

DEPARTMENT OF MECHANICAL ENGINEERING.
GOVT. POLYTECHNIC BHADRAK

COURSE FILE

SUBJECT: Entrepreneurship and Management & Smart Technology
NAME OF FACULTY: Sri Debiprasad Dash

Entrepreneurship and Management & Smart Technology

Topicwise Distribution periods

SINo.	Topics	No. of periods as per Syllabus	No. of period actually needed	Expected mark	
1	Entrepreneurship	10	11	07	12
2	Market Survey and Opportunity Identification (Business Planning)	08	05	06	15
3	Project report Preparation	04	04		07
4	Management Principles	05	05	07	13
5	Functional Areas of Management	10	12		07
6	Leadership and Motivation	06	05		07
7	Work Culture, TQM & Safety	05	05		07
8	Legislation	06	06		06
9	Smart Technology	06	06		06
	Total	60	63	20	80

GOVT.POLYTECHNIC,BHADRAK

Entrepreneurship and Management & Smart Technology (Th-01)

(As per the 2019-20 syllabus of the
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CHAPTER 1 Entrepreneurship

Concept of Entrepreneurship

Entrepreneurship is the ability and readiness to develop, organize and run a business enterprise, along with any of its uncertainties in order to make a profit. The most prominent example of entrepreneurship is the starting of new businesses.



WHAT IS ENTREPRENEURSHIP?

Entrepreneurship is the process of identifying, creating, and pursuing opportunities to develop and bring innovative ideas, products, services, or businesses to the market. It involves taking initiative, assuming risks, and organizing resources to transform innovative concepts into reality.

Meaning of Entrepreneur

An entrepreneur is an individual who identifies opportunities, takes the initiative, and assumes the risks involved in starting, managing, and growing a business or venture. Entrepreneurs are driven by a vision to create something new or innovate in various fields, such as technology, products, services, or social initiatives. They play a crucial role in driving economic growth, job creation, and fostering innovation in society.

What are the 4 Types of Entrepreneurships?

It is classified into the following types:

Small Business Entrepreneurship-

These businesses are grocery store, travel agent, consultant, carpenter, plumber, electrician, etc. Small businesses are typically characterized by having a limited number of employees, lower revenue and profit levels compared to larger enterprises, and a focus on serving a local or niche market. Small business entrepreneurs are individuals who take the initiative to create and run these small enterprises. They fund their business by taking small business loans or loans from friends and family.

ScalableStartupEntrepreneurship-

Scalable startup entrepreneurship refers to the process of launching and growing a startup with the potential to achieve rapid and significant expansion. In this context, scalability refers to the ability of a business to handle a growing amount of work, sales, and customers efficiently, without proportional increases in resources and costs. The goal of scalable startups is to achieve exponential growth, often fueled by technology, innovation, and the ability to reach a large customer base.

LargeCompanyEntrepreneurship-

These huge companies have defined lifecycle. Most of these companies grow and sustain by offering new and innovative products that revolve around their main products. The change in technology, customer preferences, new competition, etc., build pressure for large companies to create an innovative product and sell it to the new set of customers in the new market. To cope with the rapid technological changes, the existing organization either buy innovation enterprises or attempt to construct the product internally.

SocialEntrepreneurship-

This type of entrepreneurship focuses on producing product and services that resolve social needs and problems. Their only motto and goal is to work for society and not make any profits.

One prominent example of social entrepreneurship in India is the "Araku Coffee" initiative. Araku Coffee is a social enterprise that aims to empower tribal farmers in the Araku Valley of Andhra Pradesh and promote sustainable agriculture practices.

RiteshAgarwal-OYORooms

He dropped out of college and founded Oravel Stays, which later evolved into OYO Rooms in 2013. OYO quickly gained popularity as a tech-enabled platform that provided standardized and affordable hotel rooms to travellers in India.

1. Innovation:

Entrepreneurship often involves introducing new and innovative ideas, products, or services to the market. Entrepreneurs are constantly seeking ways to solve problems, meet unmet needs, or improve existing offerings.

The innovations introduced by Ritesh Agarwal and OYO Rooms disrupted the traditional budget hotel industry and democratized access to standardized and affordable accommodations. OYO's success has inspired similar startups and encouraged existing players in the hospitality sector to rethink their business models and embrace technology-driven solutions.

Standardization of Budget Hotels: OYO Rooms implemented a unique business model that focused on standardizing budget hotels. They worked closely with hotel owners to ensure that certain quality standards, amenities, and services were maintained across all OYO properties. This standardization provided travelers with a consistent and reliable experience, addressing a common issue in the budget hotel segment.

Aggregation and Online Booking: OYO Rooms leveraged technology to aggregate a network of budget hotels under its brand. By creating an online platform and mobile app, they made it convenient for travelers to search, book, and pay for accommodations with ease. This approach significantly simplified the hotel booking process, making it more accessible to a wider audience.

Dynamic Pricing and Discounts: OYO introduced dynamic pricing, allowing room rates to adjust based on factors like demand, seasonal variations, and events. This innovative pricing strategy helped optimize hotel

occupancy and revenue while offering travelers competitive rates. Additionally, OYO provided attractive discounts and offers, making budget travel more affordable.

User Reviews and Ratings: OYO Rooms incorporated user reviews and ratings into their platform, enabling travellers to share their experiences and feedback after their stays. This feedback system helped potential customers make informed decisions about hotel bookings and motivated hotel owners to maintain service quality.

Tech-Enabled Operations: OYO Rooms integrated technology into various aspects of their operations. hotel owners received technology support and management tools to streamline their operations and

2. **Risk-taking:** Entrepreneurs are willing to take calculated risks, as starting a new venture involves uncertainty and potential challenges. They are prepared to face failure and learn from it, understanding that setbacks are part of the journey

a budget hotel chain, in 2013. He took the risk of standardizing and aggregating budget hotels, aiming to provide a consistent and reliable experience to travellers. Despite challenges in scaling the business and managing quality, OYO became one of India's largest hotel chains.

3. **Opportunity Recognition:** Identifying opportunities is a crucial aspect of entrepreneurship. Entrepreneurs have a keen eye for spotting gaps in the market or emerging trends and then capitalizing on these opportunities.

Identifying a Niche: Ritesh Agarwal recognized the untapped potential in the budget hotel segment. While there were plenty of luxury and mid-range hotels available, the budget hotel market lacked standardization and quality assurance. Ritesh saw an opportunity to address this gap and provide budget travelers with a reliable and consistent accommodation option.

Unmet Customer Needs: Ritesh identified the pain points of budget travelers who often faced challenges like uncertain quality, lack of transparency, and difficulty in finding affordable accommodations. By standardizing budget hotels and offering a seamless online booking experience, OYO Rooms addressed these customer needs effectively.

Market Potential in India:

Partnering with Hotel Owners:

Falguni Nayar-Nykaa:

Falguni Nayar founded Nykaa, an e-commerce platform for beauty and cosmetic products, in 2012. She took a risk by focusing on the online sale of beauty products in a market where offline retail dominated. Nykaa's success demonstrates the importance of identifying niche markets and taking calculated risks.

A. Innovation:

Online Beauty Retail: Nykaa was one of the early adopters of the online beauty retail model in India. Falguni recognized the potential of e-commerce for the beauty industry and created a one-stop online destination for a wide range of beauty and cosmetic products. This innovation provided customers with the convenience of browsing and purchasing beauty products from the comfort of their homes.

Multi-Brand and Exclusive Products: Nykaa offered a diverse selection of beauty products from various brands, making it a comprehensive platform for beauty enthusiasts. Additionally, Nykaa introduced its own range of exclusive beauty products under the brand name "Nykaa Beauty," catering to specific customer preferences and trends.

Beauty Content and Community: Nykaa invested in creating valuable content related to beauty, skincare, makeup tutorials, and product reviews. This content marketing strategy not only educated customers but also built a community of beauty enthusiasts, fostering engagement and brand loyalty.

Virtual Try-On: Nykaa introduced the "Virtual Try-On" feature, allowing customers to virtually try makeup products before making a purchase. This innovation leveraged augmented reality technology to enhance the online shopping experience and helped customers make informed choices.

Nykaa Network: Nykaa introduced the Nykaa Network, an influencer marketing program that collaborated with beauty influencers and content creators. This initiative helped promote Nykaa products and brand across digital platforms and reach a wider audience.

1. Risk-taking:

Entering a Competitive Market: When Falguni Nayar founded Nykaa in 2012, the beauty and cosmetic industry in India was already competitive with established players. Taking on established brick-and-mortar retailers and other e-commerce platforms required boldness and conviction in her vision.

Online-Only Model: In the early 2010s, the concept of online shopping was still relatively new in India, and many consumers were skeptical about buying beauty products online without physically experiencing them. Falguni took a risk by adopting an online-only model for Nykaa, believing in the growth potential of e-commerce.

Multi-Brand Retail: Nykaa's multi-brand retail approach involved partnering with numerous beauty brands to offer a wide range of products. This meant managing relationships with various suppliers and brands, as well as dealing with potential inventory challenges and financial risks.

Investment in Technology and Content: Falguni recognized the importance of technology and content marketing to enhance the online shopping experience for beauty enthusiasts. Investing in technology, including the development of the "Virtual Try-On" feature, and creating engaging beauty content involved financial risk.

Launching Nykaa's Private Label: Introducing Nykaa's private label involved substantial investment in research, development, and manufacturing. Falguni took a risk by launching her own beauty products under the Nykaa Beauty brand, competing with established brands in the market.

Physical Retail Expansion: After establishing Nykaa as an online beauty platform, Falguni took the risk of expanding into brick-and-mortar retail by opening physical stores. This required significant capital investment and the ability to adapt to a different business model.

Need of Entrepreneurship:

Economic Growth and Job Creation: Entrepreneurs are key drivers of economic growth as they create new businesses and industries. They introduce innovative products, services, and technologies that increase productivity, efficiency, and competitiveness. Entrepreneurial ventures generate jobs

opportunities, reducing unemployment rates and improving overall economic conditions.

Elon Musk - CEO of Tesla and SpaceX: Elon Musk is known for electric vehicle (EV) and aerospace industries. Tesla's success in developing and popularizing electric cars has not only contributed to economic growth but also led to job creation **in the automotive and clean energy sectors.**

Brian Chesky, Joe Gebbia, and Nathan Blecharczyk - Co-founders of Airbnb: Airbnb's founders revolutionized the hospitality industry by creating a platform that allows individuals to rent out their properties to travelers. This sharing economy model has led to economic growth in the travel and accommodation sectors and provided income opportunities for hosts.

Innovation Entrepreneurs are at the forefront of innovation. They identify unmet needs, gaps in the market, and emerging trends, leading to the development of groundbreaking products and technologies. This constant innovation benefits society by improving living standards, solving societal challenges, and enhancing various industries.

Steve Jobs - Co-founder of Apple: Steve Jobs is renowned for his revolutionary innovations at Apple. He played a key role in developing products like the Macintosh computer, iPod, iPhone, and iPad, which redefined their respective industries and set new standards for design and user experience.

Rajat Jain - Co-founder of Naukri.com: Rajat Jain co-founded Naukri.com, one of India's leading job search portals. Naukri.com's innovative platform revolutionized the way job seekers and employers connect in the Indian job market.

Practo: Created a platform for online doctor appointments, healthcare information, and medical records.

MUrgency: Developed a mobile app to connect users with medical professionals during emergencies.

AgroStar: Offers mobile-based solutions for farmers, including agricultural products and expert advice.

Skymet Weather Services: Provides hyper-local weather forecasts for farmers.

Paytm: Revolutionized digital payments and mobile commerce in India.

PhonePe: Introduced a UPI-based digital payments platform.

Razorpay: Simplified online payment processing for businesses.

Byju's: Created a popular online learning platform offering interactive educational content.

Unacademy: Provides online courses and live classes for exam preparation.

Vedantu: Offers live online tutoring and personalized learning.

Rapido: Launched a bike-sharing platform for short-distance commuting.

Ather Energy: Designed and manufactured electric scooters.

Safecity: Crowdsources data to map incidents of sexual harassment and violence, promoting safer public spaces.

1. Impact on Society and Community Development-

Entrepreneurship can address societal issues through social entrepreneurship. Social entrepreneurs create ventures with a primary focus on making a positive impact on society or the environment. They work towards sustainability and addressing pressing challenges like poverty, healthcare, education, and environmental conservation.

Organizations like **TOMS Shoes** provide one pair of shoes to a person in need for every pair sold, addressing footwear shortages in impoverished communities.

Entrepreneurs in the edtech sector have developed platforms that make education accessible to underprivileged communities. Platforms like Khan Academy and BYJU'S offer free or affordable online learning resources, enabling students in remote areas to access quality education.

2. Increase Standard of Living-

Standard of living, in a way, is directly proportionate to employment. Because employment earns people remuneration, they spend their money on purchasing goods and services. It improves their standard of living. Hence, the consumption rate in an economy goes up, and so does the production rate. It eventually increases basic salaries, and people become able to consume higher quality goods and services. Entrepreneurship helps to improve the standard of living of a person by increasing the income. The standard of living means, increase in the consumption of various goods and services by a household for a particular period.

Mobile Banking and Digital Payments: Entrepreneurs in the fintech sector have introduced mobile banking apps and digital payment platforms that have made financial transactions more accessible and convenient for millions of people. Examples include Paytm in India and M-Pesa in Kenya, which have transformed the way people manage their finances and conduct transactions.

E-commerce Platforms: Entrepreneurs in the e-commerce space have created platforms like Amazon and Alibaba, which offer a vast range of products and services, enabling consumers to shop from the comfort of their homes and access a wider selection of goods at competitive prices.

Telemedicine and Remote Healthcare: Entrepreneurs in the healthcare industry have developed telemedicine platforms that allow patients to consult with doctors remotely, increasing access to medical care, especially in rural and underserved areas.

Online Education Platforms: EdTech entrepreneurs have created online learning platforms like Coursera, Udacity, and Khan Academy, offering a wide range of educational courses and resources to learners worldwide, democratizing education and allowing people to upskill from anywhere.

Renewable Energy Solutions: Entrepreneurs in the renewable energy sector have developed solar power solutions and affordable clean energy alternatives, reducing energy costs and environmental impact while providing electricity to remote areas. Companies like Light and Solar Home are examples of such ventures.

Waste Management Solutions: Entrepreneurs in the waste management industry have created innovative recycling and waste disposal solutions, promoting sustainable practices and reducing environmental pollution. Companies like Terracycle and Rubicon are examples of such initiatives.

3. Support research and development-

Research and Development are the advancements of innovation. When an

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

Biocon: Founded by Kiran Mazumdar-Shaw, Biocon is a biopharmaceutical company that focuses on R&D in areas like biologics and biosimilars, contributing to advancements in healthcare and medicine.

Tata Consultancy Services (TCS): TCS invests significantly in R&D to develop cutting-edge software solutions, digital platforms, and technologies that drive the IT sector's growth.

TeamIndus: An aerospace company that has participated in Google Lunar XPRIZE and focuses on developing space technology and lunar exploration solutions.

Forus Health: Engaged in R&D for affordable medical devices, including innovative retinal imaging technology for eye care.

Nanoclean Global: Developed nanotechnology-based water and air purifiers to address pollution and improve public health.

Uber - Travis Kalanick and Garrett Camp: Uber, co-founded by Travis Kalanick and Garrett Camp, has continuously expanded its services beyond ride-hailing. The company introduced Uber Eats for food delivery and Uber Freight for logistics, showcasing a commitment to diversification and innovation.

Ola Cabs - Bhavish Aggarwal: Ola Cabs, founded by Bhavish Aggarwal, began as a ride-hailing service and expanded into other transportation verticals, such as Ola Bike and Ola Electric. The company constantly innovates its app and services to provide seamless and efficient experience for users and drivers.

Facebook-Mark Zuckerberg: Mark Zuckerberg's Facebook has evolved significantly since its inception, with continuous updates and additions to the platform. From the introduction of features like News Feed and Messenger to acquisitions like Instagram and WhatsApp, Facebook continues to innovate to enhance user engagement.

Characteristics of Entrepreneurship:

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

- **Innovation-** It should be highly innovative to generate new ideas, start a company and earn profits out of it. Change can be the launching of a new product that is new to the market or a process that does the same thing but in a more efficient and economical way.
- **Ability to take risk-** Starting any new venture involves a considerable amount of failure risk. Therefore, an entrepreneur needs to be courageous and able to evaluate and take risks, which is an essential part of being an entrepreneur.
- **Visionary and Leadership quality-** To be successful, the entrepreneur should have a clear vision of his new venture. However, to turn the idea into reality a lot of resources and employees are required. Here, leadership quality is paramount because leaders impart and guide their employees towards the right path of success.
- **Open-Minded-** In a business, every circumstance can be an opportunity and used for the benefit of a company. For example, Paytm recognised the gravity of demonetization and acknowledged the need for online transactions would be more, so it utilised the situation and expanded massively during this time.

- **Flexible-** An entrepreneur should be flexible and open to change according to the situation. To be on the top, a business person should be equipped to embrace change in a product and service, as and when needed.
- **Know your Product-** A company owner should know the product offerings and be aware of the latest trend in the market. It is essential to know if the available product or service meets the demands of the current market, or whether it is time to tweak it a little. Being able to be accountable and then alter as needed is a vital part of entrepreneurship

Examples of failures due to Lack of Innovation

1. **HMT Watches:** Hindustan Machine Tools (HMT) was a well-known Indian watch brand that dominated the market in the 1980s. However, the company failed to innovate and adapt to changing consumer preferences and the influx of foreign watch brands. With the advent of digital watches and modern designs, HMT Watches lost its market share and eventually shut down its watch manufacturing operations in 2016
2. **Kodak India:** Kodak was a renowned name in the photography industry worldwide, including in India. However, with the emergence of digital photography and smartphones, Kodak failed to innovate and adapt to the shift from film to digital media. The company's traditional film-based business model became obsolete, leading to its decline and eventual bankruptcy.
3. **Micromax:** Micromax was once a leading Indian smartphone manufacturer, known for its affordable devices. However, the company faced stiff competition from Chinese smartphone brands offering more innovative and feature-rich products. Micromax's failure to invest in research and development and offer differentiated features resulted in a decline in its market share and relevance.
4. **Nokia:** Nokia was once a leading mobile phone manufacturer, known for its durable and reliable devices. However, the company failed to keep up with the rapid advancements in smartphones and touch-screen technology. Nokia's lack of innovation in the smartphone market caused it to lose significant market share to competitors like Apple and Samsung.
5. **MySpace:** MySpace was one of the first popular social networking platforms, boasting millions of users. However, the company failed to innovate and adapt to the changing preferences of its users, particularly when Facebook emerged as a more user-friendly and feature-rich platform. MySpace's failure to evolve led to a significant decline in its user base.

Examples of Ability to take a risk

1. **Drew Houston: Dropbox**

If you're one of the millions who use Dropbox, you can thank Drew Houston for taking some big risks. Houston was an MIT student tired of hauling around USB sticks and emailing himself documents to share information across computers. After showing up unannounced at the coveted startup hub, YCombinator, and being sent home dejected, Houston went on a mission to secure a co-founder and properly apply to the YCombinator. Houston started Dropbox in 2007 and a mere four years later, Dropbox caught the attention of Apple co-founder Steve Jobs who personally let Houston know that he was coming to take over the Dropbox market with his iCloud service. Houston didn't sell to Apple and instead built a company now valued at more than \$1 billion.

