary account and the cash is going out so it would be recorded on the credit side of cash account. Similarly if interest of Rs. 500 is received it would be recorded on the credit side of the interest account as interest here is an income and the cash is going out it would be recorded on the debit side of cash account.

#### Specimen of a Journal

Date	Particulars	L.F	Debit(Amount)	Credit(Amount)
5.1.2020.	Salary A/c Dr			Rs.5000
	To cash A/c			Rs.5000
5.2.2020.	Cash A/c Dr			Rs.500
	To Interest A/c			Rs.500

**Cash Book:** The cash book is a register which contains two sides divided vertically from the middle of the register. The left side is the debit side also called the receipt side and the right side is the credit side called the payment side. All the cash receipts are recorded on the debit side or the receipt side of the cash book and all the payments are recorded on the credit side or the payment side of the cash book.

**Petty Cash Book:** The petty cash book is in addition to the main cash book which records all small or petty cash transactions below Rs. 100/-. So, all cash transactions of Rs. 100 and less are recorded in the petty cash book so that the main cash book is used only for big transaction only. In this petty cash book the petty cashier receives some amount of money from the main cashier and goes on spending the amount. The amount received is recorded on the debit side of the petty cash book and all the expenses are recorded on the credit side of the petty cash book along with the voucher no.

#### Specimen format of petty cash book

Dr	Cr.
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To wages	80000	By Interest received.	50,000
To insurance.	50000		
To commission	20000		
To Net profit			
Transferred to general reserve.	2,00,000		
	-----		-
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			5,00,000
5,00,000			

**Balance Sheet:** Balance sheet is prepared at the end of the year only after preparation of trading and profit and loss account. Balance sheet reflects the exact financial position of a business on a particular day. Balance sheet is a statement and not an account. It reflects how much belongs to the business, how much to the owners and how much to the outsiders on that particular day.

Balance sheet has two sides i.e. the left side is the liability side and the right side is the asset side. In the asset side of the balance sheet, all the assets of the business are recorded in a classified manner. All the assets are classified into three categories such as current assets, fixed assets and fictitious assets. Current assets include cash in hand, cash at bank, sundry debtors, short term investments, rent receivable etc. Fixed assets include land, building, plant, machinery, tools and equipment's, furniture's, long term investments etc. Fictitious assets include preliminary expenses, extra losses, advertisement expenses etc.

On the liabilities side, besides the capitals all other liabilities are classified in to two categories such as long term liabilities and short term liabilities. The items recorded on the liability side are capital, reserves and surplus, long term loans, short term loan and advances, sundry creditors, bills payable, bank over draft, salary payable, rent payable, electricity bill payable, interest payable, commission payable etc. If there is a profit in the profit and loss account, it is added to the capital or added to the reserve. If there is a loss, it may be deducted from the capital.

#### **Specimen of Balance sheet:**

##### **Balance sheet of XYZ Co. Ltd as at March 31, 2020**

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<b>Liabilities</b>	<b>Amount Rs.</b>	<b>Assets</b>	<b>Amount Rs.</b>
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<b>Capital</b>	<b>3,00,000</b>	<b>Cash in hand</b>	<b>10,000</b>
<b>General Reserve</b>	<b>30,000</b>	<b>Cash in Bank</b>	<b>25,000</b>
<b>Long term loan</b>	<b>2,00,000</b>	<b>sundry debtors</b>	<b>20,000</b>
<b>Short term loan</b>	<b>40,000</b>	<b>Raw materials</b>	<b>10,000</b>
<b>Bank overdraft</b>	<b>10,000</b>	<b>Finished goods</b>	<b>8,000</b>
<b>Sundry creditors</b>	<b>45,000</b>	<b>Rent receivable</b>	<b>5,000</b>
<b>Salary payable</b>	<b>40,000</b>	<b>Commission receivable</b>	<b>5,000</b>
<b>Rent payable</b>	<b>10,000</b>	<b>Interest receivable</b>	<b>5,000</b>
<b>Interest Payable.</b>	<b>25,000</b>	<b>Short term Investment</b>	<b>12,000</b>
<b>Commission payable</b>	<b>5,000</b>	<b>Long term Investment</b>	<b>50,000</b>
<b>Wages payable</b>	<b>20,000</b>	<b>Plant and Machinery</b>	<b>2,40,000</b>
<b>Electricity charges payable.</b>	<b>15,000</b>	<b>Land and building</b>	<b>3,00,000</b>
		<b>Furniture and fitting</b>	<b>50,000</b>
	-----		-----
----	<b>7,40,000</b>		<b>7,40,000</b>
	-----		-----
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**D) Marketing Management:** Market is a place where buyers and sellers often meet together to decide the terms and conditions of purchase and sale. It is also the place where the actual exchange of goods and services takes place. So marketing involves the flow of goods and services from the producer to the consumers through the process of exchange or distribution. It can also be defined as the process of exchange between buyer and seller. Marketing is the need of buyers and selling is the need of the sellers.

Marketing management can be described as a combination of marketing and management. Marketing management may be defined as the process of ascertaining consumer needs and wants and converting them into products and services and then moving the products and services to the final customer to satisfy such needs and wants.

#### **Importance of Marketing Management:**

1. Marketing management helps to create demand and needs in the minds of the people for the goods and services of the organization.

2. Marketing Management helps to identify markets and prospective markets.
3. A good marketing management helps to create customers and helps to maintain a cordial relation between the producers and consumers, customers and the middlemen, producer and middlemen, company and society etc.
4. Marketing management focuses on increased consumer's satisfaction.
5. Marketing management helps to achieve the goals of the organization.
6. Marketing management helps the sales management to achieve its objectives.
7. Marketing management focuses on the reduction in the cost of marketing thus reducing the total costs and increasing the profit margin.
8. Marketing management makes possible the forecasting of demand which is essential to decide marketing strategies and marketing plans.

**Marketing Techniques:** The marketing concept is the strategy that firms implement to satisfy customers' needs, increase sales, maximize profit, and beat the competition. There are 4 marketing concepts that organizations adopt and execute. These are; (1) production concept, (2) product concept, (3) selling concept, (4) marketing concept.

1. **Production concept:** The idea of production concept—“Consumers will favour products that are available and highly affordable.” This concept is one of the oldest Marketing management orientations that guide sellers.
2. **Product concept:** The product concept holds that consumers will favour products that offer the most quality, performance, and innovative features. Here, Marketing strategies are focused on making continuous product improvements. Product quality and improvement are important parts of marketing strategies, sometimes the only part.
3. **Selling concept:** The selling concept holds the idea- “consumers will not buy enough of the firm's products unless it undertakes a large-scale selling and promotion effort.” Here the management focuses on creating sales transactions rather than on building long-term, profitable customer relationships.
4. **Marketing concept:** The marketing concept holds- “achieving organizational goals depends on knowing the needs and wants of target markets and delivering the desired satisfactions better than competitors do.” Here marketing management takes a “customer first” approach. Under the marketing concept, customer focus and value are the routes to achieve sales and profits.

**Concept of 4 Ps:** The Four Ps (product, price, promotion and place) are four considerations known as a marketing mix. Attention to these four factors is necessary for maximizing the chance a product will be recognized and bought by customers.

- **Product:** The item or service being sold must satisfy a consumer's need or desire.

- **Price:** An item should be sold at the correct price for consumer expectations; neither too low nor too high. Price refers to the real amount the end user is expected to pay for the product. The price of a product affects how it performs on the market.
- **Promotion:** The public needs to be informed about the product and its features in order to understand how it fills their needs or desires. The promotion plan comprises of the marketing communication strategies and techniques. These may entail advertising, sales promotions, special offers, as well as public relations. Regardless of the channel used, the promotion should be appropriate for the product, the price as well as the targeted end user.
- **Place:** The location where the product can be purchased is important for optimizing sales. That means how the product will be provided to the customer is what determines the place or its placement. Thus, a product's distribution is a major element in determining a product's placement. The placement strategy can be helpful when it comes to assessing the most suitable channel of distribution to be used.

#### **E) Human Resource Management:**

**Functions of personnel management may be discussed under two broad categories:**

- (A) Managerial Functions
- (B) Operative Functions
- **A. Managerial Functions:**
- Management aims at getting things done by others. Managerial functions deal with planning, organizing, directing, coordinating and controlling the activities of employees in an enterprise.

**These functions are discussed as follows:**

##### **1. Planning:**

Planning involves thinking in advance. It is the determination of strategies, programmes, policies, procedures to accomplish organizational objectives. Planning is a difficult task which involves ability to think, to predict, to analyse and to come to decisions. In the context of personnel management, it requires the determination of human resource needs.

##### **2. Organizing:**

Organization is a process of allocating the task among its members for achieving organizational objectives. This is done by designing the structure or relationship among jobs, personnel and physical factors. For achieving enterprise goals a number of plans, policies and programmes are decided upon. Organization is

a channel for implementing them and achieving good results. The assignment of tasks and fixing of responsibilities will be the function of personnel management.

### **3. Directing:**

It is the basic function of managerial personnel. Directing means telling people to do a particular work. It does not mean only issuing orders to employees but also ensures that they perform as per the directions. The employees are also given instructions for carrying out their task. The orders and instructions should be clear and precise so that these are obeyed properly.

### **4. Coordinating:**

Organizational objectives will be achieved only if group activities in the enterprise are coordinated effectively. There may be a problem of each group or department trying to pursue its own goals without bothering about overall objectives. A coordinated approach will help in achieving common goals. Coordination of personnel is required at all levels of management.

### **5. Controlling:**

Controlling is the act of checking, regulating and verifying whether everything occurs as per the standards set and plans adopted. The performance of persons is regularly reviewed to find out whether it is going according to the standards or not. In case, performance is low then steps are taken to improve it in future. Controlling function involves reviewing performance and taking corrective measures.

### **B. Operative Functions:**

These functions are related to the procurement, developing, compensating, integrating and maintaining a work-force for attaining organizational goals. These functions are also known as service functions.

#### **Various operative functions are discussed as follows:**

##### **1. Procurement:**

This function relates to the procuring of sufficient and appropriate number of persons for carrying out business work. The needs of the organization should be assessed to find out the requirements of persons. Besides number, the procurement of suitable persons is also essential. For this purpose, the requirements of various jobs should be studied for fixing the educational and technical experience of persons expected to man those jobs. Only the right type of persons will be able to give satisfactory results.

##### **2. Development:**

The development function is concerned with the development of employees by increasing their skill and proficiency in work. The persons are given proper training through various methods so that their performance is better in undertaking the jobs. Proper job description will enable the employees to know their weak points in performing various jobs. Training programmes are made suitable to cover up deficiencies in workers' performance.

##### **3. Compensation:**

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It is concerned with securing adequate and equitable remuneration to persons working in the organization. Job analysis will enable in fixing the remuneration for various jobs. The needs of the jobs and qualifications of persons who will take up those jobs should be taken into consideration while fixing remuneration. If the employees are paid less than they should have got, they may leave the job at an earliest opportunity. So compensation should be fixed in such a way that it is able to attract and retain suitable persons in the organization.

#### **4. Integration:**

It involves infusing among employees a sense of belonging to the enterprise. The employees should identify their personal interest with that of the organization. They should have a feeling that everything good of the enterprise will also be in their interest. This will bring about harmony of interests both of employees and the organization. There should be proper communication channel at all levels.

#### **5. Maintenance:**

This function deals with sustaining and improving conditions that have been established. Better conditions of work should be maintained at all times. The employees will feel happy to work under such conditions. These conditions include establishment of health, sanitation and safety standards. If working conditions deteriorate, then employees will be prompted to leave the enterprise.

**Manpower Planning:** Manpower Planning which is also called as Human Resource Planning consists of putting right number of people, right kind of people at the right place, right time, doing the right things for which they are suited for the achievement of goals of the organization. Human Resource Planning has got an important place in the arena of industrialization. Human Resource Planning has to be a systems approach and is carried out in a set procedure.