Examples of Visionary and Leadership quality

1. **Kingfisher Airlines (Vijay Mallya):** Kingfisher Airlines was founded by entrepreneur Vijay Mallya with the vision of creating a luxury airline experience. However, the venture faced numerous challenges, including financial mismanagement, mounting debt, and operational issues. The lack of effective leadership in managing these challenges led to the airline's eventual shutdown.
2. **Sahara India Pariwar (Subrata Roy):** Sahara India Pariwar faced challenges due to the leadership style of its founder, Subrata Roy. His extravagant vision and aggressive expansion strategies resulted in financial difficulties and regulatory issues for the conglomerate. The lack of proper corporate governance and visionary leadership led to legal battles and a loss of investor confidence.

Examples of Entrepreneurship revived due to Flexible

1. **Netflix:** Netflix originally started as a DVD rental-by-mail service. However, the company recognized the changing landscape of media consumption and the rise of online streaming. With great flexibility, Netflix shifted its focus to digital streaming, offering a vast library of movies and TV shows on-demand. This shift allowed them to become a dominant player in the streaming industry and revolutionize the way people watch entertainment content.
2. **Apple Inc.:** In the late 1990s, Apple was facing significant challenges and declining market share. When Steve Jobs returned as CEO, he brought a flexible approach to the company's product line. Under his leadership, Apple shifted its focus from just computers to a broader range of consumer electronics, including the iPod, iPhone, and iPad. This shift to a more diverse and innovative product lineup revitalized Apple and made it one of the most valuable companies in the world.
3. **Marvel Studios:** Before its acquisition by Disney, Marvel Studios faced financial struggles and declining comic book sales. The studio embraced flexibility by taking control of its own film productions, starting with the release of "Iron Man" in 2008. Marvel Studios shifted its focus to creating a shared cinematic universe and producing high-quality superhero films. This flexible approach led to immense success, with the Marvel Cinematic Universe becoming a global phenomenon.
4. **Domino's Pizza:** Domino's Pizza faced declining sales and a negative reputation for its pizza quality in the early 2000s. The company showed flexibility by listening to customer feedback and acknowledging its shortcomings. Domino's initiated a "turnaround" campaign, where they openly admitted their pizza needed improvement. With a commitment to change and innovation, they revamped their menu and pizza recipes, leading to a significant revival in their sales and customer satisfaction.

Types of Entrepreneurs

1. Small Business Entrepreneurs

These are usual business owners who innovate and take more than normal risks. Often, these entrepreneurs do not disrupt the entire industry, but they do make a name for themselves and their businesses.

They are different from usual business owners considering their innovative mindset and risk-taking attitude.

2. Scalable Startup Entrepreneurs

A startup is a business structure powered by disruptive innovation, high scalability, and extreme uncertainty.

Entrepreneurs behind startups are true disruptors that often change the traditional industries. These entrepreneurs are highly innovative but often bear a very high financial risk as they are accountable to investors for millions of dollars invested.

3. Large Company Entrepreneurs

Also called intrapreneurs, these entrepreneurs actually perform the job of an entrepreneur within a company. Precisely—

An intrapreneur is an employee with entrepreneurship skills who is given the responsibility and authority to use those skills to develop a new product without incurring the risks associated with it.

That is, if the product fails, the company will take care of it.

Intrapreneurs are half entrepreneurs – they do innovate and develop new offerings, businesses, initiatives, etc. but they get salaries in return, and they do not bear all the risks of failures.

4. Social Entrepreneurs

Social entrepreneurs are individuals who innovate and develop an offering, entity, or business to help solve a social problem. They are driven by a social objective and are not money-minded.

Functions of an Entrepreneur—

An entrepreneur frequently must wear many hats. He must perceive opportunity, plan, organize resources, and oversee production, marketing, and liaison with officials. Most importantly he must innovate and bear risk.

The main functions of an entrepreneur are

1. Decision Making 2. Management Control 3. Division of Income 4. Risk-Taking and Uncertainty-Bearing 5. Innovation.

1. Decision Making

The primary task of an entrepreneur is to decide the policy of production. An entrepreneur is to determine what to produce, how much to produce, how to produce, where to produce, how to sell and so forth. Moreover, he is to decide the scale of production and the proportion in which he combines the different factors he employs. In brief, he is to make vital business decisions relating to the purchase of productive factors and to the sale of the finished goods or services.

2. Management Control

Earlier it used to consider the management control is one of the chief functions of the entrepreneur. Management and control of the business are conducted by the entrepreneur himself. So, the Entrepreneur must possess a high degree of management ability to select the right type of person to work with him.

But, the importance of this function has declined, as business nowadays is managed more and more by paid managers.

3. Division of Income

The next major function of the entrepreneur is to make necessary arrangement for the division of total income among the different factors of production employed by him. Even if there is a loss in the business, he is to pay rent, interest, wages, and other contractual incomes out of the realized sale proceeds.

4. Risk-Taking

It is the most important and specific function of an entrepreneur. Every business involves some amount of risk.

The production of goods and services is always related to future demands. The future demand is uncertain and unpredictable, because it is influenced by the changes in fashion or taste and liking of the consumers.

The price structure, value of money, climatic conditions and government policies are some other important factors that affect the demand of a commodity. All these factors are variable and as such an exact estimation of future demand is a difficult exercise to work on:

Since this unpredictable task is undertaken by the entrepreneur, he has to bear the risk. If his estimations prove to be wrong, then in the entire business sphere, no other factor of production shares the loss incurred by the entrepreneur.

Broadly, there are two kinds of risk which he must face. Firstly, there are some risks, such as risk of fire, loss of goods in transit, theft, etc., which can be insured against. These are known as measurable and insurable risks. Secondly, some risks, however, cannot be insured against because their probability cannot be calculated accurately. These constitute what is called uncertainty (e.g., competitive risk, technical risk, etc.).

5. Innovation.

Innovation is one of the most important functions of an entrepreneur. An entrepreneur uses information, knowledge, and intuition to come up with new products, new methods of reducing costs of a product, improvement in design or function of a product, discovering new markets or new ways of organization of industry. Through innovation, an entrepreneur converts a material into a resource or combines existing resources into new and more productive configurations.

It is the creativity of an entrepreneur that results in invention (creation of new knowledge) and innovation (application of knowledge to create the new products, services, or processes).

Barriers in entrepreneurship

1. Finances

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

2. Fear of Failure

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

3. Inadequate Market Experience

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

4. Human Resource Problem

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

5. Corrupt and unsupportive business environment

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

Complex and cumbersome regulations, licensing requirements, and compliance procedures can create barriers for entrepreneurs, especially in highly regulated industries.

6. Lack of Capacity

Even if there are opportunities present to the aspiring entrepreneurs, there is a lack of capacity in some of them to embrace the opportunities with open arms. The reason can vary from lack of knowledge, lack of education, lack of willingness, lack of strategic knowledge, and cultural hindrances among others. But the factor of motivation and zeal gets missing.

To start a new business venture amidst all the risks and market-related issues, it requires a lot of hard work, passion, and high capacity to handle all of it.

7. Lack of Practical knowledge

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

8. Non-strategic Planning

Having inadequate planning regarding strategies can also create a great barrier in the path of success having a long-term vision and plan. Bad strategies and planning may lead to the failure of the business or can cause a huge loss to the business. It is the prime reason why most entrepreneurs give up in the first year of business operation.

9. Lack of Motivation

The biggest motivation for any business is Money. When an entrepreneur starts a business then it takes some time to make the market value of the business. During this period the profit earned by the business is not so high which may reduce the motivation of the entrepreneur as well as of the employees of the organization. Other than this, failure of a project can also affect the motivation of the employees and the owner. In such cases, it is a must for the whole organization to have some patience and be motivated to achieve future growth and profit.

10. Few Opportunities

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

Entrepreneurs' vs Managers

An **entrepreneur** is a person with the skills, ideas, and courage to take risks to pursue a business idea. A **manager** is a person who manages the functions and operations of an organization. The significant difference between an entrepreneur and a manager is their role in an organization.

An entrepreneur owns a company, while a manager is the company employee.

An entrepreneur is a risk taker who takes financial risks for the enterprise. A manager does not take risks and tries to maintain the status quo of the enterprise.

Who is an Entrepreneur?

An entrepreneur is an individual who identifies opportunities, takes the initiative, and assumes the risks involved in starting, managing, and growing a business or venture. Entrepreneurs are driven by a vision to create something new or innovate in various fields, such as technology, products, services, or social initiatives. They play a crucial role in driving economic growth, job creation, and fostering innovation in society.

Who is a Manager?

A manager, on the other hand, is not an owner of an enterprise. Instead, he is the one that is responsible for the management and administration of a group of people or a department of the organization. His day-to-day job is to manage his employees and ensure the organization runs smoothly.

Entrepreneur vs Manager

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

Difference between Entrepreneur and Manager

1. Role and Origin:

Entrepreneur: An entrepreneur is the initiator or founder of a business venture. They take the risk to start a new business or launch a new product/service, identifying opportunities and pursuing innovative ideas.

Manager: A manager is someone who oversees the day-to-day operations of an existing business or organization. They are responsible for implementing established strategies and managing resources to achieve specific goals.

2. Risk-Taking:

Entrepreneur: Entrepreneurs are inherently risk-takers. They are willing to invest time, money, and effort into new ventures with the hope of achieving substantial returns. They bear the risk of potential business failure.

Manager: Managers, while making decisions, tend to be more risk-averse. Their primary concern is to ensure the stability and efficiency of the organization and minimize risks that could disrupt the established operations.

3. Vision and Creativity:

Entrepreneur: Entrepreneurs are visionary and creative. They have a strong imagination and are often driven by a desire to create something new or solve a problem in a unique way.

Manager: Managers typically focus on executing existing strategies and optimizing processes within the established framework. While they may have innovative ideas, their main role is to implement and manage existing plans.

4. Decision-Making:

Entrepreneur: Entrepreneurs make strategic decisions for the overall direction of the business. They set long-term goals, identify new markets, and determine the company's growth trajectory.

Manager: Managers make operational decisions. They implement policies, allocate resources, and ensure day-to-day tasks are completed efficiently to achieve the organization's objectives.

5. Flexibility and Adaptability:

Entrepreneur: Entrepreneurs need to be adaptable to changing circumstances and be able to pivot quickly when faced with challenges or new opportunities.

Manager: While managers also require some level of adaptability, they typically operate within a more structured framework and established business model.

6. TimeHorizon:

Entrepreneur: Entrepreneurs often have a longer time horizon for their ventures. They may be willing to endure initial losses or lower profits in the short term to achieve significant growth and success in the future.

Manager: Managers' focus is on meeting short to medium-term goals and delivering consistent results.

7. Growth vs. Stability:

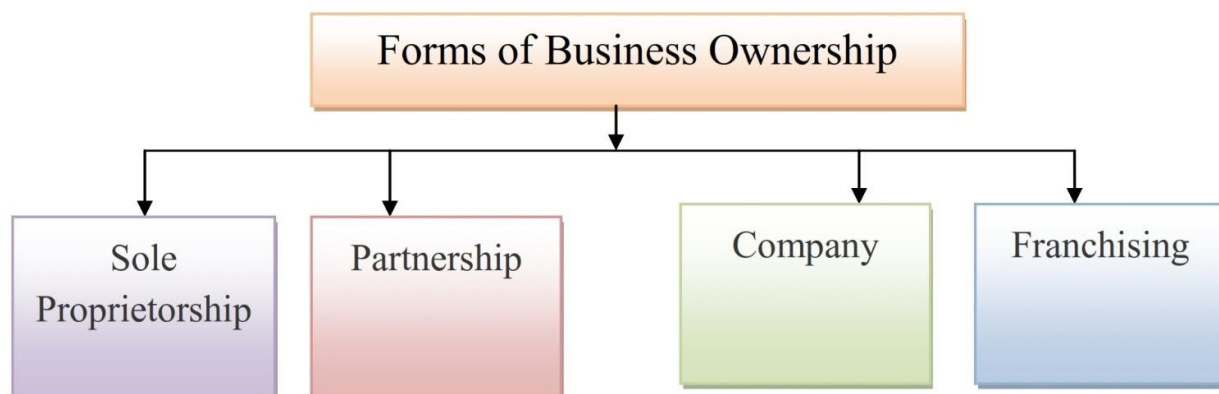
Entrepreneur: Entrepreneurs are primarily concerned with growth and expansion. They seek to scale their businesses and capture new market opportunities.

Manager: Managers prioritize stability and efficiency, aiming to maintain the organization's current operations and market position.

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

What is Business Ownership?

Business ownership refers to the legal and financial rights and responsibilities that an individual or group of individuals (entities) have in relation to a business. It encompasses the degree of control, decision-making authority, liability for debts and obligations, and the entitlement to the profits generated by the business. In simpler terms, business ownership is about who owns and controls a business entity.



Sole Proprietorship

A sole proprietorship is one of the simplest and most common forms of business ownership. In a sole proprietorship, a single individual owns and operates the business as an individual entity. This individual is referred to as the "sole proprietor."

Advantages of Sole Proprietorship:

1. **Easy Formation:** Setting up a sole proprietorship is usually straightforward and involves minimal legal formalities and costs. This makes it an attractive option for individuals starting small businesses.
2. **Direct Control:** The sole proprietor has complete control over all aspects of the business. They can make decisions quickly and implement changes without the need for extensive consultations.
3. **Flexibility:** Sole proprietors have the flexibility to adapt their business strategies and operations to changing market conditions without the need to consult partners or shareholders.
4. **Direct Profits:** All profits generated by the business belong to the sole proprietor. There is no need to share the earnings with partners or shareholders.

5. **Simple Taxation:** Income and expenses of the business are usually reported on the owner's personal income tax return, simplifying the tax filing process compared to more complex business structures.
6. **Low Operating Costs:** Operating costs can be relatively low since there are no partners or shareholders to consult with, and the business structure itself is uncomplicated.

Disadvantages of Sole Proprietorship:

1. **Unlimited Liability:** The owner has unlimited personal liability for the business's debts and obligations. This means that personal assets, such as the owner's home and savings, can be at risk in the event of business losses or legal issues.
2. **Limited Resources:** Sole proprietors may face challenges in raising capital or obtaining financing for business growth due to limited personal resources.
3. **Limited Expertise:** The owner might lack expertise in certain areas, such as marketing, finance, or operations, which could hinder the business's potential for growth.
4. **Limited Growth Potential:** The business's growth may be constrained by the owner's capacity to handle all aspects of the business on their own.
5. **Lack of Credibility:** Sole proprietorships might not be perceived as stable or credible as larger corporate entities by certain clients or partners.
6. **Succession Issues:** Unlike corporations or LLCs, sole proprietorships do not have a built-in structure for transferring ownership, which can lead to difficulties when transitioning the business to someone else.

Partnership

A partnership is a form of business ownership where two or more individuals or entities come together to jointly operate a business for the purpose of making a profit. Partnerships are established through a legal agreement known as a partnership agreement. This agreement outlines the terms and conditions of the partnership, including the roles, responsibilities, and contributions of each partner.

General Partnership (GP):

- In a general partnership, all partners have equal rights and responsibilities in managing the business.
- Partners share profits, losses, and decision-making authority based on the terms outlined in the partnership agreement.
- Partners also have unlimited liability for the partnership's debts and obligations.

Limited Liability Partnership (LLP):

- Partners have limited liability for the debts and obligations of the partnership, similar to shareholders of a corporation.
- Partners can actively participate in management while enjoying liability protection.
- LLPs are often used by professionals such as lawyers, accountants, and consultants.

Advantages of Partnership Firm:

1. **Shared Expertise & Responsibilities:** Partners bring diverse skills, knowledge, and expertise to the business, which can enhance decision-making and problem-solving.

And can divide the workload and responsibilities, allowing each partner to focus on their strengths and areas of expertise.

2. **Capital Pooling:** Partners can contribute varying amounts of capital to the business, increasing the overall funds available for investment and growth.

3. **Easy Formation:** Establishing a partnership usually involves less legal complexity and lower costs compared to corporations or other business forms.
4. **Shared Risk:** Partners share both profits and losses, reducing the financial burden on each individual partner in case of business setbacks.
5. **Taxation:** Profits and losses are usually passed through to partners and reported on their individual tax returns, avoiding the issue of double taxation faced by corporations.

Disadvantages of Partnership Firm:

1. **Unlimited Liability:** Partners in a general partnership have unlimited personal liability for the business's debts and obligations, which can put their personal assets at risk.
2. **Shared Decision-Making:** Differences in opinions and decision-making styles among partners can lead to conflicts and delays in implementing decisions.
3. **Liability for Partners' Actions:** Partners can be held liable for the actions and misconduct of other partners, potentially affecting partners who were not directly involved.
4. **Dependency on Partners:** The business's success can be influenced by the contributions, commitment, and performance of each partner.
5. **Lack of Continuity:** Partnerships might face disruption if a partner decides to leave or if there is a change in partnership structure.

Company

Private Limited Company (Pvt. Ltd.):

- A private limited company is a separate legal entity owned by shareholders.
- Shareholders' liability is limited to the value of their shares, protecting personal assets.
- The number of shareholders is usually limited, and shares are not publicly traded.
- It requires a minimum number of directors and shareholders to be incorporated.
- Financial information is generally more private than in publicly traded companies.

Public Limited Company (Ltd.):

- A public limited company offers shares to the public and can be listed on stock exchanges.
- Shareholders' liability is limited to the value of their shares.
- It has more stringent regulatory requirements and reporting obligations due to its public nature.
- Public companies can raise significant capital by issuing shares to the public.

Franchising

Franchising is a business model that involves a contractual arrangement between a franchisor (the business owner or company granting the franchise) and a franchisee (the individual or entity receiving the franchise rights). The franchisee is granted the right to operate a business using the franchisor's established brand, business model, products, and services. In return, the franchisee pays fees and royalties to the franchisor.

Business Format Franchise:

- This is the most common form of franchise, where the franchisee receives a complete package of support, including the brand, products, services, marketing materials, operational procedures, and training.
- The franchisee operates the business according to the franchisor's established guidelines and standards.

Product Franchise:

- In a product franchise, the franchisee is authorized to sell the franchisor's products or services, often with limited support beyond the supply of products.
- The franchisee is responsible for the retail or distribution of the products and might have more flexibility in how they operate.

Types of industry concept

There are four types of industry. These are primary, secondary, tertiary, and quaternary.

1. Primary Industry:

Primary industries involve the extraction and collection of natural resources directly from the environment. Examples: Agriculture, fishing, forestry, mining.

2. Secondary Industry:

Secondary industries involve the processing and transformation of raw materials into finished goods. Examples: Manufacturing, construction.

3. Tertiary Industry:

Tertiary industries provide services rather than goods, focusing on meeting the needs and preferences of consumers.

Examples: Retail, healthcare, education, hospitality.

4. Quaternary Industry:

Quaternary industries involve the creation, processing, and dissemination of information and knowledge-based services.

Examples: Information technology, research and development, education.

Concept of Start-ups

What is a Startup?

Startups are young companies founded to develop a unique product or service, bring it to market, and make it irresistible and irreplaceable for customers. Rooted in innovation, a startup aims to remedy deficiencies of existing products or create entirely new categories of goods and services, disrupting entrenched ways of thinking and doing business for entire industries. That is why many startups are known within their respective industries as “disruptors.”

How Does a Startup Work?

On a high level, a startup works like any other company. A group of employees work together to create a product that customers will buy. What distinguishes a startup from other businesses, though, is the way a startup goes about doing that. Regular companies duplicate what's been done before. A prospective restaurant owner may franchise an existing restaurant. That is, they work from an existing template of how a business should work.

How Are Startups Funded?

Startups generally raise money via several rounds of funding:

- There is a preliminary round known as **bootstrapping**, when the founders, their friends and family invest in the business.
- After that comes **seed funding** from so-called “angel investors,” high-net-worth individuals who invest in early-stage companies.
- Next, there are **Series A, B, C and D** funding rounds, primarily led by venture capital firms, which invest tens to hundreds of millions of dollars into companies.
- Finally, a startup may decide to become a public company and open itself up to outside money **via an IPO**, an acquisition by a special purpose acquisition company (SPAC) or a direct listing on a stock

exchange. Anyone can invest in a public company, and the startup founders and early backers can sell their stakes to realize a big return on investment.

How Do Startups Succeed?

While many startups will ultimately fail, not all do. For a startup to succeed, many stars must align and crucial questions be answered.

- **Is the team obsessively passionate about their idea?** It is all in the execution. Even an outstanding concept can fail to engage its audience if the team is not ready to do everything to support it.
- **Do the founders have domain expertise?** The founders should know everything about the space in which they operate.
- **Are they willing to put in the time?** Early startup employees often have intense work schedules. A 2018 survey found that startup owners log 14-plus-hour workdays. If a team is not willing to devote most of their waking hours to an idea, it may struggle to thrive.
- **Why this idea and why now?** Is this a new idea, and if so, why haven't people tried it before? If it is not, what makes the startup's team uniquely able to crack the code?
- **How big is the market?** The size of a startup's market defines the scale of its opportunity. Companies that obsess over niche technology may outcompete their rivals, but to what end? Too small of markets may lead to financials that are not large enough to survive.

Entrepreneurial support agencies at National, State, District Level (Sources):

DIC- District Industries Centers (DICs) provide full assistance to the **entrepreneurs** who are going to start the business on their own and in their regional places These **DIC** programs can take over the responsibilities in order to promote cottage and small-scale industries at district level effectively.

NSIC- NSIC stands for the National Small Industries Corporation Limited. It is a government-owned enterprise under the Ministry of Micro, Small and Medium Enterprises (MSME) in India. NSIC's role is to support the growth and development of MSMEs by providing them with various services that address their needs and challenges. The organization collaborates with financial institutions, government agencies, industry associations, and other stakeholders to create an enabling environment for the sustainable growth of MSMEs in India.

OSIC- The Odisha Small Industries Corporation Ltd. (OSIC) is a government-owned corporation established in the Indian state of Odisha with the primary objective of promoting and supporting the growth of micro, small, and medium enterprises (MSMEs) within the state. OSIC plays a vital role in providing various services, facilities, and support mechanisms to assist MSMEs in Odisha to thrive and contribute to the state's economic development.

SIDBI, which stands for Small Industries Development Bank of India, is a financial institution in India that is dedicated to the promotion, financing, and development of micro, small, and medium enterprises (MSMEs). It was established in 1990 as an autonomous development finance institution under the Ministry of Finance, Government of India. SIDBI plays a significant role in supporting the growth of MSMEs by providing various financial and non-financial services.

NABARD is a Development Bank with a mandate for providing and regulating credit and other facilities for the promotion and development of agriculture, small-scale industries, cottage and village industries, handicrafts and other rural crafts and other allied economic activities in rural areas with a view to promoting

KVIC, which stands for Khadi and Village Industries Commission, is a statutory organization in India that operates under the Ministry of Micro, Small and Medium Enterprises (MSME). Established in 1956, KVIC is responsible for promoting and developing khadi and village industries across rural and semi-urban areas. Khadi refers to handspun and handwoven cloth, while village industries encompass a range of small-scale

economic activities that generate employment and support rural livelihoods.

Technology Business Incubators (TBI)

A Technology Business Incubator (TBI) is a specialized program or facility designed to support the growth and development of technology-based startup companies. TBIs offer a range of resources, services, and support to help early-stage technology startups overcome challenges and increase their chances of success. These programs are usually initiated and managed by universities, research institutions, government agencies, or private organizations with the goal of fostering innovation and economic development in a region.

Key features of Technology Business Incubators include:

1. **Physical Infrastructure:** TBIs typically provide startups with physical workspace, including office spaces, laboratories, and sometimes even manufacturing facilities. This helps startups access necessary infrastructure without the high costs associated with setting up their own facilities.
2. **Mentorship and Networking:** TBIs often connect startups with experienced mentors, industry experts, and successful entrepreneurs. This mentorship can help startups refine their business strategies, develop their products, and navigate challenges effectively. Additionally, TBIs facilitate networking opportunities with investors, potential partners, and customers.
3. **Business Support Services:** TBIs offer various business support services such as legal advice, intellectual property protection, market research, business plan development, and assistance with funding applications. These services help startups build a strong foundation for growth.
4. **Access to Funding:** Many TBIs provide access to funding opportunities, either through their own investment funds or by connecting startups with angel investors, venture capitalists, and government grants. This financial support is crucial for startups to cover expenses and achieve key milestones.
5. **Training and Workshops:** TBIs often organize workshops, seminars, and training sessions on various topics such as entrepreneurship, product development, marketing, and sales. These educational opportunities help founders and their teams enhance their skills and knowledge.
6. **Incubation Period:** Startups typically go through a defined incubation period within the TBI, during which they receive intensive support. This period can vary in duration, but the goal is to help startups reach a level of maturity where they can operate independently and sustainably.
7. **Collaboration and Research:** TBIs often have connections with academic and research institutions. This allows startups to collaborate on research projects, access cutting-edge technologies, and leverage academic expertise.
8. **Exit Strategies:** Successful startups eventually "graduate" from the TBI when they have achieved certain milestones, such as securing significant funding, generating revenue, or reaching a specific level of growth. At this point, they leave the incubator and continue to grow on their own.

Objectives

These objectives vary depending on the specific TBI and the ecosystem in which it operates, but some common objectives include:

1. **Promoting Innovation:** TBIs aim to encourage the development of innovative technologies and solutions. They provide a supportive environment where startups can explore new ideas, experiment with emerging technologies, and create products or services that address market needs.
2. **Fostering Entrepreneurship:** TBIs support aspiring entrepreneurs by providing them with the resources, mentorship, and guidance needed to turn their innovative ideas into viable businesses. They help individuals navigate the complexities of starting and running a business.

3. **Creating Jobs and Economic Growth:** By nurturing startups, TBIs contribute to job creation and economic development in the local community and beyond. Successful startups often hire employees, invest in infrastructure, and contribute to the overall economic landscape.
4. **Supporting Commercialization of Research:** Many TBIs have ties to universities and research institutions. They help researchers and academics take their research findings and innovations to the market by providing the necessary business acumen and support.
5. **Enhancing Technology Transfer:** In cases where TBIs are associated with research institutions, they facilitate the transfer of technology from academic and research environments to the commercial sector. This helps bridge the gap between academia and industry.

Criteria for selection of location

The selection of a location for a Technology Business Incubator (TBI) involves careful consideration of various factors that can impact the success and effectiveness of the incubator. While the specific criteria may vary based on the goals of the TBI and the local context, some common criteria for selecting a location include:

1. **Proximity to Research Institutions and Universities:** TBIs often benefit from being located near research institutions, universities, and academic centers. This proximity facilitates collaboration, knowledge transfer, and access to research expertise.
2. **Access to Talent:** A location with a pool of skilled professionals, including technical experts, entrepreneurs, mentors, and industry specialists, is essential for supporting startups and fostering a vibrant ecosystem.
3. **Availability of Funding Sources:** Proximity to potential investors, venture capital firms, angel investors, and government funding agencies can improve startups' access to funding for their growth.
4. **Industry Clusters and Ecosystem:** Being situated in or near established industry clusters related to the startups' focus areas can provide access to potential customers, partners, suppliers, and a supportive ecosystem.
5. **Infrastructure and Facilities:** The availability of suitable physical infrastructure, such as office spaces, laboratories, prototyping facilities, and meeting rooms, is crucial for startups' operations.
6. **Networking Opportunities:** A location that offers networking events, conferences, meetups, and industry gatherings can facilitate interaction among startups, mentors, investors, and experts.

Thrust Areas

The thrust areas of a Technology Business Incubator (TBI) refer to the specific sectors, industries, or technology domains in which the TBI focuses its efforts and resources to support startups.

The thrust areas for a TBI would be identified based on the following:

1. Expertise and facilities available in the HI
2. Track record of the HI in the chosen areas
3. Industrial climate in the region
4. Market potential/demand in the region

To begin with, TBIs are proposed to be promoted in following selected thrust areas which have potential for faster growth:

1. **Information Technology and Software:** Supporting startups in fields such as software development, mobile apps, cybersecurity, artificial intelligence, data analytics, and cloud computing.
2. **Healthcare and Medical Technologies:** Supporting startups developing medical devices, telemedicine solutions, healthtech apps, and healthcare innovations

3. **Advanced Manufacturing:** Assisting startups in areas like 3D printing, robotics, automation, additive manufacturing, and smart manufacturing.
4. **Agriculture and Agtech:** Focusing on startups in agriculture technology, precision farming, agritech, and innovations in sustainable agriculture.
5. **Clean Energy and Sustainability:** Supporting startups working on renewable energy solutions, energy efficiency, waste management, and sustainable technologies.
6. **IoT (Internet of Things):** Supporting startups working on connected devices, IoT platforms, sensor technology, and smart city solutions.

Facilities required

Technology Business Incubators (TBIs) require a range of facilities to effectively support startups and foster a conducive environment for innovation and entrepreneurship. These specific facilities needed can vary based on the focus areas of the TBI, the services offered, and the needs of the startups. However, here are some common facilities required for a TBI:

1. Modern workspace
2. Communication facilities
3. Computing facilities
4. Vital equipment needed in identified area
5. Library & information centre
6. Training and conference facilities

Sponsorship

The TBI may be promoted by the selected Host Institution and Department of Science and Technology jointly. The HI has to provide the requisite land and building for the TBI. Other related and interested agencies could also be involved as sponsors.

Activities

Each TBI would be required to plan and undertake specified activities based on the identified thrust areas. However, the following set of activities is suggested as general guidelines:

1. Provide specialized services to existing SMEs in the region
2. Facilitate technology commercialization
3. Consultancy
4. Training including short courses
5. Technology related IP issues, legal and quality assurance services
6. Marketing
7. Assistance in obtaining and other clearances
8. Common facilities
9. Assistance in preparation of business plans
10. Technology shows/technology clinics/trade fairs

Organisation Status

The TBI should itself represent a dynamic model of sustainable business operation and generate revenue as well as profits. As per the guidelines of the Department regarding legal status of new Technology Business Incubators, it has become mandatory to register the new TBIs as an autonomous body functioning as a society registered under societies act of 1860/ or as a nonprofit making section 25/ section 8 company. The affairs of the TBI should be managed by an Advisory Board. The Board of the TBI should help not only in development of a strategic plan containing quantifiable objectives to achieve the desired results but also in managing the TBI efficiently and effectively. The Board should have representation from the promoters and reputed professionals. This may include representatives of DST, SIDBI, HI, Industry, VC companies,

Entrepreneurs, student bodies and tenants of the TBI. A committee should also be set up for selection of tenant firms.

Staff Structure

The day-to-day operations of the TBI would be looked after by the Chief Executive Officer/Managing Director and a team of selected personnel which may include one or two professionals having technical/managerial qualification and relevant industry experience to look after areas such as business planning, technology transfer, training, and consultancy. In addition, an account cum administrative officer and one secretarial assistant may be inducted in the core team. To cater to the specialised and need based services, the TBI should have a panel of experts/consultants. Their services may be hired as and when required on payment basis. Security and housekeeping services may be arranged on contract basis.

Role of the HI

The Host Institution has to play an important role not only in the establishment of the TBI project but also in its smooth and efficient functioning. Only those institutions/organisations that can provide land and built-up space for TBI and are also willing to share available facilities and expertise would be considered for setting up of the TBI. Host Institute should demonstrate its commitment and responsibility towards the TBI project. The HI will provide a suitable built-up area where-in the TBI could be set up besides provision of utilities such as electricity and water. The HI will also ensure availability of following facilities to the tenants of the TBI on mutually agreed charges:

1. Lab/testing facilities
2. Library
3. Mainframe computer
4. Faculty support

Estimated Project Cost

Each TBI should prepare a detailed project proposal and work out the cost, based on actual requirements. A project implementation schedule may be prepared covering the key activity of the project. Since TBI is software intensive, greater focus should be laid on providing value-added services rather than facilities (hardware) to its tenants. Wherever possible, duplication of the facilities already existing in HI may be avoided and only need-based facilities may be proposed in the initial phase of the project.

Self Sufficiency

Each TBI is expected to become self-sufficient within a period of five years from the date of sanction of the project. The TBI should, however, start earning from the very first year of its operation. The TBI should appoint a Project Manager with relevant experience and exposure to the business environment.

Science & Technology Entrepreneurship Park (STEP)

A Science & Technology Entrepreneurship Park (STEP) is a specialized facility designed to foster and support innovation, technology-driven entrepreneurship, and the commercialization of scientific and technological research. STEPs are typically established in collaboration with academic institutions, research organizations, government bodies, and industry partners to create an ecosystem that bridges the gap between academia and industry. The primary goal of a STEP is to promote the transformation of research and technology innovations into successful commercial ventures and startups.

Objectives

1. To forge a close linkage between universities, academic and R&D institutions on one hand and industry on the other.
2. To promote entrepreneurship among Science and Technology persons, many of whom were otherwise seeking jobs soon after their graduation.

3. To provide R&D support to the small-scale industry mostly through interaction with research institutions.
4. To promote innovation-based enterprises. Facilities and

Facilities and Services Provided by STEPs

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

Role of Host Institution

In order to achieve synergetic benefits and to harness the knowledge and expertise available in academic and R&D institutions of excellence, every STEP needs to be promoted around a host institution which could launch, sustain and help the STEP grow. Therefore, the host institution must play an important and crucial role in promotion and growth of a STEP

STEP Model

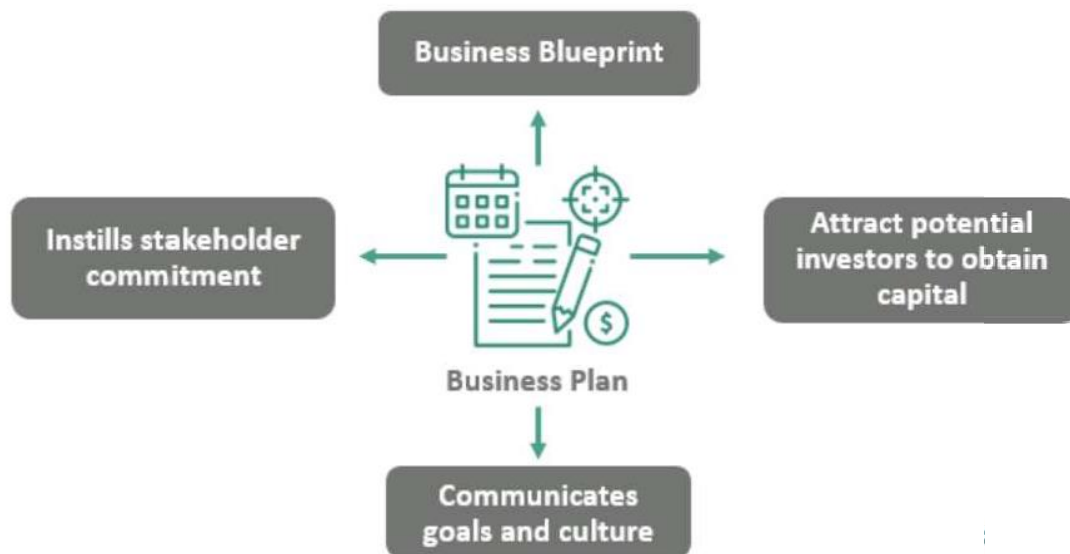
Though a workable 'STEP-Model' has been evolved by an Expert Committee chaired by the late Prof. Y. Nayudamma, however, each STEP would have to carve out a niche for itself with regard to the types of products to be developed based on the availability of facilities and expertise in the host institution and also the industrial climate of the region. Each project envisages active involvement and participation of agencies such as the host institution, ultimate user of the facilities, financial institutions, government agencies and STEP management.

CHAPTER 2 - Market survey and opportunity identification (Business Planning)

Business planning

A business plan is an executive document that acts as a blueprint or roadmap for a business. It is quite necessary for new ventures seeking capital, expansion activities, or projects requiring additional capital. It is also important to remind the management, employees, and partners of what they represent.

Business Plan Meaning



Creating a business plan is an indispensable part of any business. The main purpose of creating such a document is to attract prospective investors to provide capital to the enterprise. Therefore, the plan should cover all the important perspectives of a business – financial, operational, personnel, competition, etc.

The Advantages of Having a Business Plan

Since a detailed business plan offers a birds-eye view of the entire framework of an establishment, it has several benefits that make it an important part of any organization. Here are few ways a business plan can offer significant competitive edge.

1. **Sets objectives and benchmarks:** Proper planning helps a business set realistic objectives and assign stipulated time for those goals to be met. This results in long-term profitability. It also lets a company set benchmarks and Key Performance Indicators (KPIs) necessary to reach its goals.
2. **Maximizes resource allocation:** A good business plan helps to effectively organize and allocate the company's resources. It provides an understanding of the result of actions, such as, opening new offices, recruiting fresh staff, change in production, and so on. It also helps the business estimate the financial impact of such actions.
3. **Enhances viability:** A plan greatly contributes towards turning concepts into reality. Though business plans vary from company to company, the blueprints of successful companies often serve as an excellent guide for early-stage start-ups and new entrepreneurs. It also helps existing firms to market, advertise, and promote new products and services into the market.
4. **Attracts investors:** A business plan gives investors an in-depth idea about the objectives, structure, and validity of a firm. It helps to secure their confidence and encourages them to invest.

The Types of Business Plans

Business plans are formulated according to the needs of a business. It can be as simple one-page document

or an elaborate 40-page affair, or anything in between. While there is no rule set in stone as to what exactly a business plan can or cannot contain, there are a few common types of business plan that nearly all businesses in existence use.

1. **Start-up plan:** As the name suggests, this is a documentation of the plans, structure, and objectives of a new business establishment. It describes the products and services that are to be produced by the firm, the staff management, and market analysis of their production. Often, a detailed finance spreadsheet is also attached to this document for investors to determine the viability of the new business set-up.
2. **Feasibility plan:** A feasibility plan evaluates the prospective customers of the products or services that are to be produced by a company. It also estimates the possibility of a profit or a loss of a venture. It helps to forecast how well a product will sell at the market, the duration it will require to yield results, and the profit margin that it will secure on investments.
3. **Expansion Plan:** This kind of plan is primarily framed when a company decided to expand in terms of production or structure. It lays down the fundamental steps and guidelines with regards to internal or external growth. It helps the firm to analyse the activities like resource allocation for increased production, financial investments, employment of extra staff, and much more.
4. **Operations Plan:** An operational plan is also called an annual plan. This details the day-to-day activities and strategies that a business needs to follow in order to materialize its targets. It outlines the roles and responsibilities of the managing body, the various departments, and the company's employees for the holistic success of the firm.
5. **Strategic Plan:** This document caters to the internal strategies of the company and is a part of the foundational grounds of the establishments. It can be accurately drafted with the help of a SWOT analysis through which the strengths, weaknesses, opportunities, and threats can be categorized and evaluated so that to develop means for optimizing profits.