#### **Importance of Manpower Planning:**

- **Key to managerial functions-** The four managerial functions, i.e., planning, organizing, directing and controlling are based upon the manpower. Human resources help in the implementation of all these managerial activities. Therefore, staffing becomes a key to all managerial functions.
- **Efficient utilization-** Efficient management of personnel's becomes an important function in the industrialization world of today. Setting of large scale enterprises require management of large scale manpower. It can be effectively done through staffing function.
- **Motivation-** Staffing function not only includes putting right men on right job, but it also comprises of motivational programmes, i.e., incentive plans to be framed for further participation and employment of employees in a concern. Therefore, all types of incentive plans become an integral part of staffing function.
- **Better human relations-** A concern can stabilize itself if human relations develop and are strong. Human relations become strong through effective control, clear communication, effective

supervision and leadership is a concern. Staffing function also looks after training and development of the work force which leads to co-operation and better human relations.

- **Higher productivity-** Productivity level increases when resources are utilized in best possible manner. Higher productivity is a result of minimum wastage of time, money, efforts and energies. This is possible through the staffing and its related activities (Performance appraisal, training and development, remuneration)

### **Need of manpower Planning:**

Manpower Planning is a two-phased process because manpower planning not only analyses the current human resources but also makes manpower forecasts and thereby draw employment programmes.

Manpower Planning is advantageous to firm in following manner:

- Shortages and surpluses can be identified so that quick action can be taken wherever required.
- All the recruitment and selection programmes are based on manpower planning.
- It also helps to reduce the labour cost as excess staff can be identified and thereby overstaffing can be avoided.
- It also helps to identify the available talents in a concern and accordingly training programmes can be chalked out to develop those talents.
- It helps in growth and diversification of business. Through manpower planning, human resources can be readily available and they can be utilized in best manner.
- It helps the organization to realize the importance of manpower management which ultimately helps in the stability of a concern.

**Recruitment:** In human resource management, “recruitment” is the process of finding and hiring the best and most qualified candidate for a job opening, in a timely and cost-effective manner. It can also be defined as the “process of searching for prospective employees and stimulating and encouraging them to apply for jobs in an organization.

### **Recruitment Process:**

Recruitment is a process of finding and attracting the potential resources for filling up the vacant positions in an organization. Its source is the candidates with the abilities and attitude, which are required for achieving the objectives of an organisation. Recruitment process is a process of identifying the jobs vacancy, analysing the job requirements, reviewing applications, screening, shortlisting and selecting the right candidate.

### **Steps of Recruitment Process:**

**1. Recruitment Planning:** Recruitment planning is the first step of the recruitment process, where the vacant positions are analysed and described. It includes job specifications and its nature, experience, qualifications and skills required for the job, etc. A structured recruitment plan is mandatory to attract



potential candidates from a pool of candidates. The potential candidates should be qualified, experienced with a capability to take the responsibilities required to achieve the objectives of the organisation.

**2. Recruitment Strategy:** Recruitment strategy is the second step of the recruitment process, where a strategy is prepared for hiring the resources. After completing the preparation of job descriptions and job specifications, the next step is to decide which strategy to adopt for recruiting the potential candidates for the organization. The steps involved in developing a recruitment strategy include –

- Setting up a board team
- Analysing HR strategy
- Collection of available data
- Analysing the collected data
- Setting the recruitment strategy

**3. Searching the Right Candidates:** Searching is the process of recruitment where the resources are sourced depending upon the requirement of the job. Searching involves attracting the job seekers to the vacancies.

**Sources of Manpower:** These sources are broadly divided into two categories: **Internal Sources** and **External Sources**.

**Internal sources consist of Transfer, Promotion and on training centres.**

**Promotion:** Under this system positions or posts are filled up by upgrading persons to higher status by offering them promotion to higher posts. It is a process of filling vacancies of higher posts by individuals from lower grade to higher grade within the organization.

**Transfer:** Transfer usually does not involve any extra financial benefits to an employee. Employees are simply shifted from one job to another or one place to another for administration convenience.

**Own Training Centers:** A large no of organizations have opened their own training centers where they take trainees on a regular basis to develop skilled manpower as per their own need so that they can be recruited as and when they are required.

**External sources consist of the following:**

**1. Advertisement:** Under this system applications are invited from eligible candidates for different posts through open advertisement in news papers, magazines, employment news, TV setc. Such advertisements are drafted carefully to create interest in the eligible candidate. This type of advertisement reaches a large number of people spread over a large area.

**2. Campus Interview:** Now a days recruiters go to different technical, professional and management institutions for the purpose of selecting young and fresh talent for their manpower requirement. The placement cells of such institutions provide all necessary steps to conduct test, interviews in the institution

itself. Such selected candidates are usually appointed as trainees for a define period and after successful completion of their training/probation, posted or appointed as regular employees.

**3. Walk-in-Interview:** Under this system the venue, date, eligibility criteria and other formalities are advertised in the local news papers earlier and the applicants come to the centers to face the selection process. There is no need of prior applications or information by the candidates. They simply bring their bio-data and submit just before the interview. Under this system urgent manpower requirement can be solved.

**4. Employment fair/Job Mela:** A number of employers or consultants combined together to organize the fair in the important cities and towns giving wide publicity to the event to attract large no of job seekers. The employers/consultants open stall inside the mela where they display their requirement. Eligible interested candidates come and approach the stall to make queries about the vacancies. They submit their bio-data at the stall and after preliminary screening they may be called for interview at a specified place and time.

**5. Employment Consultant:** Employment consultants remain in touch with number of organizations to collect their orders for manpower supply. They also remain in touch with various sources of different types of manpower. They advertise, conduct tests and interviews to select the appropriate candidate and submit the lists of selected candidates to the employers for issue of appointment letters.

**6. Employment Exchange:** This is a very old source of recruitment of manpower. Government employment exchange are there throughout the country and employers take advantage of this source. Job seekers go to employment exchange and get their names registered and employers can readily get the information about various types of manpower. The employment exchange does not charge any fee to the employers or to the job seekers.

**7. Unsolicited Applications:** Many candidates submit applications for different posts at different times even if there is vacancy in the organization. Such applications can be called in for the purpose of recruitment whenever there is vacancy in the organization. The personnel department usually maintains record of such applications. This is a common practice in private sectors.

**8. Recommendations:** Sometimes appointments are made based on the recommendations made by committees, important persons, friends and relatives, employees, retired employees.

**9. Labor Contractor:** Large scale industries usually require a large no of unskilled workers but do not appoint them rather they hire their services through labor contractors. The labor contractors supply such unskilled workers in sufficient numbers as and when required. The contractors appoint them and make their pay roll. Such contractors make payments to the workers at their own rate agreed and collect the payment from the organizations at timely intervals. They are usually registered contractors with the organizations.

#### **Selection Process:**

The selection process can be defined as the process of selection and short listing of the right candidates with the necessary qualifications and skill set to fill the vacancies in an organisation. The selection process varies from industry to industry, company to company and even amongst departments of the same company. The selection criteria has to be decided by the Personal manager. The selection process includes: Inviting applications, screening the application received, conducting tests and interviews, conducting physical and medical fitness examination, collecting references and checking the antecedents, verifying the certificates and issue of selection letters after final selection.

**1. Inviting Applications:** The first step in the selection process is to invite applications from the eligible candidates. Application form may be designed and supplied to the applicants on their request or the Performa may be advertised according to which the applicants shall apply. The application format may be designed in such a manner that the applications have to give the details of their education, training, experience, age, family background, previous employment, previous salaries, hobbies etc.. The Performa may be designed depending on the post and the information required.

**2. Screening the application:** A number of applications may be received and all the applicants may not be called for tests or interviews. Some of the applications may be rejected at the application stage due to any reasons. Hence, there is the need of making a preliminary screening of the applications received. The main idea behind this sort of screening is to minimize the number of applicants to make the selection process easy and effective.

**3. Conducting Tests/Interviews:** After the preliminary screening is over, the shortlisted applicants may be called for employment tests which may include a written examination, interview, group-discussion etc. to test the skill, intelligence, knowledge, aptitude, personality etc. There are a variety of tests to examine the specific qualities and abilities of the applicants. Such tests may be designed depending on the type of persons required for specific posts. Usually the applicants found suitable in the written examinations are called for interviews because conducting interviews is a time taking affair. So, only a limited number of successful candidates of the written examination may be called for interview. Finally the interviewers shall make a list of suitable candidates for the posts in order of their merit.

**4. Conducting medical/physical test:** All the candidates qualified in the interview should be called for a test of physical fitness to be conducted by a group of experts. The physical tests may include running, swimming, jumping, driving, cycling etc. The physical examination may depend on the nature of job to be handled by the individual. Apart from the physical test there may be a medical examination of the candidates to check the Eyesight, ears, heart, kidney etc. The purpose of the medical test is to handle the job efficiently and ensure that the candidate's fitness meets the job requirement.

**5. Collecting References and Checking the Antecedents:** After the medical and physical test is over, there is a need of making a collection of information about the candidates from the list of references. Usually,

the applicants give the names of those persons who will give favorable report. Apart from that the employer may write to the former employer of the applicant, to the institutions where he was reading or to any other person who might be knowing the person well. There is also the need of checking the past records of the applicant including the report of the local police stations where he had been staying in the past.

**6. Verifying the Certificates:** After all the above processes are over, the applicant may be called once again with his original certificates for the purpose of verification to see that the certificates furnished are authentic or not.

**7. Issuing of Selection Letters after Final Selection:** All the successful candidates are to be ranked in order of their merit and final selection may be made depending on the number of posts lying vacant. Appointment letters may be issued to the successful applicants in order of their rank and may be given a time limit to report for joining. If any candidate fails to turn up, the next rank-holder may be issued selection letter. So, the merit list prepared shall be helpful to issue selection letters to the next best candidates.

### **Method of Testing:**

Tests are of twelve types. These tests are conducted by many organizations. It does not mean that every organization conducts all of these tests. Some organizations may not conduct a few tests. However, brief descriptions of these tests are mentioned below:

**1. Written tests:** Written tests are tests that are administered on paper or on a computer (as an eExam). A test taker who takes a written test could respond to specific items by writing or typing within a given space of the test or on a separate form or document.

**2. Achievement tests:** To verify how he can achieve the target. Past experience can help the employees to satisfy the recruiters.

**3. Intelligent tests:** The employee's intelligent level is determined here.

**4. Performance tests:** Whether the employees perform well or not.

**5. Honesty or polygraph (lie detector) tests:** The use of lie detector for verifying information on the application form can only be used for specific jobs, such as police officer, finance managers etc.

**6. Aptitude tests:** Whether the employee is interested in the job or not can be determined by this test.

**7. Psychological tests:** The psychology of the employee is determined. The employees who are psychologically strong and do not get nervous do well.

**8. Graphology (Handwriting analysis) tests:** It has been said that an individual's handwriting can suggest the degree of energy, inhibitions, and spontaneity to be found in the writer, disclosing idiosyncrasies and elements of balance and control from which many personality- characteristics can be inferred.

**9. Physical tests:** To examine whether the candidate is physically fit for the job.

**10. Personality tests:** Through these tests a mental and behavioural quality i.e. personality level is measures.

**11. Trainability Tests:** For jobs in which training is necessary due to the skill level of the job applicants or the changing nature of the job, trainability tests are useful. Essentially, the goal is to determine the trainability of the candidate.

**12. Work Sample:** Work Sample tests measure the ability to do something rather than the ability to know something. These tests may measure motor skills or verbal skills, Motor skills include physically manipulating various job related equipment and verbal skills include problem solving and language skills.

**Methods of Training and Development:** Training is a learning process which imparts skill, knowledge, attitude, behavior etc. to an individual to make the performance of jobs as per plan. Training is also regarded as the transfer of skill, knowledge, etc. from the trainers to the trainees with specific objectives. Training is a continuous process from the recruitment till retirement. Training is always object-oriented. Training helps the employees to cope up with the changing business environment and challenges of technology. Training is also essential for the old employees whenever they are put on new assignments due to promotion, transfer, change in the nature of job, changes in technology etc. There are different types of training adopted for executives, supervisors and workers. Different methods of training may also be recommended for different types of jobs handled by the executives, supervisors, workers and others.