The Key Elements of a Business Plan

There is some preliminary work that is required before you actually sit down to write a plan for your business. Knowing what goes into a business plan is one of them.

Here are the key elements of a good business plan:

1. **Executive Summary:** An executive summary gives a clear picture of the strategies and goals of your business right at the outset. Though its value is often understated, it can be extremely helpful in creating the readers' first impression of your business. As such, it could define the opinions of customers and investors from the get-go.
2. **Business Description:** A thorough business description removes room for any ambiguity from your processes. An excellent business description will explain the size and structure of the firm as well as its position in the market. It also describes the kind of products and services that the company offers. It even states as to whether the company is old and established or new and aspiring. Most importantly, it highlights the USP (Unique Selling Point) of the products or services as compared to your competitors in the market.
3. **Market Analysis:** A systematic market analysis helps to determine the current position of a business and analyses its scope for future expansions. This can help in evaluating investments, promotions,

marketing, and distribution of products. In-depth market understanding also helps a business combat competition and make plans for long-term success.

4. **Operations and Management:** Much like a statement of purpose, this allows an enterprise to explain its uniqueness to its readers and customers. It showcases the ways in which the firm can deliver greater and superior products at cheaper rates and in relatively less time.
5. **Financial Plan:** This is the most important element of a business plan and is primarily addressed to investors and sponsors. It requires a firm to reveal its financial policies and market analysis. At times, a 5-year financial report is also required to be included to show past performances and profits. The financial plan draws out the current business strategies, future projections, and the total estimated worth of the firm.

Advantages of a business plan	Disadvantages of a business plan
1. Provides a road map for achieving business objectives	1. Can be time-consuming and requires significant effort to create
2. Helps secure funding and attract investors	2. Business plans may become outdated quickly and need to be regularly updated
3. Allows for more informed decision-making	3. May lead to overconfidence in the business's success
4. Promotes a harmonious working structure among employees and business owners	4. Can be limiting and prevent businesses from adapting to changing market conditions
5. Help track business progress	
6. Provides a framework for measuring success	
7. Helps mitigate risk	

SSI, Ancillary Units, Tiny Units, Service sector Units

Small Scale Industries (SSI)

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

1. Introduction of SSI

Essentially the small-scale industries are generally comprised of those industries which manufacture, produce, and render services with the help of small machines and less manpower. These enterprises must fall under the guidelines, set by the Government of India.

The SSI's are the lifeline of the economy, especially in developing countries like India. These industries are generally labour-intensive, and hence they play an important role in the creation of employment. SSI's are a crucial sector of the economy both from a financial and social point of view, as they help with the per capita income and resource utilisation in the economy.

2. Characteristics of SSI

Ownership: Such units are generally under single ownership. So, it is a sole proprietorship or sometimes a partnership.

Management: Both the management and the control generally are with the owner/owners. So, the owner is actively involved with the daily running of the business.

Limited Reach: Small scale industries have a restricted area of operations. So, they meet local and regional demand.

Labor Intensive: These small-scale industries tend to use labour and manpower for their production activities. So, their dependence on technology is limited.

Flexibility: These units are more adaptable to their changing business environment. So in case of sudden changes or unexpected developments, they are flexible enough to adapt and keep carrying on. Large industries do not have this advantage.

Resources: They use local and readily available resources. This also helps the economy with better utilization of natural resources and less wastage.

3. Role of Small-Scale Industries in the Indian Economy

- A. Total Production-** These enterprises account for almost 40% of the total goods and services produced in the Indian economy. They are one of the main reasons for the growth and strengthening of the economy.
- B. Employment-** These small-scale industries are a major source of employment in the country. The whole labour force cannot find work in the formal sector of the economy. So these labour-intensive industries provide a livelihood to a large portion of the workforce.
- C. Contribution to Export-** Nearly half of the goods (45-55%) of the goods that are exported from India are produced by these small enterprises. About 35% of direct exports and 15% of the indirect exports are from the small-scale industries. So, India's export industry majorly relies on these small industries for their growth and development.
- D. Welfare of the Public-** Other than economic reasons, these industries are also important for the social growth and development of our country. These industries are usually started by the lower or middle-class public. They have an opportunity to earn wealth and employ other people. It helps with income distribution and contributes to social progress.

Objectives of SSI

The objectives of the small-scale industries are:

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

Registration of SSI

SSI registration is a registration provided by the Ministry of MSME. A business should obtain SSI registration in order to be eligible for several schemes, subsidies and other incentives provided by the Government to such SSI's. SSI registration can be obtained online too.

Eligibility Criteria for SSI registration

SSI registration can be obtained for:

1. Manufacturing enterprise; and
2. Service enterprise

If the investment in plant and machinery (excluding land & buildings) is within any of the following levels:

	Manufacturing enterprise	Service enterprise
Micro Enterprises:	Investment of up to Rs.25 lakhs in plant and machinery	Investment of up to Rs.10 lakhs in equipment
Small Enterprises:	Investment of up to Rs.5 crores in plant and machinery	Investment of up to Rs.2 crores in equipment
Medium Enterprises:	Investment of up to Rs.10 crores in plant and machinery	Investment of up to Rs.5 crores in equipment

If the investment is done within the above-mentioned limit, then the SSI registration has to be obtained.

SSI, Ancillary Units, Tiny Units, Service sector Units

Benefits of obtaining SSI registration

1. There are various tax rebates offered to SSI's
2. A credit for Minimum Alternate Tax (MAT) is allowed to be carried forward for up to 15 years instead of 10 years
3. There are many government tenders which are only open to the SSI.
4. They get easy access to credit.
5. Once registered the cost of acquiring a patent, or the cost of setting up the industry reduces as many rebates and concessions are available.
6. Business registered as SSI are given higher preference for government license and certification.

Business registered as SSI are given higher preference for government license and certification.

1. To do the registration the SSI owner has to fill a single SSI online registration form. It can be done in the offline mode as well.
2. If a person wants to get registration for more than one industry then also he/she can opt for an individual SSI registration done.
3. To get registered he/she has to fill a single form which is available at the website.
4. The documents required for the SSI registration are Aadhar number, industry name, address, bank account details and some common information.
5. Here, the person can provide self-certified certificates.
6. No registration fee is required for the registration.
7. Once the SSI registration form is filled and uploaded, very soon you will obtain the SSI registration number.

Ancillary unit

Ancillary industries are those which manufacture parts and components to be used by larger industries. The program of ancillarization includes motivation of public and private sector units to offload production of components, parts, sub-assemblies, tools, intermediates, services etc., to ancillary units.

The program of ancillary development has specific advantages both for large as well as small industries and also for the total economy of the country.

The **large-scale units** have the advantages in the form of savings in investments, inventories, employment of labour, etc. and getting the items of the desired specifications, while the **small-scale units** have the advantage of getting assured market for their products, availability of technical assistance and improved technology from the parent units. This program also helps in overall economy of the country.

Small Industry Development Organisation (SIDO) is a nodal agency of the Central Government and Ancillary Division at Headquarters continued its function for the promotion of ancillarisation programme in the country.

Tiny unit

The Tiny (Micro) Small scale industries have played a vital role in the overall economic development of our country where millions of people are unemployed, where most of the entrepreneurs are capable of

making only small investment and where there is chronic shortage of resources to produce sophisticated machinery

Tiny Industry: Tiny Scale industry is one in which the investment in plant and machinery is less than Rs.25 lakhs irrespective of the location of the unit.

Service sector Units

What is the Service Sector?

The service sector, also known as the tertiary sector or the service industry, refers to a category of the economy that primarily deals with providing intangible services rather than manufacturing tangible products. It encompasses a wide range of businesses and industries that offer various services to individuals, other businesses, or institutions. The service sector is one of the major sectors of the modern economy and has grown significantly in importance in many developed and developing countries.

1. **Intangible Offerings:** The service sector primarily offers intangible products or services, which means they provide value through activities, expertise, or assistance rather than physical goods. Examples of services include healthcare, education, banking, consulting, hospitality, and entertainment.
2. **Diverse Range of Industries:** The service sector is highly diverse and includes numerous industries and subsectors. It encompasses healthcare, education, financial services, transportation, retail, information technology, professional services (such as legal, accounting, and consulting), hospitality, entertainment, and many more.
3. **Human-Centric:** Many service sector businesses rely heavily on the skills, knowledge, and interactions of their employees. The quality of service often depends on the professionalism and expertise of the people providing the service.
4. **Customer-Centric:** Customer satisfaction and experience are paramount in the service sector. Businesses in this sector often prioritize building strong customer relationships, delivering excellent service, and meeting the specific needs and preferences of their clients.
5. **Labor-Intensive:** Since services often require human labor and expertise, labor costs are a significant consideration for service sector businesses. Employee training and development are vital for ensuring high-quality service delivery.

Time schedule Plan, Agencies to be contacted for Project Implementation Time schedule planning

1. Create a routine- No matter what you are working on, create a routine. Block times for specific activities, and stick with the plan. Turn your calendar into a bunch of blocks, and put activities into those blocks. Whatever is not planned, you do not do. If you want free time, plan it.

Your routine may change through the year, but at any given time it's better to have a plan. For example, if you are working on launching a company, and need to do customer discovery, coding and hiring, then prioritize and block specific times for each activity. A calendar app is a very useful tool

2. Group meetings and calls into blocks

For example, if you need to have outside meetings, block two and a half days a week for those meetings, and go to the outside meetings only during those times. Do the same thing for in-office meetings. This way you are not only creating a chunk of time for meetings, you are also creating other blocks of time that you will be able to do important work. Do the same thing with calls, and book them all back-to-back.

3. Optimize time for different meeting types

Personally, I am now a big fan of 30-minute meetings and 10-minute calls. I think 10-minute calls are a great way to initially connect with someone or give someone quick advice. You can do a Google Hangout or Skype if you prefer to see the person instead of just hearing them. The reason 10-minute calls work is because people skip BS and get to the point. Try it. Ten minutes is actually a lot of time, if you focus. I prefer to do these calls on Fridays, when I am usually working from home.

I am not a big fan of introductory coffee meetings, lunches and dinners. I am a huge fan of coffee and meals with people I already know. Those meetings are typically productive and fun, but the first time you are meeting someone, it's more productive to do a call or an actual 30-minute meeting in the office.

Here are the types of meetings you might want to book:

- 30-minute meeting in the office to get to know someone or catch up
- 45-minute meeting outside of the office. Allow 15 minutes for travel.
- 10-minute call to help someone who needs advice
- 15-minute daily standup—great for startups and engineering teams
- 30-minute weekly staff meeting

Whatever meetings you hold, group them into blocks depending on your particular schedule. If you feel like a particular type of meeting needs more or less time, then adjust the block accordingly.

4. Use appointment slots

There is a great feature in Google Calendar called Appointment Slots. It allows you to book a chunk of time, and then split it into pieces. For example, I can book three hours of outside meetings and then split it into three meetings— one hour each. Or I can book one hour of calls and split it into six calls at 10 minutes each. There is also a bunch of specific tools, such as Doodle, that do that too.

The next step is to create bit.ly links for different blocks of time. You can have a link for your outside meetings, another link for 30-minute inside meetings and yet another one for 10-minute calls. You then share these links, and they can book the time with you. I've done this with Techstars candidate companies and it was amazingly effective. It minimized the back and forth on email and saved a ton of time for me and the companies.

Related: [How to Use Technology to Increase Productivity, Not Distract You](#)

This won't work with everyone, because some people may find this rude. In any case, if you are not comfortable sending the link to someone, then you can use your own appointment slots, suggest a few meeting times, and then book the specific slot yourself.

If you are asking someone to meet, always propose several specific alternative times such as Tuesday at 4:30 p.m. or 5 p.m. on Wednesday. David Tisch gave a great talk that covers scheduling meetings and many more basics of communication.

5. Block time for email

This is the most important tip in the whole post. Email will own you unless you own it. To own your email you must avoid doing it all the time. To do that you need to schedule the time to do your email. It is absolutely a must. In fact it is so important that I wrote a whole entire post about managing email.

6. Plan your exercise and family time

Unless you put it on the calendar, it won't get done. Well, that applies to your exercise and time with your family. Whether you go in the morning, afternoon or evening, do it three times a week or every day, put exercise time on the calendar. My friend and mentor Nicole Glaros makes it very clear that her mornings, until 10 a.m., belong to her. She hits the pavement or the gym, depending on the weather, and rarely deviates from her routine.

The same applies to planning time with your family and significant others. If you are a workaholic like me, you will end up stealing time from your family unless you book it in advance and train yourself to promptly unplug. Many people in the industry have talked about planning family time. My favorite is Brad Feld, who talks about it a lot.

7. Manage your time

I think about my time a lot. I think about where it goes. I think about where I can get more of it, and how to optimize it. When I was running GetGlue, I had an assistant who was managing my time. She was awesome. But when I joined Techstars, I decided that I will manage my calendar myself. I have to confess that I am happy about this decision. I find myself thinking about what I am doing, who I am meeting with and why a lot more. I meet with a lot of people every week. My schedule is particularly insane during the selection process. Yet, because I manage my calendar, follow a routine, plan meetings in blocks and use appointment slots, I find myself less overwhelmed and less stressed.

Agencies to be contacted for Project Implementation

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.

Setting up an Implementation Agency

- What type of an Implementation Agency to set up—Society, Trust or Section 8 Company
- How to set up the Implementation Agency? What are the rules and regulations?
- Registration requirements:
 - With Registering bodies
 - Income Tax
 - Service Tax

- HomeMinistry
- CAPART

- SettinguptheRegisteredOffice
- OpeningaBankAccount

GovernanceoftheImplementationAgency

- Howtoensureeffectivegovernancemechanismsareinplace,withadequatechecksandbalances
- Howtobuildon-timereportingsystemandeffectivedocumentation?

Funding

- Howtobuildaworkingrevenueamodelandimprovefundraisingabilities?
- Howtodevelopcorrectfinancialandreportingsystemwithfunders?
- Howtoobtainvarious tax exemptionstosupportfundraising?
- Whatarethewaystoreachfinancialsustainability?

ProjectDevelopment&Management

- Howtodevelopimpactfulprojects?
- Howtocreteprojects thatarescalableandcangetfunded?
- What are thestrongestareas tobuidyouractivities around?

Scaling

- Howtoensurethecurrentactions willleadtofuturegrowth?
- Howtoexpandtheprojectstomaximizeimpact?

Skill-building

- Wheretofindprofessionalstohireandhowtodeveloptheirskillsfurther?
- Whichskillsarecurrentlyrequiredinthemarketthatcangetthetargetclientintofuturejobs?

Evaluationandassessment

- How toevaluatetheefficiencyofaproject and maximizeimpact?

Assessment of DemandandsupplyandPotentialareasof Growth

WhatIsDemand?

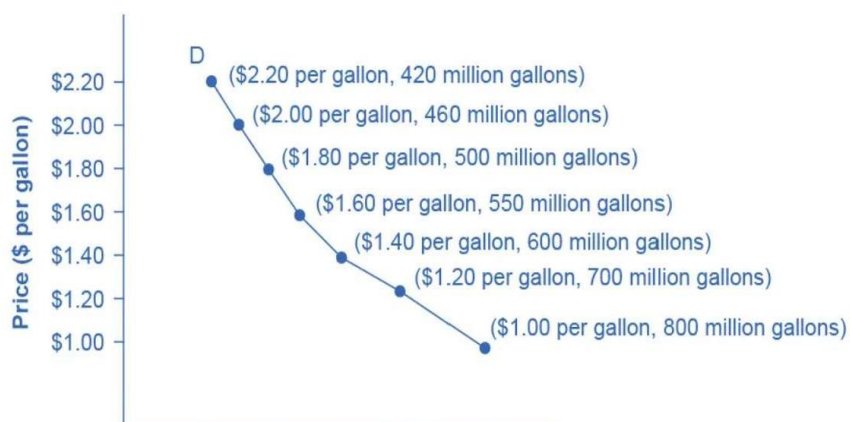
Demandis theamount ofgoods orservicesthat consumersarewillingtopayat eachpricepoint.Itisbasedon wantsandneeds and theabilitytopay. Ifconsumersareunabletopayfor goodsandservices,demanddoesnot exist.Whenthepriceofagoodorservicerises,demanddecreases.Conversely,ifthepriceofagoodorservicefalls, demandgoesup. Thislaw ofdemand representsaninverserelationshipbetweenpriceandquantitydemanded.

SmartphoneDemand:Asnewmodels ofsmartphones arereleasedwithadvancedfeaturesandcapabilities, consumersoftenshowstrongdemandfortheseproducts,especiallyiftheyperceivethemasimprovementsover their current devices.

GasolineDemand:Whenthepriceofgasolinedecreases,consumersaremorewillingtopurchasegasolinetofuel theirvehicles.Conversely, whengasolineprices rise,consumersmayreducetheirdrivingorseekalternative transportation options.

HowtoGraphaDemandCurve

The demandcurveisalinegraphthatshowshowmanyunitsofagoodorservicewillbepurchasedatvariousprices. Thepriceis plotted on the vertical (Y)axis while thequantityis plottedonthe horizontal(X)axis.



Price(pergallon)	QuantityDemanded (millions of gallons)
\$1.00	800
\$1.20	700
\$1.40	600
\$1.60	550
\$1.80	500
\$2.00	460
\$2.20	420

The demand schedule shows that as price rises, quantity demanded decreases, and vice versa. The downward slope of the demand curve again illustrates the law of demand—the inverse relationship between prices and quantity demanded.

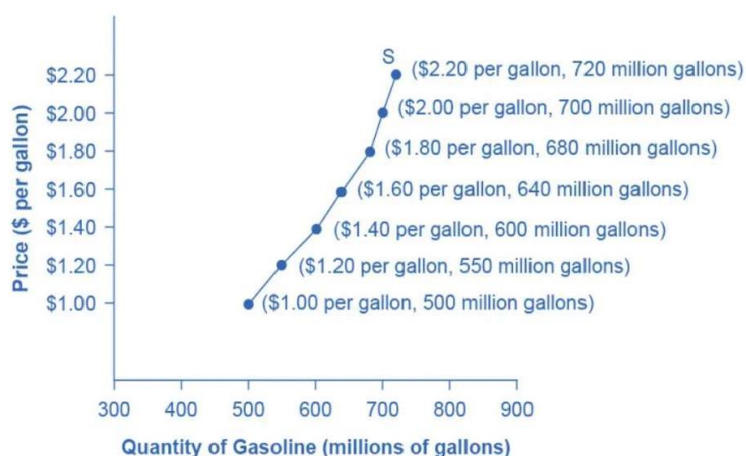
What Is Supply?

Supply is the amount of goods or services available or produced, based on several factors such as input resources, labour, technology, and regulations. Let us consider again the price of gasoline.