The training can be classified into three categories such as a) on the job training, b) off the job training and c) vestibule training.

**A. On-the-Job Training: This training consists of the following methods:**

**1. Under-studies:** Under this method of training, the trainee is placed under an experienced person as an assistant or sub-ordinates who is to acquire skill, knowledge, experience, by doing the job under the direct supervision and guidance of the experienced person. Working under an experienced person will be a good learning process for a new person.

**2. Coaching by Expert on the jobs:** Under this method the trainees are taken to the spots where the work is being performed. Different expert trainers of different jobs train the trainees regarding the performing the jobs. They demonstrate the jobs by performing them in front of the trainees so that the trainees get the chance of learning on the spots. The trainees are also given chance to handle the jobs themselves.

**3. Job Rotation:** Under this system, the trainees get the opportunities of learning different jobs during their employment. They are not specifically trained only for one job but are trained on various jobs on rotation basis so that they get through knowledge on different jobs. After they are trained in one job, they are sent for training to another job and in this process they acquire good experiences of different jobs of the organization. This is known as job rotation in which the trainees are periodically rotated from one job to another.

**B) Off-the-Job Training: This training consists of the following methods:**

**1. Classroom training:** Under this type of training, training courses are organized for the employees either inside the organization or outside the organization. Lecturers or instructors act as trainers who teach the topics and give adequate technical and theoretical knowledge about the activities to be performed. For such type of training the trainer may use the models, slides, overhead projectors, video, audio, films, computer etc. to train the employees.

**2. Conference:** Under this method of training, a small group of trainees are selected and they work together to train themselves. They make open discussion, exchange ideas and experiences and share the knowledge. They learn together to come to a conclusion or for solutions to different problems and develop new techniques, skill etc. in them.

**3. Special courses and lectures:** Special courses and lectures are either designed by the company itself or by the management or professional schools. Companies then sponsor their trainees to attend these courses or lectures. These are the quick and most simple ways to provide knowledge to a large group of trainees.

**4. Selected reading:** This is the self-improvement training technique. The persons acquire knowledge and awareness by reading various trade journals and magazines. Most of the companies have their own libraries. The employees become the members of the professional associations to keep abreast of latest developments in their respective fields.

**5. Role Playing:** In this method, the trainees are assigned a role, which they have to play in an artificially created situation. For example, a trainee is asked to play the role of a trade union leader and another trainee is required to perform the role of a HR manager. This technique results in better understanding of each other's situation.

**6. Brainstorming:** This is a creativity-training technique, it helps people to solve problems in a new and different way. In this technique, the trainees are given the opportunity to generate ideas openly and without any fear of judgement. Criticism of any idea or any comments are not allowed. Once a lot of ideas are generated then they are evaluated.

**C) Vestibule Training:** Under this type of training, training is conducted neither on the job nor off the job. Under this method a similar situation to a working condition is created and training is given to the trainees under such conditions. As far as practicable, actual machineries, actual materials, actual raw materials are used and actually like working condition is created so that the trainers and the trainees feel like working in real working situations. This type of training is done without disrupting the actual activities of the organisation. This sort of training makes the trainees capable to handle actual work situations. For example, firemen training for fire fighting.

**Payment of Wages:**

**What is wages?** Wages is money paid to a worker for work performed, or the price you pay for doing something . If you make Rs.100 per hour at work, this **is an example** of your **wage**.

**Procedure for payment of wages:** Payslip is prepared on the basis of the payroll or wages sheet. Payslip is prepared for each worker separately. Now, each worker is given his/her payslip in advance so that he/she can check the calculations before the actual payment is made. The particulars of net amount for the wage payment are forwarded to the cashier who draws money from the bank and arranges payment. After drawing the amount from bank, pay pocket is prepared for each worker separately and sealed after checking. The pay pocket contains the details like the name of worker, his/her number, designation and the name of department under which he/she is working. The pay pocket is handed over to workers under the presence of responsible officer and the department head under which the worker is working. The signature or thumb impression of an employee is received in the Wage Payment Register.

## UNIT 6

### LEADERSHIP AND MOTIVATION

#### LEADERSHIP.

**Definition: Leadership** is the act of guiding a team or individual to achieve a certain goal through direction and motivation. **Leaders** encourage others to take the actions they need to succeed or in other words we can say that Leadership is the ability of an individual or a group of individuals to influence and guide followers or other members of an organization.

#### NEED OR IMPORTANCE:

**1. Initiating Action:** Leadership starts from the very beginning, even before the work actually starts.

A leader is a person who communicates the policies and plans to the subordinates to start the work.

**2. Providing Motivation:** A leader motivates the employees by giving them financial and non-financial incentives and gets the work done efficiently. Motivation is the driving force in an individual's life.

**3. Providing guidance:** A leader not only supervises the employees but also guides them in their

work. He instructs the subordinates on how to perform their work effectively so that their efforts don't get wasted.

**4. Creating confidence:** A leader acknowledges the efforts of the employees, explains to them their role clearly and guides them to achieve their goals. He also resolves the complaints and problems of the employees, thereby building confidence in them regarding the organization.

**5. Building work environment:** A good leader should maintain personal contacts with the employees and should clear their problems and solve them. He always listens to the point of view of the employees and in case of disagreement persuades them to agree with him by giving suitable clarifications. In case of conflicts, he handles them carefully and does not allow it to adversely affect the entity. A positive and efficient work environment helps in stable growth of the organization.

**6. Co-ordination:** A leader reconciles the personal interests of the employees with the organizational goals and achieves co-ordination in the entity.

**7. Creating Successors:** A leader trains his subordinates in such a manner that they can succeed him in future easily in his absence. He creates more leaders.

**8. Induces change:** A leader persuades, clarifies and inspires employees to accept any change in the organization without much resistance and discontentment. He makes sure that employees don't feel insecure about the changes.

#### **QUALITIES OF LEADERS:**

**1. Ethical and Corporate Social Responsibility (CSR):** Leadership sets the standards and culture for ethical behavior.

**2. A Leader is there to serve:** A truly successful leader understands that they are there to serve their team, not to be served.

**3. A vision of commitment to the organization:** Leadership is about creating a vision that inspires those who work for and around it to participate actively in key goals, objectives and the overall mission.

**4. From the top to the bottom:** Leaders must be able to quickly assess the gap between top management and all employees, and think of innovations of how to encourage the team to act and feel satisfied as winners or contributors to the success of the company.

**5. Excellent communication:** Leaders must have an astute clarity of expression, communicating thoughts entirely synchronized with the messages delivered AND received. A leader must have the ability to communicate effectively at every level in your organization.

**6. Ability to listen and debate:** Rather than simply 'delivering' ideas, prepare to engage in debate around ideas and really listen to every suggestion.

**7. Teamwork:** The ability to create and maintain trust and respect between team members quickly and



effectively is vital. A leader should be able to spot key problems and empower management to iron out any issues.

**8. Delegation:** A senior executive leader must have confidence to delegate work to his or her team and step back - leaders are there to empower others to become leaders and managers themselves.

**9. Honesty and integrity:** Although leaders must be positive, when things are not going well, the truth must be communicated. Subsequently, leaders must provide the vision and encouragement to bring the organization forward.

**10. A Problem Solver:** Leaders must always find solutions or (at least) suggest alternatives to every problem.

**11. Focused:** Keep the team on the right track on goals and strategies – ask for reminders of projects / goals and maintain focus on critical objectives despite endless obstacles.

**12. Change Management:** Adapt quickly to changes in the marketplace and communicate these to all members of the organization. Get the entire company behind changes necessary through visionary leadership.

**13. Forward thinking:** Beyond adapting to external changes, a leader must enact their own – an executive leader should be able to see current and future trends, apply them to his or her organization and stay ahead of the competition.

**14. Visionary and Leadership quality:** To be successful, the leader 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 important because a leader can guide their employees towards the right path of success.

**15. Open-Minded:** In a business, every circumstance can be an opportunity and used for the benefit of a company.

**16. Flexible:** A leader should be flexible and open to change according to the situation. To be on the top, a business person should be equipped to embrace change in a product and service as and when needed.

**17. Creativity:** Leadership starts with an idea. To be successful, a person needs to always be thinking of new ideas and better ways of doing things.

#### **FUNCTION OF A LEADER:**

##### **1. Setting Goals:**

A leader is expected to perform creative function of laying out goals and policies to persuade the subordinates to work with zeal and confidence.

##### **2. Organizing:**

The second function of a leader is to create and shape the organization on scientific lines by assigning roles appropriate to individual abilities with the view to make its various components to operate

sensitively towards the achievement of enterprise goals.

### **3. Initiating Action:**

The next function of a leader is to take the initiative in all matters of interest to the group. He should not depend upon others for decision and judgment. He should float new ideas and his decisions should reflect original thinking.

### **4. Co-Ordination:**

A leader has to reconcile the interests of the individual members of the group with that of the organization. He has to ensure voluntary co-operation from the group in realizing the common objectives.

### **5. Direction and Motivation:**

It is the primary function of a leader to guide and direct this group and motivate people to do their best in the achievement of desired goals, he should build up confidence and zeal in the work group.

### **6. Link between Management and Workers:**

A leader works as a necessary link between the management and the workers. He interprets the policies and programs of the management to his subordinates and represents the subordinates' interests before the management. He can prove effective only when he can act as the true guardian of the interests of his subordinates.

### **Manager vs Leader:**

#### **1. Leader creates a vision, manager creates goals.**

Leaders inspire and engage their people in turning that vision into reality. They activate people to be part of something bigger. Managers focus on setting, measuring and achieving goals. They control situations to reach or exceed their objectives.

#### **2. Leaders are change agents, managers maintain the status.**

Leaders are proud disrupters. Innovation is their mantra. They understand and accept the fact that changes to the system often create opportunities. Managers stick with the works, refining systems, structures and processes to make them better.

#### **3. Leaders are unique, managers copy.**

Leaders are self-aware and work actively to build their unique and differentiated personal brand. They are comfortable in their own shoes and willing to stand out. They're authentic and transparent. Managers copy the competencies and behaviors they learn from others and adopt their leadership style rather than defining it.

#### **4. Leader takes risks, managers control risk.**

Leaders are willing to try new things even if they may fail miserably. They know that failure is often a step on the path to success. Managers work to minimize risk. They seek to avoid or control problems rather than accept them.

### **5. Leaders are in it for the long term, managers think for short-term.**

Leaders have intentionality. They do what they say and stay worked toward a big and for a long term. They remain worked without receiving regular rewards. Managers work on shorter-term goals, seeking more regular acknowledgment or awards.

### **6. Leaders build relationships, managers build systems and processes.**

Leaders focus on people—all the stakeholders they need to influence in order to realize their vision. They know who their stakeholders are and spend most of their time with them. They build loyalty and trust by consistently delivering on their promise. Managers focus on the structures necessary to set and achieve goals. They focus on the analytical and ensure systems are in place to attain desired outcomes. They work with individuals to fulfill their goals and objectives.

### **7. Leaders grow personally, managers rely on existing, proven skills.**

Leaders know if they aren't learning something new everyday, they aren't standing still, they're falling behind. They remain curious and seek to remain relevant in an ever-changing world of work. Managers rely on existing skills and adopting proven behaviors.

**STYLE OF LEADERSHIP: Based on the behavior of a leader, the leadership style is classified into three categories i.e. Autocratic, Democratic or Participative and Delegative.**

**1. Autocratic:** Authoritarian leaders, also known as autocratic leaders, provide clear expectations for what needs to be done, when it should be done, and how it should be done. This style of leadership is strongly focused on both command by the leader and control of the followers. There is also a clear division between the leader and the members. Authoritarian leaders make decisions independently, with little or no input from the rest of the group. Authoritarian leadership is best applied to situations where there is little time for group decision-making or where the leader is the most knowledgeable member of the group. The autocratic approach can be a good one when the situation calls for rapid decisions and decisive actions. However, this type of leadership style can be damaging rather than rewarding in the long run as it resembles that of a dictator. It leads to low employee morale, which in turn may lead to attrition in many cases.

**2. Democratic or Participative:** Participative leaders encourage group members to participate. Group members feel engaged in the process and are more motivated and creative. Democratic leaders tend to make followers feel like they are an important part of the team, which helps foster commitment to the goals of the group. Democratic leadership, also known as participative leadership or shared leadership, is a type of leadership style in which members of the group take a more participative role in the decision-making process.

**3. Delegative:** In this style, the leader allows members to take decisions. While this style can be useful in situations involving highly qualified experts, it often leads to poorly defined roles and a lack of

motivation. This leadership style tended to result in groups that lacked direction and members who blamed each other for mistakes, refused to accept personal responsibility, made less progress, and produced less work.

### **Motivation:**

**Definition:** Motivation is the word derived from the word 'motive' which means needs, desires, wants or drives within the individuals. It is the process of stimulating people to action to accomplish the goals. In other words, motivation is the processes that account for an individual's intensity, direction, and persistence of effort toward attaining a goal. The main features of motivation are a goal-oriented continuous process and a psychological phenomenon that converts abilities into performance.

### **Characteristics:**

1. Motivation is need based – If there is no need for an individual, the process of motivation fails.
2. Motivation is a continuous process – Most of the human needs are of recurring nature, some of the needs of individuals shall always be found to be unfulfilled. Thus motivational process can be enforced on a continuous basis.
3. Motivation is a planned process – to produce a desired result by stimulating and influencing human behavior for the best realization of the common objective. Two individuals could not be motivated in exactly similar manner as people differ in this case of approach to respond to the process of motivation.
4. Motivation may be positive or negative – A positive motivation promises incentives to people (pay, rewards, bonus, etc), a negative motivation threatens the enforcement of disincentives (penalties, disciplinary action, threat of demotion, fear of loss of job, etc).
5. Motivation aims for best attainment of common objectives through best utilization of resources – Motivated employees make the best utilization of all resources – materials, machines, technology and other work facilities and put in their best effort towards the attainment of common objectives of the enterprise.
6. Motivation is an internal feeling – It is a psychological phenomenon, which generates within an individual.

### **Importance of Motivation:**

**1. Effective Use of Resources:** Motivation activates human resources and compels employees to behave in a particular manner. In business, all physical resources need to be used through human force. Highly motivated employees greatly help in making optimum use of available resources.

### **2. Higher Efficiency of Employees:**

Motivation is directly related to the level of efficiency. Motivated employees put in their maximum effort for achieving organizational goals. Motivation improves the work performance by bridging the gap between the ability and willingness to work. Better performance results in higher productivity and

consequently lower cost of production.

### **3. Healthy Industrial Relation:**

Motivation is considered as the backbone of good industrial relation. Motivation creates friendly and supportive relationships between the employer and the employees. When the industrial relation becomes better, industrial disputes are reduced. There will be an atmosphere of confidence between the employer and the employees.

### **4. Better Organizational Image:**

Motivation helps in improving an image of the organization. Employees produce more when they are properly motivated. Highly motivated employees try to maintain a self-disciplined and productive internal environment in the organization. This creates a better impression to the outsiders dealing with the organization.

### **5. High Morale and Satisfaction:**

Motivation is helpful in increasing the morale of employees. High degree of motivation may lead to high morale. Highly motivated employees will get higher satisfaction which may lead to higher efficiency. Motivation improves the quantity as well as the quality of production.

### **6. Reduced Labor Turnover and Absenteeism:**

Motivation leads to job satisfaction of workers. Employees are punctual and regular in their work schedule, provided they get job satisfaction. Highly motivated employees are loyal and committed to the organization. They are sincere and prefer to stay on the job for longer period of time. As a result, labor absenteeism and turnover are low.

### **7. Accomplishment of Organizational Goals:**

Motivation helps in shaping the working behavior of the employees. It channelizes energy of employees for achieving organizational goals. Highly motivated employees are more committed and cooperative for seeking organizational objectives. Motivation ensures achievement of organizational goals by meeting individual needs through a satisfactory system of rewards.

### **8. Introducing Changes in the Organization:**

Motivation helps the management in introducing changes in the organization. Normally, employees resist changes for fear of an adverse effect on their employment. When the employees are given various opportunities of development, they can easily adapt to new situations. Motivated employees support all changes that are in the interest of the organization.

### **Factors affecting motivation:**

#### **1. Reward and Recognition:**

There are many ways to reward employees. The aim of rewarding and recognizing employees is to encourage and motivate them to exceed within their roles and promote positive behaviors.

## **2. Development**

Development is very important for motivating employees; studies have shown that most of the employees prefer career development opportunities and training. Development makes an employee self-dependent and allows them to contribute more effectively in the workplace, it also helps employees to enhance their input to the business.

## **3. Relationship with colleagues**

As employees spend one-third of their day at work, relationships and interactions they have with their colleagues can significantly impact their mood and outlook. Negative experiences or attitudes will eventually lead to isolation and loneliness, making it more difficult to find satisfaction from work, which in turn will decrease motivation.

## **4. Company's Culture**

A company's culture consists of 6 main elements: work environment, company mission, value, ethics, expectations and goals. In practice, the culture is just a set of rules or accepted behaviors that help employees make decisions every day. While every company would have their own unique set of features, values and beliefs, culture is always about making sure that the employees have a productive and enjoyable working environment. If the company's culture is unstable, in that situation the employees can not work for a long time and that leads to low job satisfaction, negative attitude which affects motivation.

## **5. Processes within the company**

The workload, division of responsibilities, access to resources and accountability all depends on the structure and efficiency of the processes on which the business runs. Efficient processes stimulate workers, allowing them to work effectively and efficiently. At each stage of the process an individual should be aware of what's expected from them and what resources are available. Making sure that an employee feels responsible for the outcomes of their work is crucial in building work engagement and stimulating higher performance.

**Maslow theory of motivation:** Abraham Maslow's motivation theory is based on the human needs. These needs are classified into a sequential hierarchy from the lowest to higher order as five need clusters as given below:

**1. Physiological Needs:** These needs are of the lowest-order and most basic needs of human beings. These involve satisfying fundamental biological drives, such as the need for food, air, water, cloth, and shelter generally expressed in the names of roti, kapada aur makan. These needs exert tremendous influence on human behavior. Entrepreneur also being a human being has to meet his physiological needs for survival. Hence, he / she is motivated to work in the enterprise to have economic rewards to meet his / her basic needs.

### **2. Safety and Security Needs:**

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The second level of need in Maslow's hierarchy is emerged once physiological needs are met. Safety needs involve the need for a secure environment, free from threats of physical and psychological harm. These needs find expression in such desires as economic security and protection from physical dangers. Meeting these needs requires more money and, hence, the entrepreneur is prompted to work more in his/her entrepreneurial pursuit. Like physical needs, these become inactive once they are also satisfied.

### **3. Social Needs:**

Man is social animal. These needs, therefore, refer to belongingness or affiliation. All individuals want to be recognized and accepted by others. Likewise, an entrepreneur is motivated to interact with fellow entrepreneurs, his employees, and others.

**4. Esteem needs:** These needs refer to self-esteem and self-respect. These include such needs that indicate self-confidence, achievement, competence, knowledge, and independence. In case of entrepreneurs, the ownership and self-control over enterprises satisfies their esteem needs by providing them status, respect, reputation, and independence.

### **5. Self Actualization Needs:**

At the top of the hierarchy is the need for self actualization or the need to fulfill what a person considers to be the mission in his life. After all his other needs are fulfilled, a man has the desire for personal achievement. He wants to do something which is challenging and since this challenge gives him enough push and initiative to work, it is beneficial to him and the society. The sense of achievement gives him a sense of psychological satisfaction.

### **Methods of improving Motivation: The following are the methods for improving motivation:**

#### **1. Create a friendly working environment**

The employees spend a large amount of time of their lives working in the office. So try to make the office look as friendly and appealing as possible. When the entrepreneur creates a pleasant working atmosphere the employees will be more satisfied to go to work every day.

#### **2. Acknowledge employees' achievement**

Everyone wants to be recognized and acknowledged for something they have done. The acknowledgement of a job well done coming from upper management that increases the morale of the employees. The entrepreneurs always remember to give credit to their employees when credit is due.

#### **3. Rewarding employees**

It is the responsibility of the entrepreneur to give simple incentives as rewards to the employees through which they will be motivated. It does not have to be monetary rewards all the time, the entrepreneur may reward the employee by providing T-shirts or some sweets. Rewarding employees could also be a part of the company benefits.

#### **4. Positive communication is the key**

Positive communication is the best method for improving the motivation of the employees in an organization. The entrepreneur spends a short period of time each day to have a word with the employees; discussing different ideas in a very friendly manner. This will not only make the employees happy but also the entrepreneur will get all types of support from the employees.

#### **5. Create a career path**

When employees will be provided through incentives, they will become motivated. This will lead to increased commitment towards their employer. The members of the team will be more valuable to the organization, and to themselves, when they have opportunities to learn new skills. So it is the responsibility of the entrepreneur to provide their employees with the training so that they can increase their potential, skill and also acquire new knowledge on latest technology as a result they can develop their career which the entrepreneurs can improve their motivation for the employees.

##### **1. Welcome all ideas**

Everyone employee is unique and they might have some good ideas and suggestions. So it is the duty of the entrepreneurs to allow the employees to participate in the decision making process and they should listen to their suggestions and evaluate them. In this regard the entrepreneurs can improve the motivation.

##### **2. Encourage creativity**

Creativity does not have to be based on the work that the employees are doing. It could be simple task like giving ideas on different activities related to business or team building exercises.

**Importance of communication in business:** Communication is one of the most important functions of management. It may cement an organization or disrupt. It promotes managerial efficiency and induces the human elements in an organization to develop a spirit of cooperation. It has become one of the most vital factors in the efficient performance of management. The importance of communication are given below:

**1. Efficient and Smooth Running of an Enterprise:** The smooth and efficient functioning of an enterprise entirely depends upon the effectiveness of the system of communication. It provides the necessary basis of direction and leadership. It actuates people to action in accordance with the desires of the management. Without proper communication, performance and achievement of the goals may not be possible. It is essential to secure cooperation between any two persons.

##### **2. Basis of Decision Making:**

Communication is the basis of decision making. It helps the management to take essential decision and conduct vital operations. The quality of decisions made in an organization entirely depends on the amount and quality of information available to the management. The quality of information depends upon



effective communication, and the quality of communication exercises considerable influence on the quality of decision making.

### **3. Proper Planning and Coordination:**

Communication is very helpful in planning and coordinating the activities of business. If the system of communication is good, useful suggestions will come from the subordinates to the superiors. This would be helpful in the formation of plans. Participation of employees is now regarded essential for getting the task done, and this, can effectively be secured only through the media of communication.

### **4. For Higher Productivity at Minimum Cost:**

Effective communication between employers and employees plays a vital role in obtaining maximum production with the minimum of cost. Effective communication will make the employee feel more secure and more interested in his work. It will increase the understanding of the employees and secure their willing acceptance of the business plans. It will increase the productivity on the part of workers.

### **5. Morale Building:**

Communication in industry is the basis for morale building. Under an effective system of communication, it is quite convenient for the employee to bring their grievance to the notice of the management and get a proper adjustment. It creates mutual trust and faith, and that ultimately ensures job satisfaction amongst the employees, creates confidence in the ability of managers and promotes their loyalty towards the enterprise.

### **2. Democratic Management:**

Effective communication is the basis for democratic management. It ensures co-operation through understanding. The management has been forced to recognize the maintenance of sound system in democracy which necessitates understanding and support of workers. Adequacy and clarity of communication facilitates effective leadership and maintenance of man to man relationship.

### **1. Binds People Together:**

Effective communication induces the humane elements in an organization to develop a spirit of cooperation and produce the will to do work before actually doing it. In this way, effective communication binds the people of an organization together.