If a new gas reserve is discovered unexpectedly, the supply suddenly increases. Because gas becomes less scarce, prices become more competitive to beat out other suppliers for sales volumes. Prices will decrease to the level where the demand matches, because demand will naturally increase: Cheap gas is more attractive than its more expensive counterpart.

How to Graph a Supply Curve: Graphically, a supply line is represented by an upward-sloping curve from left to right with price on the vertical axis and quantity plotted on the horizontal axis. In the case of both supply and demand relationships, all other variables are assumed to remain constant when constructing these graphs.

Price (per gallon)	Quantity Supplied (million of gallons)
\$1.00	500
\$1.20	550
\$1.40	600
\$1.60	640
\$1.80	680
\$2.00	700
\$2.20	720

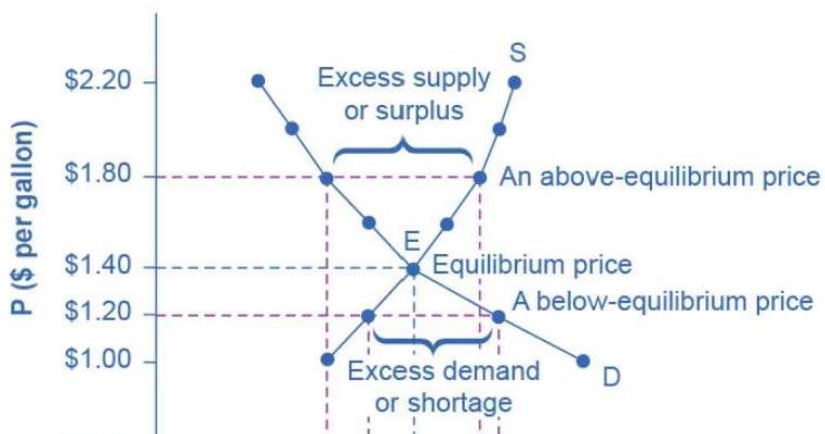


As price rises, quantity supplied also increases, and vice versa. The supply curve (S) is created by graphing the points from the supply schedule and then connecting them. The upward slope of the supply curve illustrates the law of supply—that a higher price leads to a higher quantity supplied, and vice versa.

What Is Supply and Demand Equilibrium?

Supply and demand equilibrium, also known as market equilibrium, is a fundamental concept in economics that describes the point at which the quantity of a good or service supplied by producers matches the quantity demanded by consumers in a particular market. In other words, it is the price and quantity at which the supply and demand curves intersect on a graph. At this equilibrium point, there is no shortage or surplus of the product, and the market is in a state of balance.

Price (per gallon)	Quantity demanded (million of gallons)	Quantity supplied (million of gallons)
\$1.00	800	500
\$1.20	700	550
\$1.40	600	600
\$1.60	550	640
\$1.80	500	680
\$2.00	460	700
\$2.20	420	720



Market Equilibrium: Market equilibrium occurs at the point where the supply and demand curves intersect. At this point:

1. The quantity of the product demanded by consumers is equal to the quantity supplied by producers.
2. The market-clearing price is established, which is the price at which buyers are willing to buy, and sellers are willing to sell, without causing surpluses or shortages.
3. There is no upward or downward pressure on prices because supply and demand are in balance.

What Factors Affect Demand?

The factors that affect demand cause a shift of the entire demand curve to either the left or the right. This is different from a movement along the demand curve, which would be a result of a price change.

1. **Tastes and preferences.** Consumer tastes are constantly changing, and demand for products rises and falls as a result.

Print Media: Print newspapers and magazines have faced declining circulation and advertising revenue as consumers increasingly turn to online sources for news and content. Many print publications have had to reduce staff or cease operations.

2. **Income level.** When consumer incomes increase, they are able to demand and buy more normal goods, which are products whose demand goes up as income rises.

3. **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.

4. **Complements.** Complementary goods are products typically bought together; a drop in the price of bread will increase the demand for butter to put on the bread.
5. **Expectation of future prices.** If consumers expect prices to drop in the near future or go on sale, they will delay their purchases, shifting the demand curve to the left.
6. **Changes in buyer demographics.** Changing demographics affect the demand for different products. For instance,

What Factors Affect Supply?

1. **Cost of production.** Changes in the cost to manufacture a product will cause the producer to modify production volume. Suppose a car manufacturer receives an increase in the price of steel and raises the price of cars to cover the increase. Consumers will demand a lower quantity of cars at the higher price, causing the manufacturer to reduce output and shift the supply curve to the left.

2. **Technology.** Improvement in technology that reduces the cost of production will enable producers to lower selling prices and sell more cars. This shifts the supply curve to the right.

3. **Number of suppliers.** The addition of new suppliers increases the quantities available at the same prices and shifts the supply curve to the right.

4. **Government regulations.** Some government regulations can increase the cost of production. As a result, a manufacturer might reduce the quantity supplied because the profit is reduced, shifting the curve to the left.

What is the Importance of Supply and Demand Analysis?

Supply and demand analysis is a basic economic tool used to understand the market's relationship between buyers and sellers. It can be used to determine the prices of goods and services in a market and understand the forces influencing them.

Demand analysis looks at how much of a good or service people are willing to buy at different prices. This information can be used to understand consumer behaviour and make decisions about pricing and production.

Supply analysis looks at how much of a good or service producers can supply at different prices. This information can be used to understand business behaviour and make decisions about pricing and production.

The interaction between supply and demand decides the price of goods and services in a market. If there is more

demand than supply, the price will increase. If there is more supply than demand, the price will decrease. The importance of supply and demand analysis lies in its ability to help decision-makers understand market conditions and make informed decisions about pricing, production, and other factors that influence market performance.

Identification of business opportunity

What Is a Business Opportunity?

Opportunity is defined as a situation that enables an entrepreneur to offer marketable products or services to interested buyers or end users.

An opportunity may be the chance to meet a market need through a creative combination of resources to deliver superior values.

A good example of a business opportunity in the market today is e-books. Amazon was one of the first companies in the online book-selling business who initiated an e-book reader that made it possible to read books by means of a digital device that looks more or less like a tablet PC.

Importance of a Business Opportunity

1. **The chance to build a business:** A business opportunity can be an existing unsolved problem in the market or a new problem arising from current trends, which is the chance to build a business.
2. **The chance to avoid failure:** A business is likely to fail without opportunities. This is because they are essential for implementing ideas and innovations that can make a business successful. They allow businesses to take the right decision at the right time.
3. **The chance to grow:** Opportunities allow businesses to create and implement ideas and innovations. It is also a chance to improve performance by solving existing problems better, providing a more refined value proposition to the target market, and building a more efficient business model.
4. **The chance to maximise profits:** A business opportunity involves favourable conditions that can be used to increase profits. These conditions include but are not limited to the availability of resources, the existence of market demand, and the presence of favourable competition. The goal is to find solutions that can potentially maximise profits while solving problems.

Types of Business Opportunities

1. **New market opportunity:** A new market opportunity involves an untapped market, which gives businesses the chance to create and implement ideas and innovations without facing much competition.
2. **Untapped resource opportunity:** An untapped resource opportunity is a type of business opportunity that involves underutilised or unexploited resources that can be used to create added value.
3. **Repressed demand opportunity:** A repressed demand opportunity capitalises on existing demands that the current offerings do not cater to. For example, Uber capitalised on a repressed demand for a non-demand cab system in the existing cab industry.
4. **Technology opportunity:** A technology opportunity is a type of business opportunity that allows businesses to introduce new technologies that can be used in existing markets.
 1. Apple-iPhone and iOS Ecosystem:
 2. Amazon Web Services (AWS)-Cloud Computing:
 3. Google-Search Engine and Search Advertising:
5. **Competitive opportunity:** A competitive opportunity allows businesses to introduce new products or services that can provide more value than their competitors while solving the problems of the target market better.
 1. Amazon-Prime Membership:
 2. Netflix-Original Content:
 3. Coca-Cola-Branding and Marketing:
6. **Strategic partnership opportunity:** A strategic partnership opportunity involves the chance to collaborate with businesses from complementary industries, allowing them to access new resources, strengthen their product offerings, and increase their competitive advantage.
 1. Apple and Nike-Apple Watch and Nike Training Club:

2. Starbucks and Spotify-In-Store Music Experience:
3. Uber and Spotify-In-Car Entertainment:
4. Walmart and Flipkart:
5. Google and Nestlé-Digital Marketing:
6. SpaceX and NASA-Commercial Space Travel

How To Identify a Business Opportunity?

Opportunity identification is an important part of business development and growth. It allows companies to make the right decisions that will help them achieve their goals.

1. **The Customer Research Stage**-The first step is to research customers and their problems by asking questions related to the customer's needs, goals, and expectations.

This involves collecting, organising, and analysing information about customers' behaviour as well as their needs.

The past and present trends of the target market must also be identified to help businesses better understand customer preferences.

The objective is to identify potential business opportunities that can help the business create value for its customers.

2. **Problem Hypothesis Stage**-In this stage, businesses search for problems by identifying issues and concerns from customer feedback and other sources of market research. The first step is to define the problem.

Once that has been done, businesses need to search for the root cause of the problem and explore possible solutions. The goal is to formulate a well-focused hypothesis that can be tested with market research.

3. **Product Hypothesis Stage**- Businesses should determine what kind of product or service will solve customers' problems or address their needs. The product or service should target specific customers based on the information gathered during the customer research stage.

4. **Market Hypothesis Stage**-The market hypothesis stage involves testing certain key assumptions about the business opportunity with customers to determine the demand for a particular product or service in the real world, and how it solves problems in the specified market.

5. **Product Development Stage**-Once a business opportunity is confirmed, the next step is to develop a product or service that will solve the problem.

The product or service should be designed and tested using various methods to ensure its viability and effectiveness.

Businesses need to consider their target market, competitive threats, and business models as they develop the product or service.

Final product selection

There are three basic stages/steps involved in product/venture selection

1. Idea Generation:

Idea generation is the initial phase in the process of selecting a product or venture. This stage involves brainstorming and coming up with potential business ideas or product concepts.

One way to start idea generation is by analysing the strengths and weaknesses of your business or considering your own skills, interests, and passions. You can also explore market trends, customer needs, emerging technologies, or problems that need solving.

Encourage creativity and innovation during this stage to generate a range of ideas.

2. Evaluation:

Once you have a list of potential product concepts or business ideas, the next step is evaluation. This stage involves a systematic assessment of each idea's feasibility, market potential, and alignment with your goals.

Evaluation criteria may include market research findings, financial projections, scalability, competition, regulatory considerations, and your ability to execute the idea.

Some ideas may be eliminated during this stage due to various factors, while others may proceed to the next phase.

3. Choice:

The choice stage is where you make the final decision on which product concept or venture to pursue. It involves selecting one or a few ideas that have demonstrated the highest potential for success. Factors that influence your choice may include the market's readiness for the product, your own capabilities and resources, the competitive landscape, and the overall alignment of the idea with your business goals. After making these selections, you can proceed with further development, prototyping, testing, and implementation.

Concept of Product Selection:

1. Product selection is the decision-making process where a design team or entrepreneur chooses one or a few product concepts for further development and investment.
2. For entrepreneurs starting with modest investments at a small scale, product selection is especially critical because resources are limited, and making the wrong choice can have significant financial consequences.
3. This selection process involves a careful analysis of various factors, including market potential, cost implications, and alignment with the business's capabilities and goals.

It is important to note that product selection is not a one-time decision. It can be an ongoing process as businesses evolve and adapt to changing market conditions.

CHAPTER 3-PROJECT REPORT PREPARATION

PROJECT REPORT

A Project Report is a document which provides details on the overall picture of the proposed business. The project report gives an account of the project proposal to ascertain the prospects of the proposed plan/activity. 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, Marketing Cost of the project, production, financial analyses and economic viability of the project.

Need of Project Report:

1. The project report is like a Roadmap. It describes the direction the enterprise is going in, what its goals are, where it wants to be and how it is going to get there. It also enables the entrepreneur to know together he is proceeding in the right direction.
2. It helps in allotment of industrial plot or shed for the project from state industrial development corporation.
3. It helps the entrepreneur in obtaining working capital loan or term loan from Banks/State Financial Corporation/other financial institution.
4. It helps in securing supply of scarce raw materials required for the product to be manufactured.
5. It helps the entrepreneur in establishing the economic viability of the project.

CONTENTS OF A PROJECT REPORT

1. General Information

A project report must provide information about the details of the industry to which the project belongs to. It must give information about

- The past experience
- Present status
- Problems
- Future prospects of the industry
- Product to be manufactured reasons for selecting the product if the proposed business is a manufacturing unit.

2. Executive Summary

A project report must state the objectives of the business and the methods through which the business can

attainsuccess.

3. OrganizationSummary

The project report should indicate the organization structure and pattern proposed for the unit. It must state whether the ownership is based on

- sole proprietorship
- partnership
- joint stock company

4. ProjectDescription

A brief description of the project must be stated and must give details about the following:

- Location of the site
- Raw material requirements
- Target of production
- Area required for the work area
- Power requirements
- Fuel requirements
- Water requirements
- Employment requirements of skilled and unskilled labour
- Technology selected for the project
- Production process
- Projected production volumes
- unit prices
- Pollution treatment plants required.

5. MarketingPlan

The project report must clearly mention the total expected demand for the product. It must state the price at which the product can be sold in the market. Project report must mention the following:

- Type of customers
- Target markets
- Nature of market
- Market segmentation,
- Future prospects of the market
- Sales objectives
- Marketing Cost of the project
- Market share of proposed venture
- Demand for the product in the local area

6. CapitalStructureandoperatingcost

The project report must describe the total capital requirements of the project.

- It must mention the source of finance
- It must also indicate the extent of owner's funds and borrowed funds
- Working capital requirements must be stated
- source of supply should also be indicated in the project

Estimate of total project cost, must be broken down into

- Land, construction of buildings
- Civil works
- Plant and machinery
- Miscellaneous fixed assets
- Preliminary and preoperative expenses
- Working capital

7. Management Plan

The project report should state the following.

- Business experience of the promoters of the business
- Details about the management team
- Duties and responsibilities of team members
- Current personnel need of the organization
- Methods of managing the business
- Plans for hiring and training personnel
- Programs and policies of the management.

8. Financial Aspects

In order to judge the profitability of the business a projected profit and loss account and balance sheet must be mentioned in the project report. It must show

- The estimated sales revenue
- Cost of production
- Gross profit
- Net profit likely to be earned by the proposed unit.
- Projected balance sheet
- Cash flow statement
- Funds flow statement must be prepared every year and at least for a period of 3 to 5 years.

9. Technical Aspects

Project report provides information about the technology and technical aspects of a project. It covers information

- Technology selected for the project
- Production process
- Capacity of machinery
- Pollution and noise control plants

10. Project Implementation

Every proposed business unit must draw a time line for the project. It must indicate the time within the activities involved in establishing the enterprise can be completed.

11. Social Responsibility

The proposed units draw inputs from the society. Hence its contribution to the society in the form of employment, income, exports, and infrastructure. The output of the business must be indicated in the project report.

PRELIMINARY PROJECT REPORT

A preliminary project report is a brief summary of a project describing the expected inputs and outputs like finance, manpower, machinery, material, technology, expenses, production, sales and profit etc of a project before the project is actually implemented.:

1. Problem/need: A clear description of the problem or need the project aims to handle.
2. Proposed solution: A brief description of how to address the problem/need.
3. Work effort: An analysis summary of work relevant to the project.
4. Status: Current state of project work, including activities completed and unfinished.
5. Evaluation: Analysis and assessment of project work by specific criteria such as cost effectiveness, feasibility, manageability, performance, others.
6. Schedule: A timeline with specific milestones and events related to project work.

Detailed Project Report (DPR)

Detailed project report is a detailed elaboration of each and every information and estimates mentioned in the preliminary project report while preparations a detailed project report (DPR) the entrepreneur may take the help of experts to do the job preparation of DPR requires a lot of time and hence it is an each and every item is necessary in a D.P.R.

Objectives of Detailed Project Report (DPR):

The objectives in preparation of the DPR should ensure that:

The report should be with sufficient details to indicate the possible future of the project when implemented.

the report should meet the questions raised during the project appraisals (the various types of analyses can be financial, economic, technical, social etc.) should also be taken care of in the DPR. It covers the following aspects

1. Economic Aspects
2. Social and Political Aspects
3. Financial Aspects

Elements of Detailed Project Report

The following elements are there

1. **Basic information and objectives of the business:** A project report must furnish details about the project and the industrial sector to which it belongs. Other comprehensive information about the reasons for starting the project and the intricacies involved in its implementation should be stated in the project report.
2. **Organisation particulars:** Additionally, the project report also needs to state information about the organisation that has initiated the project idea. It can involve information on ownership, biographical data of the sponsors and their financial standing.
3. **Attributes of the project:** It must include a brief description of the project's detailed project report. The details of the project, such as:
 - Site location
 - Sources of raw material
 - Fuel and energy requirements
 - Labour requirements both skilled and unskilled
 - Technology requirements and its feasibility
 - Production requirements etc.

On top of that, if the business is service-oriented, then this information must be inculcated in the detailed

project report.

- **Marketing techniques:** The detailed report must include the marketing strategies considered while marketing the product. The expected demand for the product and the pricing, and other details needs to be added to the report.
- **Financial details:** To analyse whether the project's investment would reap profits and is economically viable, the financial information is included in the project report. Annual sales, cash flow statements, manufacturing cost and profit are some of the financial aspects of the project report.

Technoeconomic Feasibility Report

- Techno Economic feasibility refers to the estimation of project demand potential and choice of optimal technology
- Technoeconomic feasibility is an analysis on the existing market and technology
- The choice of technology itself will be based on the demand potential in project design
- Techno economic feasibility analyse the project on individual criteria or different aspect and sets the stage for detailed design development

A feasibility report of a new enterprise or of an expanding enterprise consist of some background info about the industry to which the project belongs, and the enterprise submitting the report in general

Factors to be considered while preparing TEFR

1. **Technical Consideration** – It establishes whether the project is technically feasible or not. In the various technical alternatives on employment, ecology, infrastructure demand, capital service, balance of payments and other factors are taken in account.
2. **Economic Considerations**- Economic data relate to market, the data required for analysis of this aspect can be obtained from secondary sources like government agencies, trade associations. Data can also be obtained through primary sources like mailed questionnaire and market survey.
3. **Financial Considerations** – Financial considerations helps the project to evaluate the different measures of commercial profitability and magnitude of financing required. It requires the current status of market with respect to the project
4. **Managerial Competence**– A proper assessment of the number and skills of staff required for the project is to be considered under this aspect. For this purpose, an appropriate organization structure is decided, then the skills and talents required by man power is determined.

Project viability

Project viability refers to the likelihood that a proposed project will achieve its intended objectives and deliver the expected benefits while being sustainable over its planned duration. Assessing project viability is a critical step in project planning and evaluation. It involves a comprehensive analysis of various factors to determine whether the project is feasible, both from a technical and financial perspective. Here are some key aspects to consider when evaluating project viability:

1. Technical Viability:

- **Technology and Resources:** Assess whether the required technology, equipment, and resources are available or can be acquired within the project's constraints.
- **Technical Expertise:** Determine whether the necessary technical expertise and skills are present within the project team or organization.
- **Resource Availability:** Ensure that essential resources, such as raw materials, infrastructure, and labor, are accessible.