### **2. Create mutual trust and confidence:**

Effective communication creates mutual trust and confidence between the management and the labour. It gives job satisfaction to the workers. It is essential for healthy industrial relations. Sharing ideas and experiences with workers eliminates their fears and misunderstanding and helps in winning over their trust and confidence.

**What is communication?** Communication is the act of sharing or transferring information between two or more individuals or a group of people. Technically, each communication process requires a sender, Entrepreneurship & Management & Smart Technology

arecipient, amessageandamedium.

**Barrierstofcommunication: Thefollowingarethebarrierstofcommunication:-**

**1. PhysicalBarriers**

A communication is a two-way process, distance between the sender and the receiver of the message is an important barrier tocommunication. Noise and environmental factors also block communication.

**2. PersonalBarriers:**

Personalfactors like difference in judgment, inferiority complex, attitude, pressure of time, inability to communicate, etc. widen the psychological distance between the communicator and the communicate. Credibility gap i.e., inconsistency between what one says and what one does, also, acts as a barrier to communication.

**3. StatusBarriers(Superior-SubordinateRelationship):**

Statusorpositioninthe hierarchyofanorganizationisoneofthefundamentalbarriers thatobstructsfree flowofinformation. Asuperiormaygiveonlyselected informationtohis subordinates soastomaintain status differences. Subordinates, usually, tend to convey only those things which the superiors would appreciate.

**4. OrganizationalstructureBarriers:**

Effectivecommunicationlargelydependsonsoundorganizationalstructure. Ifthestructureiscomplex involving several layers of management, the breakdown or distortion in communication wall arise. Moreover, information travelling through formal structure introduces rigidity and causes-delay because of long lines of communication. Similarly, lack of instructions for further conveying information to the subordinates and heavy pressure of work at certain levels of authority also act as barriers to effective communication.

**5. BarriersDuetoInadequateAttention:**

Listening is the most neglected skill of communication. Inadequate attention to the message makes communication less effective and the message is likely to be misunderstood. Inattention may arise becauseofoverbusinessofthe communicateorbecauseofthemessagebeingcontrarytohisexpectations and beliefs. Whatever be the reason, communication remains only a one-wayprocess and there is no understanding of the message, if the receiver pays little attention to the message.

**6. ResistancetoChange:**

It is a general tendency of human beings to stick to old and customarypatterns of life. They may resist change to maintainstatus quo. Thus, when new ideas are being communicated to introduce a change, it is likely to be overlooked or even opposed. This resistance to change creates an important obstacle to effective communication.

**7. BarriersDuetoLackofMutualTrust:**

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Communication means sharing of ideas in common. "When we communicate, we are trying to establish a commonness." Thus, one will freely transfer information and understanding with another only when there is mutual trust between the two. When there is a lack of mutual trust between the communicator and the communicatee, the message is not followed. Credibility gaps, i.e., inconsistency in saying and doing, also causes lack of mutual trust which acts as a basic obstacle to effective communication.

#### **8. Emotional Attitude:**

Barriers may also arise due to emotional attitude because when emotions are strong, it is difficult to know the frame of mind of other person or group. Emotional attitudes of both, the communicator as well as the communicatee, obstruct free flow of transmission and understanding of messages.

## **UNIT 7**

### **WORK CULTURE, TQM AND SAFETY**

#### **Human relationship and performance in organization:**

Four Factors Influencing Human Relations in an Organizations are: (I) work environment (II) work-group (III) individual (IV) leader. Organizations should be viewed as a social system. Human relations in the organization are determined by work environment, work group, individuals & leader.

**1. Work Environment:** Human relations promoted the creation of a positive work environment where organizational goals are achieved through satisfaction of employees. In general, when employee needs are satisfied, the work environment is termed positive and when employee needs are not satisfied, the work environment is termed negative. Positive work environments are characterized by such factors like: goals are clearly stated, incentives are properly used to improve performance, feedback is available on performance, decisions are timely and participative.

**2. Work Group:** The work group is the centre of focus of human relations studies. It has an important role in determining the attitudes and performance of individual workers. Studies showed that the informal groups apply tremendous influence over the behavior patterns of workers. The informal groups cancelled official orders quite frequently and played a decisive role in determining production standards. Work is a social experience and most workers find satisfaction in membership in social groups. Unless managers

recognize the human relations at work productivity will not improve.

**3. Individual:** The human being is an important segment of the organization. Behavior of an individual is affected by his feelings, sentiments and attitudes. Motivation of employees should give due consideration to their economic, social and psychological needs. Thus, motivation is a complex process.

**4. Leader:** The human relationships gave great importance to leadership. The leader must ensure full and effective utilization of all organizational resources to achieve organizational goals. He must be able to adjust to various personalities and situations. He must behave in a way that generates respect. A supervisor can contribute significantly in increasing productivity by providing a free, happy and pleasant work environment where bossism is totally absent and where members are allowed to participate in decision-making processes. Authoritative tendencies must give way to democratic values.

### **Relations with Peers, Superiors and Subordinates:**

It is always an experience to interact with the peer, superior and subordinate groups. All the three groups of people give a different feel and learning, when we interact with them. All the three groups are important and very much exist in all areas of life. Whether it is family, office, friends, mentors, teachers, bosses, acquaintances, etc., all of them are typically divided into three categories.

#### **Peers:**

The first category will always be peers because we respond to them very easily and very firstly. They are typically the same level as us either in intelligent quotient or status or family structure or in any other way at par with us. We normally tend to be comfortable with them in terms of talking and interacting. One more reason of a person being comfortable with peers is they have similar problems and they empathize very well with each other. For example colleagues in office, friends, cousins etc.

#### **Superiors:**

The second category is superiors. The teachers, mentors, bosses, family, etc. generally fall in this category. They are the ones who are higher than us as far as the knowledge or experience or intellect quotient or relationship goes. They expect a certain kind of respectful treatment from us, while we deal with them. We normally tend to take time to interact with them directly; more so, particularly because they also have an expectation barrier to break first with us. They are the ones from whom you learn effortlessly because we know that they know more than us. For example uncles, aunts, bosses, mentors, aged consultants, senior-positions-in-anyway, etc.

#### **Subordinates:**

The third category opens up the scope of being a mentor to others, as well as taking work from them or

helping them to cope up. They are less either by age, experience, knowledge or relationship and that's why we feel good dealing with them and sometimes even show them off for our seniority. They are the ones who need our help for their growth but still our responses to them are important;

**TQM Definitions:** Total Quality management is defined as a continuous effort by the management as well as employees of a particular organization to ensure long term customer loyalty and customer satisfaction.

Remember, one happy and satisfied customer brings ten new customers along with him whereas one disappointed individual will spread bad word of mouth and spoil several of the existing as well as potential customers.

### **TQM Concepts:**

#### **1. Continuous improvement of quality**

Foremost among TQM concepts is the idea of continuous improvement of quality. The underlying aim of total quality management is to improve the quality of products and services in any organization. By so doing, productivity, employability and customer service are improved. When an organization focuses on this concept of total quality management, they are able to achieve the best.

#### **1. Focus on the customer**

Another TQM concept is a central focus on the customer. The customers are the internal and external recipients of an

organization's products. Therefore, the needs of customers and their desires define quality for the organization.

#### **2. Operations improvement**

Furthermore, systematic improvement of operations is another concept of total quality management. Every work done in an organization follows a chain or process. These processes account for 80-85% of the quality of work and productivity of employees. This concept establishes that work processes should be studied, through individuals or teams, to identify lapses or complexities.

#### **3. Human resources.**

The concept of human resources development is one of the concepts of total quality management. Organizations that employ total quality management principles are committed to employee learning and development. These principles require that management trust that well-trained staff can do the jobs assigned to them properly.

#### **4. TQM leadership**

Similarly, another concept of TQM is about management responsibility for TQM leadership. Managers are responsible to lead the transformation of an organization to imbibe the culture of quality. They must accept the responsibility for continuous quality improvements and be dedicated to empowering others.

**Quality policy:**

A quality policy drives the function of the entire QMS. A brief statement that aligns the **purpose** and strategic direction of the company, the policy lays the framework for all future quality objectives. In addition, it states the **commitment** to meeting requirements of customers. The Directors, Management and Staff are **responsible for Quality Control** through the **Quality Management System** seeking improvement by constant review, with suppliers and sub-contractors being encouraged to co-operate.

**Importance of quality policy:**

- a) It is important because it expresses management commitment to ensure customer satisfaction through product quality.
- b) It is important because it expresses management commitment to ensure customer satisfaction through product quality and is a basis for quality communication inside the company.

**Quality Management:**

**Quality management:** Quality management is focused not only on product and service quality, but also on the means to achieve it. Quality management, therefore, uses quality assurance and control of processes as well as products to achieve more consistent quality. 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). It has four main components: quality planning, quality assurance, quality control and quality improvement.

**Principles of Quality Management:****1. Customer Focus**

The primary focus of quality management is to meet customer requirements and to strive to exceed customer expectations. Success is achieved when an organization attracts and retains the confidence of customers. Every aspect of customer interaction provides an opportunity to create more value for the customer. Understanding the current and future needs of customers contributes to the sustained success of an organization.

**2. Leadership**

Leaders at all levels establish unity of purpose and direction and create conditions in which people are engaged in achieving the quality objectives of the organization. Creation of unity of purpose, direction, and engagement enable an organization to align its strategies, policies, processes, and resources to achieve its objectives.

**3. Engagement of People**

It is essential for the organization that all people are competent, empowered and engaged in delivering value. Competent, empowered and engaged people throughout the organization enhance its capability to create value. To manage an organization effectively and efficiently, it is important to involve all people at all levels and to respect them as individuals. Recognition, empowerment, and enhancement of skills and knowledge facilitate the engagement of people in achieving the objectives of the organization.

#### **4. Process Approach:**

The quality management system is composed of interrelated processes. Understanding how results are produced by this system, including all its processes, resources, controls and interactions, allows the organization to optimize its performance.

#### **5. Improvement:**

Improvement is essential for an organization to maintain current levels of performance, to react to changes in its internal and external conditions and to create new opportunities.

#### **6. Relationship Management**

For sustained success, organizations manage their relationships with interested parties, such as suppliers and partners. Benefits:

- greater efficiency and less waste
- better and consistent control of major business processes
- a better understanding of customer needs
- regulation of successful working practices
- improved risk management
- increased customer satisfaction
- improved participation of employees
- better internal communication
- greater consistency in the quality of products and services
- increased profits
- managing growth more effectively

#### **Quality System:**

A quality management system (QMS) is defined as a formalized system that documents processes, procedures, and responsibilities for achieving quality policies and objectives. A QMS helps coordinate and direct an organization's activities to meet customer and regulatory requirements and improve its effectiveness and efficiency on a continuous basis

## **Accident and safety:**

**Causes:** There are a number of factors that can lead to industrial accidents, including everything from improper lifting techniques to mishandling hazardous materials. Below are some common causes of accidents in the workplace.

### **Environmental Causes of Accidents**

- Accidents which occur from environmental causes refer to those workplace accidents that happen because of the working environment. The environmental factors can be both natural and man-made such as workplace design. Common environmental causes of accidents include:

- **Poor-  
lighting**

—

Low visibility is a common cause of slips, trips, and falls.

- **Ambient-  
temperature**

—

If a workplace is too hot, overheating can occur. If the workplace is too cold, frostbite or hypothermia can occur.

- **Air-  
pollution**

—

Breathing issues can develop if a workplace has poor ventilation and/or air pollution.

- **Sound-  
pollution**

—

The sound in a workplace can cause injury to a worker's hearing.

### **Mechanical Causes of Industrial Accidents**

- Mechanical causes of industrial accidents are factors that refer to machine or equipment failure or breakdown. Generally, with proper maintenance and safety processes in place, these types of accidents are preventable. Common mechanical causes of accidents include:



- **Broken-or-damaged-machine** – Parts can be easily broken or damaged if made of poor-quality metal.
- **Power-failure**–  
Total or partial power failure can lead to serious injury.
- **Fire-or-explosion**–  
Cooling failure or a small spark can lead to a mechanical fire or explosion.
- **Fair-wear-and-tear**–  
The older machine, the more wear and tear on the parts which can lead to a higher risk of mechanical accident.

### **Human Factors That Cause Accidents**

- Accidents caused by human factors refer to incidents in which the accident is directly attributed to the worker involved in the accident. Common human factors that cause industrial accidents include:

- **Poor-housekeeping**

—

An unkempt workspace can lead to slips, trips, and falls.

- **Fatigue**  
When a body is tired, injury is more likely to occur.

- **Overexertion**

—

Overexertion injuries are the most common type of workplace injury.

- **Stress**

—

Workers who are stressed are often more distracted and of greater risk of injury.

- **Dehydration**

—

It is important to consume enough water to ensure your body functions properly.

- **Improper-**

## **Lifting**

—

Lower back strains and shoulder injuries are common among workers who use improper lifting techniques.

### **Preventive-measures:**

Some of the steps for preventing industrial accidents are as follows: 1. Proper safety measures 2. Proper selection 3. Safety conscious 4. Enforcement of discipline 5. Incentives 6. Safety committees 7. Proper maintenance of machines, equipment and infrastructural facilities 8. Safety training.

#### **1. Proper safety measures:**

The proper safety measures should be adopted to avoid accidents. Government also provides guidelines for enacting measures for checking accidents, these should be properly followed.

#### **2. Proper selection:**

Any wrong selection of workers will create problems later on. Sometime employees are accident prone, they may not be properly suitable for the particular jobs. So the selection of employees should be on the basis of properly devised tests so that their suitability for jobs is determined.

#### **3. Safety conscious:**

The employees should be made conscious of various safety measures to be followed. There should be proper working slogans and advises to the worker for making them conscious.

#### **4. Enforcement of discipline:**

Disciplinary action should be taken against those who flout safety measures. There may be negative punishments like warnings, lay off, terminations of workers.

#### **5. Incentives:**

Workers should be given various incentives for maintaining safety. There may also be safety contrasts among workers. Those who follow safety instructions properly should be given monetary and nonmonetary incentives.

#### **6. Safety committees:**

Safety measures are in the interest of both employers and workers. There should be committees consisting of representatives of workers and employees for devising and enforcing safety programs.

#### **7. Proper maintenance of machines, equipment and infrastructural facilities:**

Accidents may occur on account of the fault in machines or equipment. There should be proper maintenance of machines. These should be regularly checked and frequently inspected the machines.

#### **8. Safety training:**

The workers should be given training regarding safety measures. They should know the hazards of the machines, the areas of accident proneness and the good working possible precautions in case of some accident.

**General safety rules:**

- Be sure you know how to perform the job and perform it safely.
- Report all near misses, incidents, injuries and illnesses immediately.
- Wear the required personal protective equipment necessary for the job. Safety glasses are required as minimum eye protection on all jobsites.
- Never conduct work, unless trained.
- Obey all warning signs and barricades.
- Inspect all equipment, scaffolds, ladders, lifts, etc. before using. If found to be defective remove from service.
- Report any unsafe tools, equipment or hazardous condition to your supervisor.
- See that good housekeeping is maintained in your work area.
- Exercise proper lifting techniques..
- Do not perform work under unsafe conditions. Any employee has the right to stop work if they feel it is unsafe.
- Only authorized personnel shall repair company furnished tools or equipment.
- Firearms on the job are prohibited.
- Always keep a positive attitude. This will make the day go better and make you a safer worker.
- Do not use ladders as scaffolds and never climb so high that it is impossible to hold the top step for support.
- **Personal Protection Equipment (PPE):**
  - Information on specific components of PPE. Including gloves, gowns, shoe covers, head covers, masks, respirators, eye protection, face shields, and goggles.
  - Gloves: Gloves help protect workers when directly handling potentially infectious materials or contaminated surfaces.
  - Gowns: Gowns help protect workers from the contamination of clothing with potentially infectious material.

- Shoe and Head Covers: Shoe and head covers provide a barrier against possible exposure within a contaminated environment.
- Masks : Surgical masks help protect nose and mouth of workers from poisonous smell before inhale it.

## UNIT 8

### LEGISLATION

Intellectual Property Rights (IPR): **Intellectual property rights** are the **rights** given to persons over the creations of their minds. They usually give the creator an exclusive **right** over the use of his/her creation for a certain period of time. Intellectual property (IP) refers to creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce. Or in other words Intellectual property is the product of the human intellect including creativity concepts, inventions, industrial models, trademarks, songs, literature, symbols, names, brands, etc.. They also entitle him/her to prevent others from using, dealing or tampering with his/her product without prior permission from him/her. He/she can in fact legally sue them and force them to stop and compensate for any damages.

**What is Patents?** Patent is an exclusive right granted by law to an inventor or assignee to prevent others from commercially benefiting from his/her patented invention without permission or in other words we can say that anyone who invents or discovers “any new and useful process, machine, article of manufacture, or composition of matter, or any new and useful improvement thereof” can apply for society use. Example computer, telephone and Bluetooth.

**What is a Trademark?** A trademark is a unique symbol or word(s) used to represent a business or its products

A trademark is a sign that individualizes the goods or services of a given enterprise and distinguishes them from those of competitors. Examples are Maruti Suzuki symbol, audio factory symbol, Adidas, Coca-Cola etc.

**What is copyright?** **Copyright** refers to the legal right of the owner of intellectual property. A copyright is a formal declaration that the owner is the only one with the right to publish, reproduce, or sell a particular artistic work. In **simpler** terms, **copyright** is the right to copy. This means that the original creators of products and they give authorization to others to reproduce the work. **Copyright** is a legal means of protecting an author's work. It is a type of intellectual property that provides exclusive publication, distribution, and usage rights for the author. Many different types of content can be protected by **copyright**.

**Examples** include books, poems, plays, songs, films, and artwork.

**Feature of factories Act, 1948:** The Factories Act, 1948 consolidating and amending the law relating to labour in factories, was passed by the Constituent Assembly on August 28, 1948. The Act received the assent of Governor General of India on 23 September 1948 and came into force on April 1, 1949.

### **Objective of Factories Act, 1948**

The main objectives of the Indian Factories Act, 1948 are to regulate the working conditions in factories, to regulate health, safety welfare, and annual leave and enact special provision in respect of young persons, women and children who work in the factories.

#### **1. Working Hours:**

According to the provision of working hours of adults, no adult workers shall be required or allowed to work in a factory for more than 48 hours in a week. There should be a weekly holiday.

#### **2. Health:**

For protecting the health of workers, the Act lays down that every factory shall be kept clean and all necessary precautions shall be taken in this regard. The factories should have proper drainage system, adequate lighting, ventilation, temperature etc. Adequate arrangements for drinking water should be made. Sufficient latrine and urinals should be provided at convenient places. These should be easily accessible to workers and must be kept cleaned.

#### **3. Safety:**

In order to provide safety to the workers, the Act provides that the machinery should be fenced, no young person shall work at any dangerous machine, in confined spaces, there should be provision for manholes of adequate size so that in case of emergency the workers can escape.

#### **4. Welfare:**

For the welfare of the workers, the Act provides that in every factory adequate and suitable facilities for washing should be provided and maintained for the use of workers. Facilities for storing and drying clothing, facilities for sitting, first-aid appliances, shelters, rest rooms and lunch rooms should be there.

#### **5. Penalties:-**

The provisions of The Factories Act, 1948, or any rules made under the Act, or any order given in writing under the Act is violated, it is treated as an offence. The following penalties can be imposed:-

- (a) Imprisonment for a term which may extend to one year;
- (b) Fine which may extend to one lakh rupees; or
- (c) Both fine and imprisonment.

If a worker misuses an appliance related to welfare, safety and health of workers, or in relation to discharge of his duties, he can be imposed a penalty of Rs. 500/-.

### **Cleanliness**{Section 11}

Every factory should be kept clean and free from effluvia arising from any drain, privy or other nuisance.

### **Disposal of wastes and effluents**{Section 12}

Effective arrangements should be made in every factory for the **treatment and effluents due to the manufacturing process** carried on therein, so as to render them innocuous, and for their disposal.

### **Ventilation and temperature** {Section 13}

Effective and suitable provisions should be made in every factory for securing and maintaining in every workroom; **adequate ventilation by the circulation of fresh air**; and such a temperature will secure to workers therein reasonable conditions of comfort and prevent injury to health

### **Dust and fume**{Section 14}

Effective measures should be taken to **prevent inhalation of dust and fume** that may produce in the course of manufacturing process.

### **Artificial humidification**{Section 15}

In any factory where the humidity of air is artificially increased, the State Government may make rules prescribing standards of humidification; regulating the methods used for artificially increasing humidity of the air; and directing prescribed test for determining the humidity of the air to be correctly carried out and recorded; and prescribing methods to be adopted for securing adequate ventilation and cooling of the air in the workrooms.

### **Overcrowding**{Section 16}

No room in any factory should lie overcrowded to an extent injurious to the health of the workers employed therein.

### **Lighting**{Section 17}

In every part of a factory where workers are working or passing, there should be provided and maintained sufficient and suitable lighting, natural or artificial, or both.

### **Drinking water**{Section 18}

In every factory effective arrangements should be made to provide and maintain at suitable points conveniently situated for all workers employed therein a sufficient supply of wholesome drinking water

### **Latrines and urinals** {Section 19}

In every factory sufficient latrine and urinal accommodation of prescribed types should be provided conveniently situated and accessible to workers, separately for male and female workers, at all times while they are at the factory.

### **Spittoons**{Section 20}

- In every factory there should be provided a sufficient number of spittoons in convenient places and they shall be maintained in a clean and hygienic condition.

#### Employee Safety

- The machinery in every factory should be properly fenced. **{Section 21}**
- Only the trained adult male worker, wearing tight fitting clothing which should be supplied by the Occupier, should be allowed to work near the machinery in motion. **{Section 22}**
- No young person shall be employed on **dangerous machinery, unless he is fully instructed** as to the danger arising in connection with the machine and the precautions to be observed and he has received sufficient training in work at the machine. **{Section 23}**
- Suitable arrangements should be made to provide striking gear and devices for cutting off power in case of emergencies. **{Section 24}**
- Sufficient precautions should be taken with regard to self-acting machines to avoid accidents. **{Section 25}**
- To prevent danger, all machinery driven by power should be encased and effectively guarded. **{Section 26}**
- Woman worker and children should not be employed in any part of the factory for pressing cotton in which a cotton-opener is at work. **{Section 27}**
- Hoists and Lifts in a factory should be periodically inspected by the Competent Person. **{Section 28}**
- Lifting Machines, Chains, Ropes and Lifting Tackles in a factory should be periodically inspected by the Competent Person. **{Section 29}**
- Where process of grinding is carried on, a notice indicating the maximum safe working peripheral speed of every grind-stone or abrasive wheel etc., should be fixed to the revolving machinery. **{Section 30}**

- Where any plant or machinery or any part thereof is operated at a pressure above atmospheric pressure, effective measures should be taken to ensure that the safe working pressure of such plant or machinery or part is not exceeded. **{Section 31}**
- Floors, stairs and means of access should be soundly constructed and properly maintained. **{Section 32}**
- Pits, sumps opening in floor etc., should be either securely covered or fenced. **{Section 33}**
- No workman shall be employed in any factory to lift, carry or move any load so heavy as to be likely to cause him injury. **{Section 34}**
- Necessary protective equipments should be provided to protect the eyes of the workman, where the working involves risk of injury to the eyes. **{Section 35}**
- Suitable precautionary arrangements should be taken against dangerous fumes, gases etc. **{Section 36}**
- Every practicable measures should be taken to prevent any explosion where the manufacturing process produces dust, gas, fume or vapour etc. **{Section 37}**
- Every practicable measures should be taken to prevent the outbreak of fire and its spread, both internally and externally. **{Section 38}**
- The Inspector of Factories can ask the Occupier or the Manager of the Factory to furnish drawings, specification etc., of any building, machinery or a plant, in case he feels that condition of such building, machinery or the plant may likely to cause danger to human life. **{Section 39}**
- The Inspector of Factories can suggest suitable measures of steps to take by the Occupier or Manager for implementation, when he feels the condition of any building, machinery or a plant may likely to cause danger to human life. **{Section 40}**
- Wherein **1000 or more workmen are employed in a factory**, the Occupier **should appoint a Safety Officer** to look after the safety aspects of the factory. **{Section 40-B}**
- Adequate and suitable **'washing facilities'** should be provided in every factory. **{Section 42}**
- Provisions should be made to provide suitable places for keeping clothing not worn during working hours and for the drying of wet clothing. **{Section 43}**