- **Risk Assessment:** Identify potential technical risks and challenges that could impede project implementation and develop strategies to mitigate them.

2. Financial Viability:

- **Cost-Benefit Analysis:** Conduct a thorough cost-benefit analysis (CBA) to determine whether the project's expected benefits outweigh its costs.
- **Initial Investment:** Calculate the initial investment costs, including capital expenditures (CAPEX) for equipment, facilities, and other project-related expenses.
- **Operational Costs:** Estimate ongoing operational costs (OPEX), including labor, maintenance, utilities, and other recurrent expenses.
- **Revenue Projections:** Forecast the expected revenue streams over the project's lifespan, considering sales, service fees, or other income sources.
- **Payback Period:** Determine the time it will take for the project to generate sufficient revenue to recover its initial investment (payback period).
- **Return on Investment (ROI):** Calculate the expected return on investment over the project's lifetime.

3. Market Viability:

- **Market Analysis:** Analyze market conditions and demand for the project's products or services.
- **Market Research:** Conduct market research to understand customer preferences, competition, and pricing dynamics.
- **Trends and Competition:** Consider market trends and assess the competitive landscape.
- **Marketing Strategy:** Develop a marketing strategy to capture market share and sustain customer demand.

4. Legal and Regulatory Compliance:

- Ensure that the project complies with all relevant laws, regulations, and permits.
- Assess potential legal or compliance costs associated with the project.

5. Environmental and Social Impact:

- Evaluate the environmental and social impact of the project and consider any necessary mitigation measures.
- Address any reputational or stakeholder concerns related to environmental and social responsibility.

6. Risk Assessment:

- Identify and assess potential risks and uncertainties that could affect the project's viability.
- Develop a risk management plan to mitigate and manage identified risks.

7. Stakeholder Analysis:

- Identify and analyze key stakeholders involved in or affected by the project.
- Develop strategies for effective stakeholder engagement and communication.

8. Decision-Making:

- Based on the assessment of technical, financial, and market viability, make an informed decision about whether to proceed with the project, modify its scope, or abandon it.

Project viability is an ongoing consideration throughout the project lifecycle.

CHAPTER 4-Management Principles

Definition of management

Management is a multifaceted concept, and different authors and experts have offered their own definitions and perspectives on it. Here are definitions of management by different authors:

1. **Peter Drucker:** "Management is the process of planning, organizing, leading, and controlling an organization's resources to achieve its goals efficiently and effectively."
2. **Henry Fayol:** "To manage is to forecast and plan, to organize, to command, to coordinate, and to control."
3. **Harold Koontz and Cyril O'Donnell:** "Management is the art of getting things done through and with people in formally organized groups."
4. **Max Weber:** "Management is the coordination of all resources through the process of planning, organizing, directing, and controlling in order to attain stated objectives."

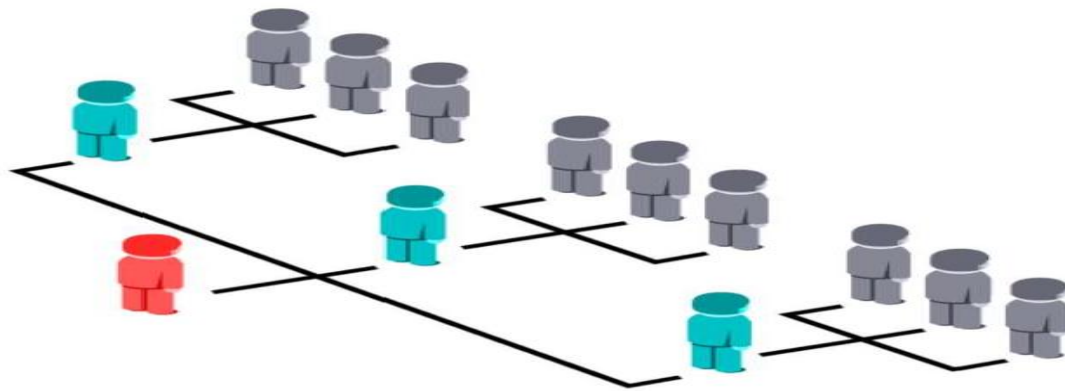
Principles of management

Henri Fayol's 14 Principles of Management

1. Division of Work:

It refers to dividing the work into different individuals. Fayol recommended that work of all kinds must be divided and allocated as per competence, qualification, and experience of individuals. According to Fayol, "Division of work intends to produce more and better work for the same effort. Specialization is the most efficient way to use human effort."

For example, a bank has several operations, like collection and payment of cash, issue of cheque books, etc. All those activities are divided and allocated to a different person in the bank. This method of doing work also improves their efficiency and makes them experts in their field.



2. Authority and Responsibility:

According to this principle, there should be a proper balance between authority and responsibility. Authority is the duty, which a subordinate is expected to perform. Authority and responsibility go hand in hand. Authority without responsibility leads to irresponsible behaviour, while responsibility without authority will make a person ineffective. According to Fayol, "Authority is the right to give orders and obtain obedience, and responsibility is the corollary of authority. The two types of authority are official authority, which is the authority to command, and personal authority, which is the authority of the individual manager."

For example, if a foreman is given the responsibility to produce 50 units per day, then he must be given the required authority to achieve this target. If he is not given authority to draw raw material from the stores, then he cannot be blamed.



3. Discipline:

Discipline refers to obedience to the rules and regulations of the organization. Discipline requires good supervision at all levels of management. According to Fayol, good supervision at all levels, clear and fair rules, and a built-in system of penalties will help to maintain discipline. It is a must for all levels of management.

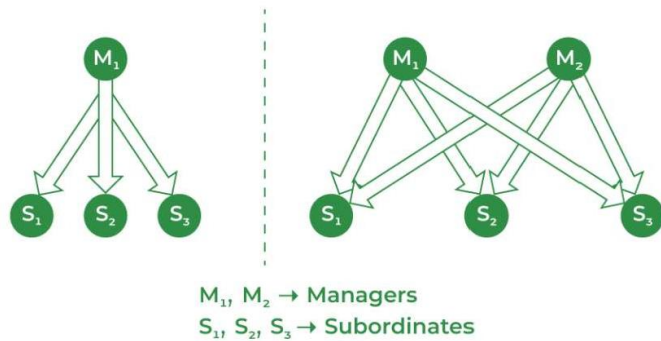
For example, employees must be disciplined to work effectively and efficiently to meet their promises of bonuses, increments, and promotions. Its smoothness systemizes the functioning of an organization by providing better relations between management and employees.



DISCIPLINE

4. Unity of Command:

According to this principle, each subordinate should receive orders and be accountable to only the superior. No person can serve several masters at the same time. If an employee gets orders from two superiors at the same time, then the principle of unity of command is violated, and he will find it very difficult to decide who he must obey first. So, to avoid confusion, employees should receive an order from one superior. For example, there is a salesperson who is asked to clinch a deal with a buyer and he is allowed to give a 12% discount by the marketing manager. But the finance department tells him not to offer more than a 6% discount. In this case, there is no unity of command, which will lead to confusion and delay.



5. Unity of Direction:

There should be one plan for a group of activities having similar objectives. Related activities should be grouped together. Efforts of all the members of the organization should be directed towards common goal. Without unity of direction, unity of action cannot be achieved.

For example, if an organization has four departments for different activities, then each department must be directed by one superior, and its employees should give their whole efforts to achieving the plan of the organization. Each division should have its in-charge, plans, and execution resources. There should not be an unnecessary duplication of efforts and a waste of resources.



6. Subordination of Individual Interest to General Interest:

According to this principle, the interest of the organization must prevail over the interest of the individual. It must be the interest of the organization that should be placed above the interest of employees. It is the duty of the manager to reconcile them. If reconciliation is impossible, then general interest must supersede individual interest. A manager must sacrifice his interest. Manager can achieve their objectives when the organization recovers from financial crises.

For example, there is a company that wants maximum output from its employees by providing less salaries. There are employees on the other hand who want to get the maximum salary while working the least. In both situations, the interests of the company will supersede the interest of any one individual. As the interests of the workers and stakeholders are more important than the interests of any one person.

Individual Interest

General Interest



7. Remuneration of Employees:

According to this principle, remuneration should be fair and satisfactory to both employees and the organization. This principle leads to harmonious relations in the organization. Fair remuneration should be determined based on government rules related to wages, financial position of the organization, nature of work, and cost of living. Employees should be paid reasonable wages for their service, which should provide them with a moderate standard of living.

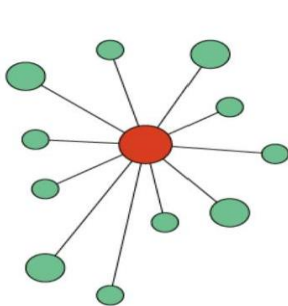
For example, if an organisation earns higher profits, then it should share some of its parts with the employees in the form of bonus.

8. Centralization and Decentralization:

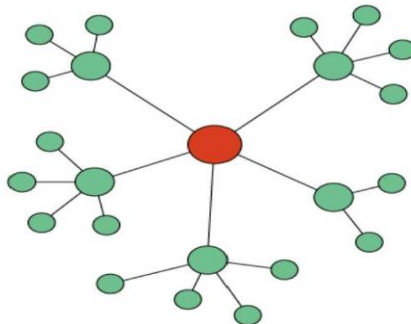
Centralization refers to the concentration of authority at the top level, and decentralization means distribution at all levels of management. According to this principle, there should be a proper balance between centralization and decentralization. The degree of centralization and decentralization depends on various factors, such as experience of the employees, ability of subordinates, size of the organization, etc. Too much centralization leads to loss of control of top management. Therefore, an optimum balance should be maintained according to the need of the organization.

For example, Authority to take vital decisions must be given to the top management, whereas authority related to operational activities must be given to the middle and lower level.

Centralization



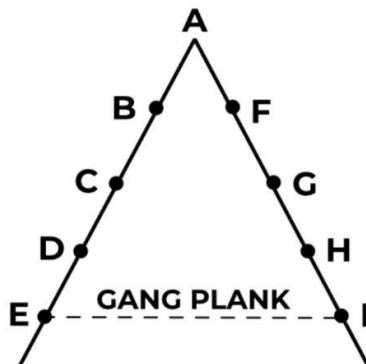
Decentralization



9. Scalar Chain:

According to this principle, there is a scalar chain of authority and communication that moves in a straight line from the superior to the lowest subordinate. Henri Fayol permitted a shortcut of chain in case of urgency known as gang plank. Gang plank allows direct communication between two employees of the same level.

For example, E wants to communicate with I for some important work. The message should orderly move from E to D, then to C, B, A, and then down from A to F, then to G, H and finally to I. This will take lots of time so to avoid this delay in work, Fayol suggested the concept of Gang Plank. In this concept 'E' can communicate directly with 'I' on an urgent matter, the gang plank allows two employees of the same level to communicate directly with each other but each must enforce to its superior.



10. Order:

According to this principle, there should be a proper place for everything and everyone. Henri Fayol emphasized on two types of order: material order and social order.

In material order, there must be a plan for everything. It ensures fix a place for various material tools.

Whereas in social order, there must be an appointed place for every employee, which ensures a proper and fixed place/cabin for each employee.

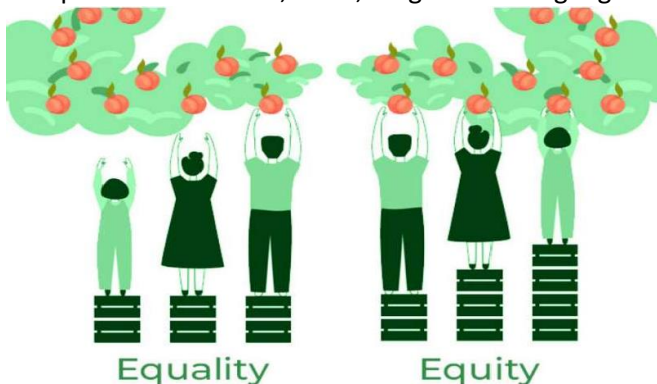
For example, there should be specific place for foremen in a factory so that the work can be done easily.

Right Thing, at Right Place, at Right Time

11. Equity:

According to this principle, there should not be any discrimination amongst employees based on religion, caste, language, or nationality. Equity ensures coordinated relations between superiors and subordinates. It leads to the smooth and successful working of the enterprise. It improves satisfaction and motivation of the employee, creating relation between manager and employees.

For example, workers doing similar jobs in the same organization should be paid same wages irrespective of their sex, caste, religion and language.



12. Stability of Personnel:

According to this principle, there should be proper effort to achieve stability and continuity of employment. Fayol said that employees should be kept in their position for a reasonable time to show result. Stability creates a sense of belonging, and workers are encouraged to improve their quality of work. This will increase the efficiency of employees, and it will also increase the reputation of the organization. Unnecessary labor turnover creates an atmosphere of disbelief. Continuous changes in employees disturb the working environment.

For example, new employees must be given ample time to adapt to new culture and environment of the workplace.

13. Initiative:

According to this principle, workers should encourage and should be given an opportunity to take initiative in making and executing the plan. Henri Fayol suggested that employees at all levels should be encouraged to take initiative in work. It motivates employees to work better and to take more interest in the organization. The initiative is a powerful motivator of human behaviour and a source of strength for the organization. This increases the mental growth and feeling of belongingness in employees. It increases the commitment of employees toward the organization. Lack of initiatives may create an atmosphere of non-cooperation. For example, organizations must have an employee suggestion system so that they have feeling of belongingness.

14. EspritDeCorps:

According to this principle, management should take reasonable steps to develop a sense of belongingness and a feeling of team spirit amongst employees. In order to achieve the best possible result, individual and group efforts need to be integrated. Production is a teamwork and it requires the full support of all members. For this purpose, a manager should replace 'I' with 'We' in his conversation to bring team spirit among the employees. This will develop an atmosphere of mutual trust. It will help in achieving group goals, leading to cordial relations between management and workers.

For example, authority and responsibility meant empowering managers, but now it means empowerment of employees because of flat organizational structures that are gaining ground.

Functions of management(planning,organizing,staffing,directing,andcontrollingetc.)

Functions of Management



1. Planning

It is the basic function of management. What to do, when to do & how to do. It bridges the gap from where we are & where we want to be. It is an intellectual activity and it also helps in avoiding confusion, uncertainties, risks, wastages etc.

For example, in Ram's organisation, the objective is the production and sale of shoes. He has to decide quantities, variety, and colour, and then allocate resources for their purchase from different suppliers. Planning cannot avoid or stop problems, but it can anticipate them and prepare emergency plans to deal with them when they occur.

2. Organising

It is the process of bringing together physical, financial, and human resources and developing productive relationship amongst them achieve goal. ¶

- Identification of activities.
- Classification of grouping of activities.
- Assignment of duties.
- Delegation of authority and creation of responsibility.
- Coordinating authority and responsibility relationships.

For example, In Ram's enterprise of shoes, there are many duties to be performed. So, he allocates the duties within the organisation forming various groups to attain the plan. He decides who will perform which task as preparation of accounts, making sales, record keeping, quality control, and inventory control are the tasks to be performed. There is an organisational hierarchy so that reporting is easy and there is a smooth flow within the enterprise.

3. Staffing

Staffing refers to the process of hiring and developing the required personnel to fill in various positions in the organisation. It is that part of the management process, which is concerned with recruitment, selection, placement, allocation, conservation, and development of human resources. It is a very important aspect of management as it ensures that the organisation has the right number and right kind of people, with the right qualification at the right places, at the right times and that they are performing the right thing. It is also known as the human resource function.

For example, when Ram is hiring personnel for his enterprise, he will recruit different people for different tasks. He must ensure that he is hiring the right people with the right qualification for the right job. For this process, Ram will need an HR manager who will be performing this task for the organisation. This will be a very important part of the management function for his organisation, as it will affect his enterprise in many ways if he selects the wrong people for the job.

4. Directing

Direction of management which deals directly with influencing, guiding, supervising, motivating subordinate for the achievement of organizational goals. Direction has following elements:

Supervision- Implies overseeing the work of subordinates by their superiors.

Motivation- Means inspiring, encouraging the sub-ordinates

Leadership- Guides the work of subordinates in desired direction.

Communications- Is the process of passing information, experience, opinion etc from one person to another.

5. Controlling

The purpose of controlling is to ensure proper progress is being made towards the objectives and goals and to correct any deviation. Therefore, controlling has following steps:

- a. Establishment of standard performance.
- b. Measurement of actual performance.
- c. Comparison of actual performance with the standards and finding out deviation if any.
- d. Corrective action

Level of Management in an Organization



Management is a group activity, which means that every organization has a number of individuals placed at different positions and are provided with different responsibilities according to their skills, education, etc. For the fulfilment of the responsibilities given to the members of an organization, they are also provided with the required authority. Based on the amount and extent of responsibility and authority given to these members, a chain of superior-subordinate relationships is formed.

This chain of superior-subordinate relationships is known as the Levels of Management. There are three levels of management; viz., Top Level Management, Middle Level Management, and Operational Level Management.

Three Levels of Management

1. Top Level Management

These senior most executives of the organization are found at the top level of management. The top level of an organization's management consists of the Board of Directors, Managing Director, Chairman, Chief Executive Officer, Chief Operating Officer, Vice-President, President, General Manager, and other Senior Executives. The managers at the top level of management of an organization are responsible for its survival and welfare. These managers perform stressful and complex work that demands long hours and commitment towards the company.

Functions of the Top-Level Management

- i) Determination of the objectives for the organization: The managers at the top-level management formulate the goals or objectives for an organization along with the strategies to achieve those goals.
- ii) Framing of plans and policies: For the achievement of the pre-determined goals or objectives of an organization, it is essential to formulate proper strategies, plans and policies within the organization. The top-level managers are responsible for the formulation of these plans and policies.
- iii) Coordination and control of the performance: Based on the overall pre-determined objectives of the organization, the top-level managers coordinate and control different activities of different departments of the organization.
- iv) Analysis of the business environment: Business environment of an organization plays a crucial role in its success and survival. The managers at the top level of management of an organization carefully analyse the business environment and its implication and make necessary decisions for better results.
- v) Setting up an organizational framework: For the success and survival of an organization, it is essential to form a proper framework or structure within the company. The top-level managers are responsible for the determination of the organizational framework for the proper and successful execution of its plans and policies.
- vi) Assembling of the resources: Achievement of the organizational goals requires different resources of materials, machines, men, money, and materials. It is the duty of the managers at the top-level

management to arrange these resources.

2. Middle Level Management

The next level of management is the Middle Level, which serves as a link between the Top-Level Management and the Lower-Level Management. The middle level management is superior to the lower or operational level management and subordinate to the top-level management. The middle level of an organization's management consists of different functional department heads, such as Departmental Managers including Production, Purchase, Finance, Personnel, Marketing Managers, and other executive officers for different departments such as plant superintendent, etc. The employees or members of the middle level management are responsible to the top-level management for their performance.