- In every factory, suitable arrangements for sitting should be provided and maintained for all workers obliged to work in a standing position, in order that they may take advantage of any **opportunities for rest** which may occur in the course of their work. {Section 44}
- **First-Aid Boxes** with the prescribed contents should be provided and maintained so as to be readily accessible during all working hours at the rate of at least one Box for every **150 workmen**. {Section 45}
- The Occupier should provide a **canteen for the use of workers in every factory, where the number of workmen employed is more than 250**. {Section 46}
- In every factory wherein more than **150 workers are employed** adequate and suitable **shelters or rest rooms and a suitable lunch room, with provision for drinking water**, where workers can eat meals brought by them, should be provided and maintained for the use of the workers. {Section 47}
- In every factory wherein more than **30 women workers** are ordinarily employed there should be provided and maintained a **suitable room for the use of children** under the age of six years of such women. {Section 48}

Ordinarily, a worker should not be allowed to work in a factory for more than **48 hours in any week**. {Section 51}

The workman should have one holiday for a whole day in a week. Where he was asked to work on his scheduled **weekly holiday**, he should be given compensatory holiday within three days of his scheduled weekly holiday. {Section 52}

**Features of payment of wages Act, 1936:** The **Payment of Wages Act, 1936** regulates **payment of wages** to employees (direct and indirect). The **act** is intended to be a remedy against unauthorized deductions made by employer and/or unjustified delay in **payment of wages**.

The **Payment Of Wages Act 1936** came into force on 23rd April **1936**. This **Act** was passed to regulate the **payment of wages** for certain classes of persons employed in industry. It ensures **payment of wages** in a particular form and at regular intervals without unauthorized deductions.

The **salient features** of the payment of wages act 1936 are as follows:

a) The Act was formed with the intention to regulate timely payment of wages to specific class of workers employed in industry without any wrongful deductions apart from what is mentioned in the Act.

- b) The Act ensures that the salary be paid by **7th of each month** in factories/establishments having a workforce of less than 1000 workers and by **10th of each month** in other cases.
- c) The Act ensures fixing of wage period, time and mode of payment of wages
- d) The Act does not cover those whose wage is **Rs.24,000/-** or more per month.
- e) The Act provides a worker with its duly right as covered under the Act.
- f) The Act empowers a worker to file a claim directly or through a Trade Union or through an Inspector, before with the Authority appointed under the Payment of Wages Act in case there is a delay in wages or in case of an unauthorized deduction.

## UNIT 9

### SMART TECHNOLOGY

The **Internet of Things (IOT)** refers to a system of interrelated, internet-connected objects that are able to collect and transfer data over a wireless network without human intervention.

**Concept of IOT:** The **Internet of things (IOT)** describes the network of physical objects— “things”— **IOT** devices are a part of the larger **concept** of home automation, which can include lighting, heating and air conditioning, media and security systems ...

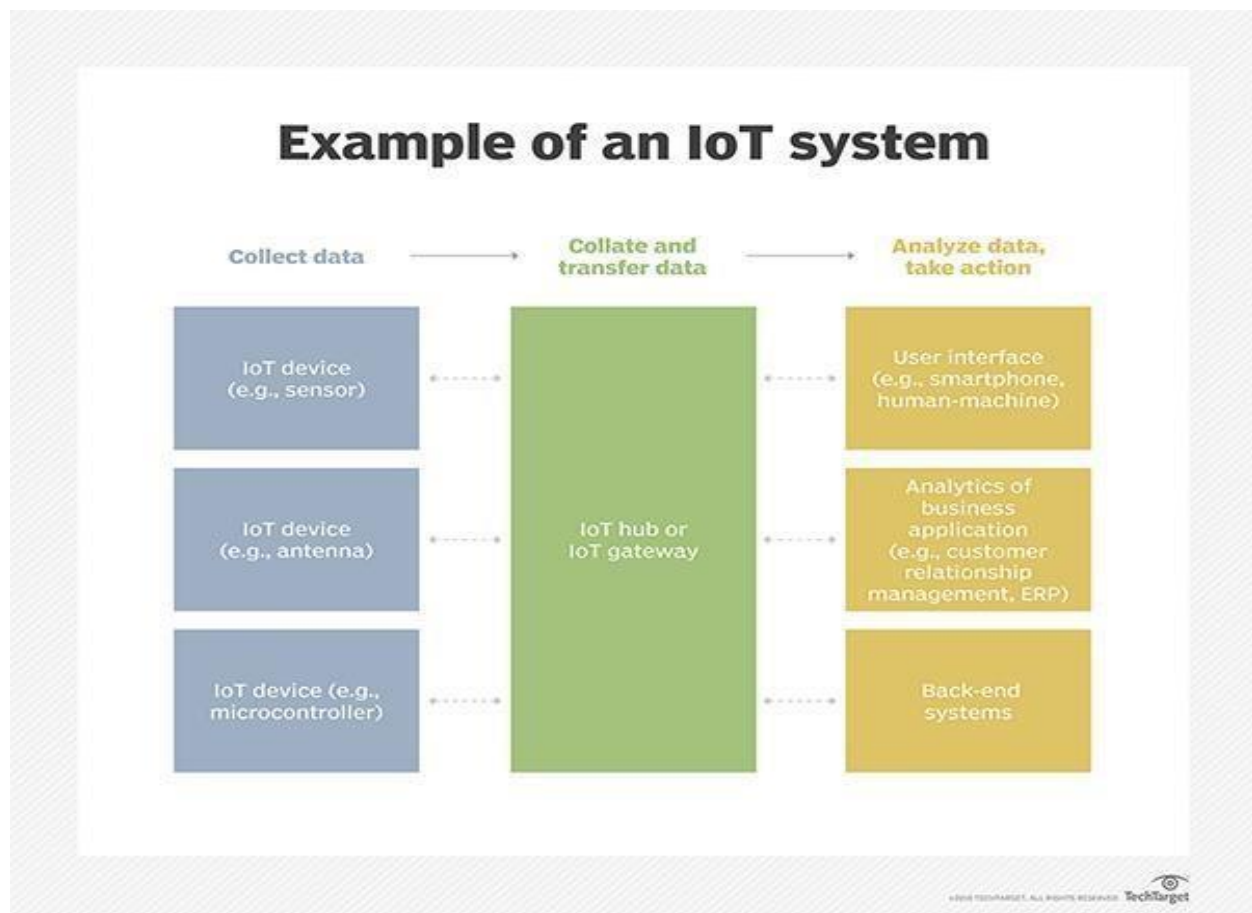
**In other words we can say that** The Internet of Things, or IOT, refers to the billions of physical devices around the world that are now connected to the internet, all collecting and sharing data. The Internet of Things is making the fabric of the world around us smarter and more responsive, merging the digital and physical universes.

#### **How IOT works**

An IOT ecosystem consists of web-enabled smart devices that use embedded systems, such as processors, sensors and communication hardware, to collect, send and act on data they acquire from their environments. IOT devices share the sensor data they collect by connecting to an IOT gateway or other edge device where data is either sent to the cloud to be analysed locally. Sometimes, these devices communicate with other related devices and act on the information they get from one another. The devices do most of the work without human intervention, although people can interact with the devices -- for instance, to set them up, give them instructions or access the data.

The connectivity, networking and communication protocols used with these web-enabled devices largely depend on the specific IOT applications deployed.

IoT can also make use of artificial intelligence (AI) and machine learning to aid in making data collecting processes easier and more dynamic.



## COMPONENTS OF IOT:

### 1. Smart devices and sensors – Device connectivity

Devices and sensors are the components of the device connectivity layer. These smart sensors are continuously collecting data from the environment and transmit the information to the next layer.

Latest techniques in the semiconductor technology is capable of producing micro smart sensors for various applications.

Common sensors are:

- Temperature sensors and thermostats
- Pressure sensors
- Humidity/Moisture level

- Light intensity detectors
- Moisture sensors
- Proximity detection

**2. Gateway:** IOT Gateway manages the bidirectional data traffic between different networks and protocols.

Another function of gateway is to translate different network protocols and make sure interoperability of the connected devices and sensors.

Gateways can be configured to perform pre-processing of the collected data from thousands of sensors locally before transmitting it to the next stage. In some scenarios, it would be necessary due to compatibility of TCP/IP protocol. IOT gateway offers certain level of security for the network and transmitted data with higher order encryption techniques. It acts as a middle layer between devices and cloud to protect the system from malicious attacks and unauthorized access.

### **3. Cloud:**

Internet of things creates massive data from devices, applications and users which has to be managed in an efficient way. IOT cloud offers tools to collect, process, manage and store huge amount of data in real time.

Industries and services can easily access these data remotely and make critical decisions when necessary. Basically, IOT cloud is a sophisticated high performance network of servers optimized to perform high speed data processing of billions of devices, traffic management and deliver accurate analytics. Distributed database management systems are one of the most important components of IOT cloud.

Cloud system integrates billions of devices, sensors, gateways, protocols, data storage and provides predictive analytics. Companies use these analytics data for improvement of products and services, preventive measures for certain steps and build their new business model accurately.

**4. Analytics:** Analytics is the process of converting analog data from billions of smart devices and sensors into useful insights which can be interpreted and used for detailed analysis. Smart analytics solutions are inevitable for IOT system for management and improvement of the entire system.

One of the major advantages of an efficient IOT system is real time smart analytics which helps engineers to find out irregularities in the collected data and act fast to prevent an undesired scenario. Service providers can prepare for further steps if the information is collected accurately at the right time.

### **5. User interface:**

User interfaces are the visible, tangible part of the IOT system which can be accessible by users. Designers will have to make sure a well designed user interface for minimum effort for users and encourage more interactions.

Modern technology offers much interactive design to ease complex tasks into simple touch panels controls.

Multicolour touch panels have replaced hard switches in our household appliances and the trend is increasing for almost every smart home devices.

### **CharacteristicsofIOT:**

#### **1. Connectivity**

In the case of IOT, the most important feature one can consider is connectivity. Without seamless communication among the interrelated components of the IOT ecosystems (i.e sensors, compute engines, data hubs, etc.) it is not possible to execute any proper business use . IOT devices can be connected over Radiowaves, Bluetooth, Wi-Fi, Li-Fi, etc. We can leverage various protocols of internet connectivity layers in order to maximize efficiency and establish generic connectivity across IOT ecosystems and Industry. There may be special cases where the IOT ecosystem is built on-premises or in an intranet

#### **2. Dynamic Nature**

For any IOT use case, the first and foremost step is to collecting and converting data in such a way that means business decisions can be made out of it. In this whole process, various components of IOT need to change their state dynamically. For example, the input of a temperature sensor will vary continuously based on weather conditions, locations, etc. IOT devices should be designed this keeping in mind.

#### **3. Safety**

One of the main features of the IOT ecosystem is security. In the whole flow of an IOT ecosystem, sensitive information is passed from endpoints to the analytics layer via connectivity components. While designing an IOT system we need to adhere to proper safety, security measures, and firewalls to keep the data away from misuse and manipulations. Compromising any component of an IOT ecosystem can eventually lead to failure of the whole pipeline.

**4. Integration:** IOT integrates various cross-domain models to enrich user experience. It also ensures proper trade-off between infrastructure and operational costs.

**5. Heterogeneity:** The devices in the IOT are heterogeneous as based on different hardware platforms and networks. They can interact with other devices or service platforms through different networks.