Functions of the Middle Level Management

- i) Interpretation of the policies framed by the Top-Level Management: As the middle level management acts as a subordinate to the top-level management, the managers at this level have to clearly interpret the plans and policies framed by the managers at the top-level management to the managers at the lower or operational level management.
- ii) Selection of suitable operative and supervisory personnel: To perform any function properly, an organization needs the required personnel. It is the duty of the Middle Level Managers to make sure that the organization has sufficient personnel with them to perform the functions and duties better. For the fulfilment of this duty, the middle level managers recruit and select suitable employees for different departments based on the applicant's skills, etc., and the firm's requirements.
- iii) Assigning of duties and responsibilities to the Lower-Level Management: The middle level managers act as superior to the operational level managers. These managers have to assign respective duties and responsibilities to the lower-level managers and coordinate with them regarding the activities of different work units.
- iv) Motivating employees to get desired objectives: An organization can effectively and efficiently achieve its desired goals only when its employees are motivated enough to work towards the betterment of the organization. Therefore, the managers at the middle level management motivate the employees towards the achievement of the organizational goals and improvement of their performance.
- v) Cooperating with the entire organization: As middle level management serves as a link between the top-level management and the lower-level management, the managers at this level have to cooperate with every other department for the smooth functioning of the organization.

3. Lower-Level Management

The last level of management is the lower-level management and is also known as the Supervisory or Operational Level Management. The managers at the lower level of management play a crucial role in the proper management of an organization, as they directly interact with the actual work force and interpret the instructions of the middle level managers to them. The responsibility and authority of the lower-level managers depend upon the plans and policies formed by the top-level management. The lower-level management consists of foremen, supervisors, section officers, superintendents, and other managers who have direct control over the operative employees of the organization.

Functions of the Lower-Level Management

- i) Issuing of orders and instructions: The managers at the operational level management issue orders to the workers and supervisors and instruct them on their roles, responsibilities, and authority. Besides, these managers also control the functioning of the workers.
- ii) Preparation of plan for activities: The lower-level managers plan the day-to-day activities of the organization. Besides, these managers also assign work to the subordinates, guide them for the same, and take corrective measures wherever and whenever necessary.
- iii) Assigning and assisting in work: The job or responsibility of the lower-level managers includes assigning work to the subordinates and assisting them with the work. They do so by explaining the work procedure

to the employees and solving their problems for better performance.

iv) Representing workers' grievances: As the managers at the lower-level management are in direct contact with the managers at the middle level management, they listen to the grievances of the workers and report those issues to the middle level managers.

v) Ensuring a safe and proper work environment: The lower-level managers are responsible for providing the workforce with a safe and proper work environment. They also have to maintain proper discipline and a good atmosphere within the organization, as it motivates the employees to work towards the accomplishment of the organizational goals.

CHAPTER 5-Functional Areas of Management

Functional areas of management refer to various divisions or departments within an organization responsible for specific tasks, functions, or activities aimed at achieving the organization's goals and objectives. These functional areas are critical for the efficient and effective operation of the organization, and they often correspond to specific managerial roles and responsibilities.

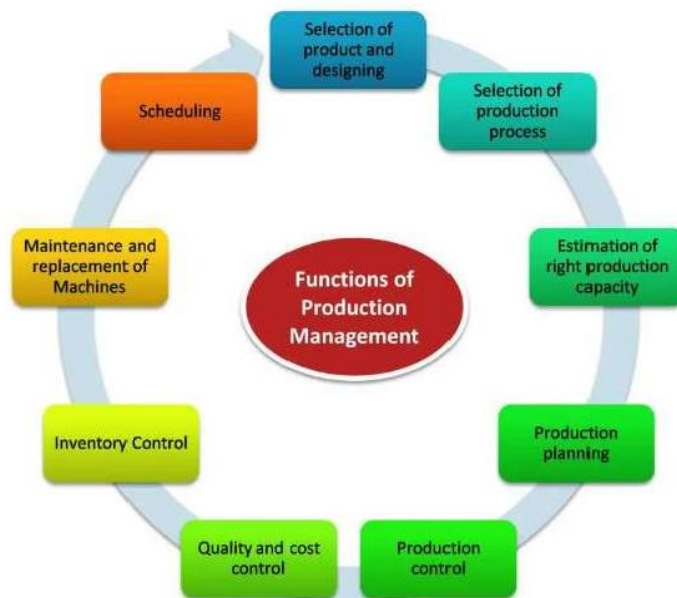
Production management

What is Production Management?

Production management is the field of study that deals with planning, organizing, controlling, and directing the production activities of the organization.

It deals with the conversion of raw materials into finished products and also with determining the quality of the finished good. Its primary objective is to produce goods and services which are of the right quality, quantity and is produced at the right time with minimum cost.

Functions, Activities



1. Selection of Product and Design—

Selection of product and designing of the same plays a pivotal role in a business venture. It is imperative for the company to approach the market with economical and valuable products from time to time which shall ensure the success and progress of the company.

2. Selection of Production Process—

The production process should be planned way before it actually starts. After the selection of product is done and the design has been decided, thereafter comes the selection of the production process. It is one of the important functions of production management.

3. Estimation of Right Production Capacity—

The selection of the right production capacity plays a huge role in production management. For this, the right

demand for the product shall be estimated, and then it must match with the production capacity.

4. Production Planning—

One major function in production management is to plan the production process. The production management hereby must decide on the routing and scheduling.

5. Production Control—

Controlling the production process is the next job of paramount importance, that the production managers shall handle. The production planning and the actual process shall be allied and if any deviations from the actual planning are found, that must be met with necessary steps for its correction.

6. Quality and Cost Control—

Quality and cost control plays a huge role in the company's upliftment, the buyers want the product to be of top-notch quality at fair and low prices. The production manager thus has to try to maintain the quality of the product and should try to lower the production cost, as it shall in turn lower the cost of the product.

7. Inventory Control—

Inventory control is also a part of production management. The inventory level must be monitored by the production manager. Overstocking and understocking of inventories are not appropriate.

8. Maintenance and replacement of Machines—

The production management ensures that machinery and equipment are properly maintained and replaced. All the machinery that would be needed for the production shall be checked prior to the actual production process.

9. Scheduling—

When it comes to taking a manufacturing process to the next stage, production scheduling is crucial. The allocation of raw materials, labour, and processes to manufacture goods for customers is known as the production schedule. The objective of production scheduling is to make the manufacturing process run as smoothly as possible by matching the production requirements with the available resources in the most cost-effective way possible.

Productivity

Productivity in production management is a critical measure of how efficiently and effectively a company utilizes its resources (such as labor, machinery, materials, and time) to produce goods or services. Improving productivity is a key goal for organizations because it can lead to increased profitability, competitiveness, and overall operational efficiency.

1. **Output vs. Input Ratio:** Productivity is often measured as the ratio of output (e.g., the number of units produced or services delivered) to input (e.g., labor hours, raw materials used, capital invested). A higher output-to-input ratio indicates greater productivity.
2. **Labor Productivity:** This measures how efficiently labor is used in the production process. It can be calculated as the ratio of output to labor hours or the value of goods produced per employee. Strategies to improve labor productivity include training, skill development, and optimizing work processes.
3. **Machine and Equipment Productivity:** Measuring how effectively machinery and equipment are utilized in production is crucial. Downtime, maintenance schedules, and capacity utilization are factors that impact this aspect of productivity.

Quality control

Quality control (QC) is a procedure or set of procedures intended to ensure that a manufactured product or performed service adheres to a defined set of quality criteria or meets the requirements of the client or customer.

Production Planning, and control

Production planning and control (PPC) is a comprehensive process within production management that encompasses the planning, execution, and monitoring of production activities to ensure that products are manufactured efficiently, on schedule, and at the desired quality level. It involves various functions and activities aimed at coordinating resources, processes, and schedules to meet production goals.

Inventory Management

What is Inventory Management?

Inventory management refers to the process of ordering, storing, using, and selling a company's inventory. This includes the management of raw materials, components, and finished products, as well as warehousing and processing of such items.

A. Need for Inventory management-

1. Managing Finances

Inventory management helps businesses understand which products are more valuable in sales and earning profits. This allows businesses to eliminate unnecessary capital blockage by strategically planning their future inventory orders.

2. Tracking Inventory

Inventory management provides a complete detailing of the inventory and its location. It is especially useful in assigning distribution channels to the inventory. Inventory management eases the process of managing more than one shop/store or warehouse.

3. Avoiding Late Deliveries

Businesses are likely to face stock-outs if they do not have proper inventory management that's where they can use the inventory management software. Stockouts can result in late deliveries and unhappy customers. Inventory management considers all plausible factors and fluctuations and provides stockout warnings from beforehand. This helps in improving customer experiences, thus increasing sales.

4. Managing Time and Effort

Proper inventory management leads to a well-arranged warehouse or store. This makes tracking products in hand and products on order easy and less time-consuming. It helps in increasing productivity and efficiency.

5. Predicting Future Sales

Inventory management helps in predicting future sales based on past transaction data. This helps businesses to prepare well for the future and meet customer expectations.

6. Enhancing Customer Loyalty

Effective inventory management warns businesses about deteriorating inventory from beforehand. This ensures that customers are only provided with top-notch quality products. Enhanced customer experience leads to repeat customers.

B. Models/Techniques of Inventory management

Three of the most popular inventory management models are Economic Order Quantity (EOQ), Inventory Production Quantity, and ABC Analysis.

Each of the inventory management models has an alternate way to deal with assisting you in knowing how much stock you ought to have available. Things you choose to utilize rely upon your business.

1. Economic Order Quantity (EOQ)

Beste Commerce traders and retail operators are driven by a prudent rationale to keep away from stockouts. Utilizing deterministic inventory management models – like the Economic Order Quantity (EOQ) model – will assist you with processing an ideal request amount that limits stock expenses (and keeps away from the most dreaded part of e-commerce). The EOQ is a recipe that figures the most prudent number of things a business should request to limit costs and boost esteem when reloading stock.

$$EOQ = \sqrt{2DS/C}$$

D = Annual Demand

C = Carrying Cost

S = Ordering Cost

In any case, the EOQ model expects a (consistent) request for an item and prompts accessibility of things to be restocked. It does not represent occasional or economic fluctuations. It expects fixed expenses of inventory units, requesting charges, and holding charges. No stockouts are allowed.

2. Inventory Production Quantity

Also called Economic Production Quantity, or EPQ, this kind of inventory management model discloses to you the number of items your business should arrange in a solitary cluster, in order to diminish holding expenses and arrangement costs. It expects that each request is conveyed by your provider in part to your business, instead of in one full item.

This model is an augmentation of the EOQ model. The distinction between the two models is the EOQ model expects

providers are convey stock in full to your client or business. This model could be the best choice for your business if:

Your business will generally request inventory from providers in parts as opposed to one full request, for example, for an automotive organization.

Interest in items is consistent over various periods of time.

3. ABC Analysis

The more cash explicit inventory presents to you, the more significant it is to you. ABC examination arranges your inventory depending on degrees of significance. By realizing which stock is the main, you realize where to concentrate. To be best, ABC analysis is often utilized with other inventory management models, like the Just in Time (JIT) technique.

Stock is sorted into either bunches A, B, or C. So how would you know which class to put in inventory under? It depends on the 80/20 guideline, otherwise called the Pareto Principle:

Category A: Inventory under this classification gets the most cash and is just a modest quantity of your all-out stock.

It accounts for just 20% of your stock however gets 70% of your complete income. Category A stock is given the most measure of consideration and has tight requesting controls set up.

Category B: Unlike Category A stock, this Category B stock is not fundamental for your business to endure, however, it actually matters. It is 30% of your stock with 25% income.

Category C: Inventory arranged under Category C is 50% of your items with 5% income. This stock does not get as much benefit as A and B, however, it is steady. Inventory management is quite free here since it gets a modest quantity of pay.

Financial Management

What is Financial Management?

In simple terms, financial management is the business function that deals with investing the available financial resources in a way that greater business success and return-on-investment (ROI) is achieved.

Functions of Financial management

- 1. Determine the Capital Requirement:** The first function of a financial manager is to estimate the total capital required by the business to fulfill its mission and objectives. The amount of capital required is determined by several factors, including the size of the business, expected profits, company programs, and policies.
- 2. Establish the Capital Structure:** After estimating the required capital, the structure must be determined. Short-term and long-term equity is used in the structure. It will also determine how much capital the company must own and how much must be raised from outside sources, such as IPOs (Initial Public Offerings), and soon.
- 3. Determine the Funding Sources:** The next financial management function is to determine where the capital will come from. The company may decide to take out bank loans, approach investors for capital in exchange for equity, or hold an IPO to raise funds from the public in exchange for shares. The source of funds is chosen and ranked based on the benefits and limitations of each source.
- 4. Fund Investment:** Another function of financial management is deciding how to allocate funds to profitable ventures. The financial manager must calculate the risk and expected return for each investment. The investment methods must also be chosen so that there is minimal loss of funds and maximum profit optimization.
- 5. Implement Financial Controls:** Controls can take the form of financial forecasting, cost analysis, ratio analysis, profit distribution methods, and soon. This information can assist the financial manager in making future financial decisions for the company.
- 6. Mergers and Acquisitions:** They both are one method of business growth. Buying new or existing businesses that align with the buyer company's mission and goals is referred to as an acquisition. A merger occurs when two current companies combine to form a new company.
- 7. Work on Capital Budgeting:** Capital budgeting refers to decisions made regarding the purchase of assets, the construction of new facilities, and the investment in stocks or bonds. Prior to making a significant capital investment, organizations must first identify opportunities and challenges.

Management of Working capital

Working capital management ensures the best utilization of a business's current assets and liabilities for the company's effective operation. The main aim of managing working capital is to monitor a company's assets and liabilities to maintain adequate cash flow and meet short-term business goals.

Costing:

Cost management is the process of planning and controlling the costs associated with running a business. It includes collecting, analyzing, and reporting cost information to more effectively budget, forecast and monitor costs.

Breakeven Analysis- A break-even analysis is a financial calculation that weighs the costs of a new business, service or product against the unit sell price to determine the point at which you will break even. In other words, it reveals the point at which you will have sold enough units to cover all of your costs.

Book Keeping- Bookkeeping is the process of recording your company's financial transactions into organized accounts on a daily basis. It can also refer to the different recording techniques businesses can use. Bookkeeping is an essential part of your accounting process for a few reasons.

Journal Entry- Journal entries record all transactions for a business. Transactions are broadly defined as any financial activity that impacts the business. They are not limited to the buying and selling of goods and services, but include any exchange of monetary value, such as interest payments, depreciation expenses, or payroll.

Petty Cash book- The petty cash book is a recordation of petty cash expenditures, sorted by date. In most cases, the petty cash book is an actual ledger book, rather than a computer record. Thus, the book is part of a manual record-keeping system. The petty cash book has declined in importance, as companies are gradually eliminating all use of petty cash, in favor of using company credit cards.

P&L Accounts- The purpose of the profit and loss statement, also referred to as the P&L, is to show you, and any investors, whether your small business is profitable. A profit and loss statement displays the company's revenue and expenses, which, when combined, result in the net income.

Balance Sheets- A balance sheet gives you a snapshot of your company's financial position at a given point in time. Along with an income statement and a cash flow statement, a balance sheet can help business owners evaluate their company's financial standing.

Marketing Management

Concept of Marketing- Marketing concept is a set of strategies that the firms adopt where they analyze the needs of their customers and implement strategies to fulfill those needs which will result in an increase in sales, profit maximization and also beat the existing competition.

Marketing Management- Marketing management refers to the control and operations of various marketing activities and the people involved in those activities, such as managers, marketing management professionals, contractors, and more.

Marketing Techniques (only concepts)

1. **Content driven**- Content has proven to be the hottest word during this pandemic-stricken phase and it is no secret that if your content is good and worthy, then it will be recognized and received well. In fact, the majority of B2B content marketers use educational assets to nurture leads and build audience trust, which is essential for inbound marketing. With the current scenario it has become all the more important to use catchy, interesting and correct content so as to engage in a right manner with your audience.

Red Bull- They create videos, articles, and events centered around extreme sports, appealing to their target audience's adventurous spirit.

GoPro- They curate and showcase these user-generated videos on their website and social media, creating a community around their brand.

Dove- Dove's content-driven marketing revolves around their "Real Beauty" campaign.

2. **Personalized messages**- These little personalized marketing messages tend to inculcate a special bond between the consumer and the brand. Such messages also give a premium feel to the audiences which leaves a lasting impression in the minds.

H&M-H&M's loyalty program offers personalized discounts and early access to sale events. They use purchase history and style preferences to send tailored offers to members, encouraging repeat purchases.

3. **Creativity**-According to Natalia Wulfe, CMO of digital marketing agency Effective Spend, platforms like Google and Facebook are taking more control of audience targeting as their algorithms have become adept at understanding which ad images will derive the best click-through and conversion rates.

Tesla-Tesla's CEO Elon Musk is known for his creative approach to marketing. He often uses social media platforms to make major announcements and engages with customers directly, creating a strong sense of community and excitement around Tesla's products.

Blendtec-Will It Blend?" video series, where they blended unusual items like iPhones and golf balls, showcased the power of their blenders in a creative and entertaining way.

4. **Invest in original research**-Investing in original research is a powerful marketing technique that can establish a brand as an authority in its industry, generate media coverage, attract backlinks, and provide valuable content for various marketing channels. Market Surveys and Reports, Webinars and Workshops,

5. Regular updation

And don't forget the content you've already published.

6. Trying HARO

Another popular strategy was responding to queries from journalists on platforms like Help A Reporter Out (HARO), as they are constantly looking for expert advice in a range of fields.

7. Guest blogging opportunities

Allowing more people to create content for your brand through guest blogging is an excellent way to derive a lot of organic traffic and promising leads for a company.

8. **SEO**-Search Engine Optimization (SEO) is a crucial digital marketing technique aimed at improving a website's visibility in search engine results pages (SERPs). Many companies use SEO techniques to improve their online visibility and attract organic traffic.

Concept of 4Ps (Price, Place, Product, Promotion)

The four Ps

The four Ps form a dynamic relationship with one another. Rather than one taking priority over the other, each is considered equally important in crafting a strategic marketing plan.

Product

The product is the goods or service being marketed to the target audience.

Generally, successful products fill a need not currently being met in the marketplace or provide a novel customer experience that creates demand. For example, the original iPhone filled a need in the market for a simplified device that paired a phone with an iPod.

As you are working on your product, it is essential to consider your target audience and their unique needs. Some questions to consider when working on a product include:

- What is your product?
- What does your product do? Does the product meet an unfilled need or provide a novel experience?
- Who is your product's target audience?
- How is your product different from what others offer?

Price

Price is the cost of a product or service.

When marketing a product or service, it is important to pick a price that is simultaneously accessible to the target market and meets a business's goals. Pricing can have a significant impact on the overall success of a product. For example, if you price your product too high for your targeted audience, very few will likely purchase it. Similarly, if you price your product too low, then some might pass it up simply because they are concerned it might be of inferior quality and cut into your potential profit margins.

To identify a successful price, you will want to thoroughly understand your target audience and their willingness to pay for your product. Some questions you might ask yourself as you are reconsidering your product's price include:

- What is the price range of your product's competitors?
- What is the price range of your target audience?
- What price is too high for your audience? What price is too low?
- What price best fits your target market?

Place

Place is where you sell your product and the distribution channels you use to get it to your customer.

Like price, finding the right place to market and sell your product is key to reaching your target audience. If you put your product in a place that your target customer doesn't visit—on or offline—you will likely not meet your sales target. The right place can help you connect with your target audience and set you up for success.