**6. Enormous scale:** The number of devices that need to be managed and that communicate with each other will be at least an order of magnitude larger than the devices connected to the current Internet.

## **7. Security:**

IOT devices are naturally vulnerable to security threats. As we gain efficiencies, novel experiences, and other benefits from the IOT, it would be a mistake to forget about security concerns associated with it. There is a high level of transparency and privacy issues with IOT. It is important to secure the endpoints, the networks, and the data that is transferred across all of it means creating a security paradigm.

### **Categories of IOT:**

IOT can be divided into 3 categories based on usage and clients base:

- **Consumer IOT** includes the connected devices such as smart cars, phones, watches, laptops, connected appliances, and entertainment systems.
- **Commercial IOT** includes things like inventory controls, device trackers, and connected medical devices.
- **Industrial IOT** covers such things as connected electric meters, wastewater systems, flow gauges, pipeline monitors, manufacturing robots, and other types of connected industrial devices and systems.

### **Applications of IOT: The following are the applications of IOT:**

1. **Smart Cities:** Smart cities will promote the use of technology, information and data to enhance and improve its infrastructure and services. This includes access to resources like water and electricity. Providing homes that are affordable to all, provision of proper education and health services, and increase IT connectivity.

#### **Characteristics of Smart City:**

A. Smart cities will promote the use of technology, information and data to enhance and improve its infrastructure and services. This includes access to resources like water and electricity. Providing homes that are affordable to all, provision of proper education and health services, and increase IT connectivity.

B. A large number of government services will be made more accessible to people. Services will be offered online and will provide more accountability, transparency and more involvement of the public. Formation

of E-groups will allow people to voice their opinions and receive feedback, monitor programs and activities with the help of cyber tour worksites.

C. An increase in access to public transportation and creative solutions such as smart parking, intelligent management, and integrated modal transport. Smart cities will be more pedestrian and cyclist friendly with key administrative services at shorter, walkable distances.

D. Smart cities will redevelop or develop unplanned and poorly planned areas such as slums, with a vision to make cities safer and less disaster-prone. With the use of video surveillance, criminal activity will be tracked, and drastic security measures will be taken to protect women, children, and senior citizens.

E. Urban heat effects will be reduced by creating and maintaining parks, playgrounds, and recreational spaces. Living spaces will be made to accommodate the growing population and also enhance its standard of living.

F. Infrastructure will be more sustainable and eco-friendly, by reducing the amount of waste generated and also through mindful consumption of natural resources.

- adequate water supply, assured electricity supply, sanitation, including solid waste management,
- efficient urban mobility and public transport,
- affordable housing, especially for the poor,
- robust IT connectivity and digitalization,
- good governance, especially e-Governance and citizen participation,
- sustainable environment,
- safety and security of citizens, particularly women, children and the elderly, and
- health and education.

**2. Smart Transportation:** Smart transportation, a key internet of things vertical application, refers to the integrated application of modern technologies and management strategies in transportation systems.

These technologies aim to provide innovative services relating to different modes of transport and traffic management and enable users to be better informed and make safer and 'smarter' use of transport networks.

Smart transportation includes the use of several technologies, from basic management systems such as car

navigation; traffic signal control systems; container management systems; automatic number plate recognition or speed cameras to monitor applications, such as security CCTV systems; and to more advanced applications that integrate live data and feedback from a number of other sources.

According to the Intelligent Transportation Society of America, IT technology makes it possible to:

- Use a navigation system to find the best route based on real-time conditions
- Alert drivers of potentially hazardous situations in time to avoid crashes
- Be guided to an empty parking space by a smart sign
- Ride a bus that turns traffic lights green on approach
- Detect and respond promptly to traffic incidents
- Reroute traffic in response to road conditions or weather emergencies
- Give travelers real-time traffic and weather reports
- Allow drivers to manage their fuel consumption
- Adjust speed limits and signal timing based on real-world conditions
- Improve freight tracking, inspection, safety and efficiency
- Make public transportation more convenient and reliable
- Monitor the structural integrity of bridges and other infrastructure

**3. Smart Home:** A **smart home** allows homeowners to control appliances, thermostats, lights, and other devices remotely using a smartphone or tablet through an internet connection. **Smart homes** can be set up through wireless or hardwired systems. **Smart home** technology provides homeowners with convenience and cost savings.

#### **Features of Smart Home:**

**Light Control:** As lighting is an integral part of a building. The user would be able to choose the time of activation, for example, in the home 7pm when it starts to get dark might be a sensible option. This could include a specific room in the home or all the rooms. In a voice controlled format the user can change the colour of the light along with switch on or switch off through Bluetooth headset.



**Security:** With the advancement of smart technology, it makes sense to include security features. The user would be able to control the arming and disarming of the alarm, as well as edit specific settings of the alarm, such as the key code. The user could also have the option to configure intrusion detection settings. This system would warn the security personnel or house owner of any windows or doors being forced open, through the use of electronic sensors that are connected to the system.

**Temperature:** The user would be able to control the heating and cooling of the home, through the use of both time and parameter-based functions. The user may choose for the heating to come on when outside conditions drop below a certain temperature, there would be heat-sensitive sensors placed outside to detect varying conditions.

**Appliances:** The power supply to all appliances in the home could be controlled using the smart system. In a large home this would be a very convenient feature because there may be a lot of electrical appliances that are left on standby, hence the system should contain a feature, which searches all power supply links in the home to determine where energy can be saved.

**Vehicle Detection:** When a vehicle approaches the driveway of a home, the system should be able to alert the homeowner. This is only possible if certain types of smart home technologies are used. It would work very well with a Bluetooth headset because the system can announce the arrival of the visitor to the homeowner.

**Entertainment:** For a fully capable smart home, entertainment features would be an innovative feature to include. The most widely used aspect of entertainment features is that the user can play his favourite or selected song at the time of requirement.

**4. Smart Healthcare:** Smart healthcare uses a new generation of information technologies, such as the internet of things (IoT), big data, cloud computing, and artificial intelligence, to transform the traditional medical system in an all-round way, making healthcare more efficient, more convenient, and more personalized.

In the healthcare, IoT plays a very important role in various applications. This criterion is divided into three phases, such as clinical care, remote monitoring and context awareness. During data collection, the risks of human error are reduced by means of automatic medical data collection method. This will improve the quality of the diagnosis and reduce the risk of human errors, who are involved in the collection or transmission of false information which is dangerous for the patients' health. There have been efforts for reviewing healthcare with different aspects. smart healthcare is defined by the technology that leads to better diagnostic tools, better treatment for patients, and devices that improve the quality of life for anyone

and everyone.” The key concept of smart health includes eHealth and mHealth services, electronic record management, smart home services and intelligent and connected medical devices.

**Ehealth:** As mentioned above, one of the key concepts for improving today's healthcare is eHealth, i.e. the usage of ICT in care. This is also how the World Health Organization defines the term: “eHealth is the use of information and communication technology (ICT) for health. Examples include treating patients, conducting research, educating the health workforce, tracking diseases and monitoring public health.”

**Mhealth:** The term mHealth is short for mobile health. This term has been defined by the WHO as “a component of eHealth”. Since there is no standardized definition of mHealth, the Global Observatory of eHealth (GOe) has determined *mHealth* as “medical and public health practices supported by mobile devices, such as mobile phones, patient monitoring devices, personal digital assistants (PDAs), and other wireless devices.” Mobile phones and other devices are used to support patients and improve healthcare. Besides using mobile phones to make calls and send text messages, mHealth also includes more complex features and applications such as general packet radio service (GPRS), third and fourth generation mobile telecommunications (3G and 4G systems), GPS and Bluetooth technology.

**Helping to Older people:** As life expectancy keeps increasing, and more and more countries are confronted with an ageing society, smart health has to be applied to healthcare of older adults as well. Ambient Assisted Living, short AAL, is one new approach that aims at helping older people live as independently as possible.

**5. Smart Industry:** Smart Industry stands for radical digitalisation, connecting products, machines and people, and the use of new production technology ..... The optimisation of production through the application of ICT and new production technologies like 3D printing makes manufacturing more efficient, cheaper and boosts quality.

#### **Features:**

**Security and safety:** Security and safety for Industry includes protecting people from machinery-related hazards (safety) as well as the protection of production facilities and corporate IT from attacks and faults from the surrounding environment (security). This involves securing sensitive data as well as the prevention of intentional and unintentional malfunctions.

**Digital life-cycle Management:** The comprehensive networking of all automation components, machines, processes and product data — from development and production to recycling — decreases development time and therefore development costs, for both completely new smart manufacturing lines and upgrades to existing platforms. In addition, this also ensures the application-oriented design of all components.

**Fast integration and flexible configuration:** With Plug and Produce, people, machines, processes and the flow of goods are networked together on an ad hoc basis. Software tools simplify multiple smart manufacturing machine steps: commissioning, integration and (re)configuration, as well as preventive maintenance of all components, modules and machines.

**Distributed Intelligence:** intelligent automation components with integrated software perform their tasks independently, according to the specifications of higher-level systems, and make autonomous decisions.

**People as key players:** Digital assistant functions and intelligent workplace design support people with production-related information and improved ergonomics, thereby increasing the level of individualisation of the work environment.

**Open standards:** Open Standards that extend across manufacturers and are platform-independent form the basis for horizontal and vertical integration and thus for the seamless exchange of information in value-creation networks.

**6. Smart Agriculture:** The term **smart agriculture** refers to the usage of technologies like Internet of Things, sensors, location systems, robots and artificial intelligence on your farm. **The ultimate goal is increasing the quality and quantity of the crops while optimizing the human labor used.**

**Technology used in smart agriculture is given below:**

- **Irrigation control and precise plant nutrition**
- **Climate management and control in greenhouses**
- **Sensors**—for the soil, water, light, moisture, for temperature management
- **Location systems**—GPS, satellite, etc
- **Communications systems**—based on mobile connection, Lora Wan, etc
- **Robots**

**Features:**

**Pump Control** – remote and automated turn-off control of most electric and diesel irrigation well pumps used on farms today.

**Pump Monitoring**—the essential information a farmer needs to know about the operation condition of his well pumps.

**Pump Automation Features**—easy-to-use, easy-to-understand automation features that have a tremendous positive impact on field operations like measuring the moisture level, water level.

**Smart Farming** : It is an emerging concept that refers to managing **farms** using modern Information and Communication Technologies to increase the quantity and quality of products while optimizing the human labour required.

- The goal of **smart agriculture** research is to ground a decision making support system for **farm** management.... By providing them with the benefits of technological advancements, **smart agriculture** aims to reduce the heavy workload of the **farm** workers, hence improving their quality of life.
- Through IoT it increases the efficiency and helps the farmer to maximise crop production.
- Reduce emission from fertilizer manufacturing
- Through IOT the farmers can easily find out how much pesticide and water are required for the development of crops.

**7. Smart Energy Management:** **Smart energy management systems** allow the coordination among sensors and lights to automatically keep lights off when not required.. The **system** uses a combination of technologies to enable data-driven lighting automation. **Smart energy management** is a way to understand **smart energy** and how the systems work most efficiently. Some **smart energy** systems are basic like **energy** saving air conditioners or using **smart** appliances.

**Features:**

- Smart energy management will help you diagnose potential energy losses and existing problems in your residential, business or commercial premises.
- An **energy management feature** uses smart technology to identify hours of large energy usage, wasted electricity,.
- It turns off appliances, lights, and devices when they are not being used.
- **Smart Energy Management** can truly help the society to save money and reduce the impact on the environment.

- it makes easier for consumers to monitor their energy consumption and allowing them to make effective changes.
- Reduce cost: EMS allow the consumer to significantly reduce utility, including heating, cooling, lighting, and water.
- Improve staff well-being: Both consistent lighting and temperature control through smart energy management system, it will create energy-efficient workplaces for all, increasing employee happiness and performance.
- Improve facility performance: Not only EMS improve employee performance, but also it improves building performance. By reducing energy waste and operating costs, we can save more money and that can be utilised in other use like business, marketing, promotions, salaries, and product spends.