To decide the best place to market and sell your product, you should consider researching the physical or digital places where your target audience shops and consumes information. Some questions to consider include:

- Where will you sell your product?
- Where does your target audience shop?
- What distribution channels are best to reach your target market?

Promotion

Promotion is how you advertise your product or service. Through promotion, you will get the word out about your product with an effective marketing campaign that resonates with your target audience.

There are many different ways to promote your product. Some traditional methods include word of mouth, print advertisements, and television commercials. In the digital age, though, there are even more marketing channels that you can use to promote your product, such as content marketing, email marketing, and social media marketing.

Some questions to consider as you are working on your product promotion include:

- What is the best time to reach your target audience?
- What marketing channels are most effective for your target audience?
- What advertising approaches are most persuasive to your target audience?

Human Resource

Management Functions of Personnel

Management

Functions of Personnel Management: 1. Managerial Functions 2. Operative Functions!

1. Managerial Functions:

The following are the managerial functions (viz. planning, organising, directing and controlling) performed by a personnel department:

A. Personnel Planning:

Planning lays down a pre-determined course to do some things such as what to do, how to do, where to do, who to do etc. A personnel manager plans in advance the trend in wages, labour market, union demands etc. Through planning, most of the future problems can be anticipated.

B. Organising:

According to J.C. Massie, "An organisation is a structure, a framework and a process by which a co-operative group of human beings allocates its tasks among its members, identifies relationships and integrates its activities towards common objectives." The personnel manager has to design the structure of relationships among jobs, personnel and physical factors so that the objectives of the enterprise are achieved.

C. Directing:

This function relates to guidance and stimulation of the subordinates at all levels. The personnel manager directs and motivates the employees of his department so that they work willingly and effectively for the achievement of organisational goals.

D. Controlling:

A personnel manager has to constantly watch whether there is any deviation from the planned path. Controlling is concerned with remedial actions. Continuous monitoring of the personnel policies relating to training, labour turnover, wage payments, interviewing new and separated employees etc., is the backbone of controlling.

2. Operative Functions:

The operative functions of the Personnel Department are also called service functions. These include.

(a) Procurement function

(b) Development

(c) Promotion, transfer, and termination function

(d) Compensation function

(e) Welfare function

(f) Collective bargaining function

(g) Miscellaneous functions.

Manpower Planning- Manpower is the primary resource for any company. In its absence, other resources like raw materials, money, machinery, etc., cannot be used. Workers are needed for every unit, even those with a high degree of automation, such as pharmaceuticals.

This is why manpower is an essential resource that needs planning more than any other aspect of running a company. To become a successful manager, you must learn the importance of manpower planning. Manpower planning is evaluating, strategizing, and assessing the workers' skills to create a manpower team that works at optimum productivity within an organization.

Recruitment- Recruitment refers to the process of identifying, attracting, interviewing, selecting, hiring and onboarding employees. In other words, it involves everything from the identification of a staffing need to filling it. Depending on the size of an organization, recruitment is the responsibility of a range of workers.

Sources of manpower

Selection process- There are approximately five to seven steps in a typical employee selection process. The exact steps will vary by company, but the basics include announcing the job, reviewing applications, screening candidates, interviewing, final selection, testing, and making an offer.

Method of Testing- various methods of testing are used to assess the skills, abilities, knowledge, and suitability of candidates for specific job roles

Cognitive Ability Tests:, Personality Tests, Emotional Intelligence (EI) Tests, Skills Tests, Situational Judgment Tests (SJTs), Group Exercises and Assessment Centers, Interviews (Behavioral, Situational, or Competency-based):

Method of Training & Development-

1. On-the-job Methods

Job instruction training, Coaching, Mentoring, Job Rotation, Special Projects;

2. Off-the-job Methods

Special courses and lectures, Conferences and Seminars, Selected Reading, Case study method, Brainstorming

Payment of Wages

The payment of wages is a critical aspect of managing the workforce and ensuring employees are compensated accurately and timely for their work. Several key components are involved in the payment of wages:

Salary Structure:

Payroll Processing:

Time and Attendance Tracking:

CHAPTER 6- Leadership and Motivation

a) Leadership

Definition of Leadership

Leadership means creating and planning, securing resources, and looking out for and improving errors. Leadership is about motivating people to work together and cooperate with themselves and in some cases, other teams, to achieve a certain goal.

Need/Importance of Leadership

Leadership is important because it inspires, motivates, and sets an example for people to accomplish positive changes in the world. Leaders establish a vision, provide a plan of action, and build strong relationships with their followers. As a result, they guide people to accomplish incredible feats together.

Qualities and functions of a leader

Qualities of a Leader:

1. **Visionary:** Leaders have a clear vision of the future and can articulate it to others. They inspire and motivate others by painting a compelling picture of what can be achieved.
2. **Integrity:** Leaders act with honesty, transparency, and ethical principles. They earn the trust of their team members by demonstrating integrity in their actions and decisions.
3. **Confidence:** Confidence in their abilities and decisions enables leaders to make bold choices and inspire confidence in their team members. Confidence breeds trust and encourages others to follow.
4. **Effective Communication:** Leaders are skilled communicators. They can convey their ideas clearly, listen actively, and provide feedback effectively. Communication skills help in aligning the team with the vision and goals.
5. **Empathy:** Empathetic leaders understand the feelings and perspectives of others. They can relate to the challenges faced by their team members and demonstrate compassion and understanding.
6. **Decisiveness:** Leaders make timely and informed decisions. They weigh the pros and cons, gather necessary information, and have the courage to make tough choices, even in uncertain situations.
7. **Adaptability:** Leaders are open to change and can adapt their strategies in response to evolving circumstances. They are flexible and encourage their teams to embrace change as well.
8. **Inspiration:** Inspirational leaders motivate others through their actions, words, and behavior. They lead by example and inspire their team members to achieve their full potential.
9. **Resilience:** Leaders bounce back from setbacks and failures. They demonstrate resilience in the face of challenges and encourage their team to learn from failures and keep moving forward.
10. **Courage:** Courageous leaders take calculated risks and confront difficult situations or individuals when necessary. They stand up for what is right, even if it's not popular.

Functions of a Leader:

1. **Setting Direction:** Leaders provide a clear sense of purpose and direction. They define goals and create a roadmap for the team to follow.
2. **Decision Making:** Leaders make decisions that impact the team and the organization. They gather information, analyze options, and make choices that align with the overall objectives.
3. **Motivation:** Leaders inspire and motivate their team members to perform at their best. They recognize achievements, provide positive reinforcement, and create a positive work environment.
4. **Conflict Resolution:** Leaders address conflicts within the team, mediate disputes, and find solutions that promote harmony and collaboration among team members.
5. **Resource Allocation:** Leaders allocate resources effectively, including human resources, time, and budget, to ensure tasks are completed efficiently and within constraints.
6. **Team Building:** Leaders build cohesive teams by fostering collaboration, trust, and mutual respect among team members. They identify and leverage the strengths of individuals for the collective benefit of the team.
7. **Performance Evaluation:** Leaders assess individual and team performance, provide constructive feedback, and implement strategies for improvement. They recognize achievements and provide guidance for development.
8. **Continuous Learning:** Leaders encourage a culture of continuous learning and development within the team. They support skill enhancement and promote a growth mindset among team members.
9. **Communication and Feedback:** Leaders facilitate open and effective communication within the team. They provide regular feedback on performance, progress, and changes in organizational goals.
10. **Representing the Team:** Leaders represent their team to higher management and other departments. They advocate for the needs and accomplishments of their team, ensuring their contributions are recognized and valued.

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

Style of Leadership(Autocratic, Democratic, Participative)

Autocratic or Authoritative Style:

It is also known as leader centered style. Under this style of leadership there is complete centralisation of authority in the leader i.e., authority is centered in the leader himself. He has all the power to take decisions. He designs the workload of his employees and exercises tight control over them. These subordinates are bound to follow his order and directions.

Advantages:

- (i) Autocratic leadership style permits quick decision-making.
- (ii) It provides strong motivation and satisfaction to the leaders who dictate terms.
- (iii) This style may yield better results when great speed is required.

Disadvantages:

- (i) It leads to frustration, low morale and conflict among subordinates,
- (ii) Subordinates tend to shirk responsibility and initiative.

2. Democratic Style:

Under this style, a leader decentralises and delegates high authority to his subordinates. He makes a final decision only after consultation with the subordinates. Two-way communication channel is used. While delegating a lot of authority to subordinates, he defines the limits within which people can function. Democratic leaders have a high concern for both people and work.

Advantages:

- (i) Exchange of ideas among subordinates and leader improves job satisfaction and morale of the subordinates.
- (ii) Human values get their due recognition which develops positive attitude and reduces resistance to change.
- (iii) Labour absenteeism and labour turnover are reduced.
- (iv) The quality of decision is improved.

Disadvantages:

- (i) Democratic style of leadership is time consuming and may result in delays in decision-making.
- (ii) It is less effective if participation from the subordinates is for name sake.
- (iii) Consulting others while making decisions go against the capability of the leader to take decisions.

3. Participative Style

Participative managers are very involved with their employees and always ensure that they are thoroughly informed about any given situation. They place a high priority on employee development and offer subordinates plenty of growth opportunities.

Advantages:

- (i) Increase team morale. Participative leaders give every team member a voice. Because employees play an active role in the success of the company, they are more motivated and engaged with their work.
- (ii) Promote collaboration. Employees are provided the flexibility to work together to reach goals, make plans, and help one another. Collaboration contributes to higher morale as well as improved communication between team members.
- (iii) Uncover creative solutions. Since employees are encouraged to collaborate, there is a free-flowing exchange of ideas that often leads to innovative solutions.

Disadvantages:

- (i) Inhibit swift decision-making. Since participative managers want each team member to weigh in on the situation at hand, it can lengthen the decision-making process. When an urgent matter arises, this type of leader may take too long to reach a conclusion.
- (ii) Increase the likelihood of conflict. When multiple people are voicing differing opinions, conflict is likely to happen. While conflict doesn't necessarily have to be negative, participative leaders must be prepared to handle disagreements when they arise.

B. Motivation

1. Definition and characteristics

Motivation is the process that initiates, guides, and maintains goal-oriented behaviors. It is what helps you lose extra weight, for instance, or pushes you to get that promotion at work. In short, motivation causes you to act in a way that gets you closer to your goals.

2. Importance of motivation

Motivation can cause colleagues to be more willing to work together to achieve a common goal. Such cooperation and collaboration are important in leadership, as it helps to develop more cohesive teams. Motivated team members are also more likely to have a positive attitude, improving the team's dynamic.

Factors affecting motivation

1. **Leadership style**- The appropriate leadership styles encourage employees to develop objectives and goals in their positions, work towards those goals and help employees maintain that motivation throughout the course of their time at the organization.
2. **Recognition and appreciation**- Appreciation and recognition are two important components of motivation within an organization. Offering recognition and praise not only makes employees feel accomplished and appreciated, but it also reinforces good performance and encourages employees to continue repeating the actions that led to the performance.
3. **Meaning and purpose**- Employees who find a sense of meaning and purpose in their work often have higher levels of motivation than those who don't.
4. **Positive company culture**- A company's culture can greatly impact employee motivation in the workplace. Many employees feel more valued and enjoy their work more when there is a strong company culture that supports employees and brings them together on a regular basis.
5. **Professional development opportunities**- Employees often feel more motivated at work when there are ample opportunities for growth and professional development. Giving employees opportunities to increase their skills and become more efficient in their positions.
6. **Job advancement opportunities**- Another way in which employees become more motivated in the workplace is when a clear path of job advancement is emphasized.
7. **Financial benefits**- While financial benefits aren't a motivator for all employees, they can enhance many employees' overall motivation in the workplace. Examples of financial motivators include bonuses, raises, promotions, competitive benefits packages and additional paid time off.

- 8. Flexible work schedules-** Offering employees the opportunity to create their own schedules or work flexible hours is another great way to instill motivation in your team. Flexible schedules allow employees to better accommodate family needs, holidays and other personal daily responsibilities that more rigid schedules often don't.

Theories of motivation (Maslow)

Maslow's Hierarchy of Needs Theory is regarded as one of the most popular theories on motivation. It is a theory of psychology that explains that humans are highly motivated in order to fulfil their needs, which is based on hierarchical order.



Levels of Hierarchy

The levels of hierarchy in Maslow's need hierarchy theory appear in the shape of a pyramid, where the most basic need is placed at the bottom while the most advanced level of hierarchy is at the top of the

1. Physiological needs: The physiological needs are regarded as the most basic of the needs that humans have. These are needs that are very crucial for our survival. The examples of physiological needs are food, shelter, warmth, health, homeostasis and water, etc.

2. Safety Needs: Once the basic needs of food, shelter, water, etc are fulfilled, there is an innate desire to move to the next level. The next level is known as the safety needs. Here the primary concern of the individual is related to safety and security.

3. Social Needs (Also known as Love and Belonging Needs): This is the third level in the need hierarchy theory. It is that stage where an individual having fulfilled his physiological needs as well as safety needs seeks acceptance from others in the form of love, belongingness.

4. Esteem needs: This is considered as the fourth level of the hierarchy of needs theory. It is related to the need of a person being recognised in the society. It deals with getting recognition, self-respect in the society.

5. Self-actualization needs: It relates to the need of an individual to attain or realise the full potential of their ability or potential. At this stage, all individuals try to become the best version of themselves. In other words, self-actualisation is the journey of personal growth and development.

Methods of Improving Motivation

- Make your business pleasant.
- Be a respectful, honest, and supportive manager.
- Offer employee rewards.
- Give them room to grow.
- Share positive feedback.
- Be transparent.
- Offer flexible scheduling.

- Offer food in the workplace

Importance of Communication in Business

- The Basis of Co-ordination.
- Fluent Working.
- The Basis of Decision Making.
- Increases Managerial Efficiency.
- Increases Cooperation and Organizational Peace.
- Boosts Morale of the Employees

Types of communication:

- **Formal communication** Being formal, clear, and specific is a great way to ensure a proper flow of information in the workplace.
- **Informal communication**- in a casual, relaxed manner that doesn't follow prescribed rules, conventions, or structures. It's the type of communication that occurs naturally within social interactions,
- **Horizontal communication**- refers to the exchange of information, messages, and feedback between individuals or groups at the same hierarchical level within an organization. In other words, it involves communication between colleagues, peers, or teams who are at the same organizational level.
- **Vertical communication**- refers to the exchange of information, messages, and feedback between different levels of the organizational hierarchy within a company. It involves the flow of information either downward from higher levels of management to lower levels or upward from lower levels to higher levels.

Types and Barriers of Communication

- Dissatisfaction or Disinterest With One's Job.
- Inability to Listen to Others.
- Lack of Transparency & Trust.
- Communication Styles (when they differ)
- Conflicts in the Workplace....
- Cultural Differences & Language

CHAPTER 7-Work Culture, TQM & Safety

1. Human relationship and Performance in Organization, Relations with Peers, Superiors and Subordinates

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

By developing key human relations skills, managers and employees both can build and maintain stronger relationships within a workforce and maintain a positive work environment. Here are the most critical human relations skills:

The results showed that superior-subordinate relationship have positive relation with job satisfaction and organization commitment. The study concluded by showing that strong leader-member exchange led to employee job satisfaction, which may result in improved organizational commitment. Maintain discipline among employees. Maintain good work performance by accepting only quality work from subordinates. Build cooperation and morale among other employees. Be loyal to management and to the company.

Relationship among employees may be of following type:

- Direct Single Relationships:
- Direct Group Relationships:
- Cross-Relationships:

2. TQM concepts: Quality Policy, Quality Management, Quality system

Total Quality Management (TQM) is a management approach that focuses on continuous improvement in all aspects of an organization's processes, products, and services to meet or exceed customer expectations. TQM involves a set of principles and practices that promote a culture of quality, teamwork, and customer focus within the organization.

Several key concepts are fundamental to TQM, including Quality Policy, Quality Management, and Quality System:

1. Quality Policy:

Definition: A Quality Policy is a formal statement by an organization that outlines its commitment to quality and customer satisfaction. It communicates the organization's quality objectives and serves as a guiding principle for decision-making and actions related to quality.

Components of a Quality Policy:

- Commitment to Quality:** Declares the organization's commitment to delivering high-quality products or services.
- Customer Focus:** Emphasizes meeting or exceeding customer expectations and requirements.
- Continuous Improvement:** Acknowledges the organization's dedication to continuous improvement in processes and performance.
- Compliance:** Commits to adhering to relevant quality standards, regulations, and customer requirements.
- Involvement:** Encourages the involvement of employees at all levels in maintaining and improving quality.

Importance:

- Provides a clear direction for the organization's quality objectives.
- Aligns the workforce towards a common quality goal.

- Serves as a basis for setting quality objectives and performance metrics.

2. Quality Management:

Definition: Quality Management involves the systematic planning, implementation, control, and continuous improvement of processes, products, and services to ensure they meet or exceed established quality standards and customer expectations.

Key Principles of Quality Management:

- Customer Focus:** Meeting customer needs and exceeding customer expectations is a primary focus.
- Leadership:** Effective leadership provides direction and support for quality initiatives.
- Employee Involvement:** Involving employees in quality improvement processes harnesses their knowledge and expertise.
- Process Approach:** Emphasizes understanding and improving processes to achieve desired outcomes.
- Systematic Approach to Management:** Applying a systematic and structured approach to managing quality.
- Continuous Improvement:** Encourages ongoing enhancement of processes and outcomes.
- Factual Approach to Decision Making:** Informed decisions based on data analysis and facts.

Importance:

- Enhances product and service quality.
- Reduces defects, waste, and costs.
- Improves customer satisfaction and loyalty.
- Fosters a culture of continuous improvement.

3. Quality System:

Definition: A Quality System refers to the organizational structure, procedures, processes, and resources established to implement quality management effectively. It includes documentation, training, and monitoring processes to ensure consistency and compliance with quality standards.

Components of a Quality System:

- Quality Manuals:** Documents the organization's quality policies, procedures, and guidelines.
- Standard Operating Procedures (SOPs):** Detailed instructions for specific processes and tasks.
- Training Programs:** Ensure employees are knowledgeable about quality standards and procedures.
- Document Control:** Ensure that all documents are up-to-date and accessible to relevant personnel.
- Quality Audits:** Regular assessments to verify compliance with quality standards.
- Corrective and Preventive Actions (CAPA):** Processes for addressing non-conformities and preventing their recurrence.

Importance:

- Ensures consistency and standardization in processes and outputs.
- Facilitates compliance with industry standards and regulations.
- Provides a framework for continuous improvement efforts.

Accidents and Safety, Cause, Preventive measures, General Safety Rules, Personal Protection Equipment (PPE)

Accidents and Safety:

Definition: Accidents are unplanned events that result in harm, injury, damage to property, or loss of life. Safety measures are protocols and precautions put in place to prevent accidents and ensure the well-being of individuals in various environments, including workplaces.

Causes of Accidents:

- **Human Factors:** Such as negligence, lack of training, fatigue, or improper use of equipment.
- **Environmental Factors:** Including poor lighting, inadequate ventilation, or slippery surfaces.
- **Mechanical Factors:** Such as equipment failure, malfunction, or improper maintenance.

- **Procedural Factors:** Flaws in processes, lack of safety protocols, or inadequate safety training.
- **Natural Factors:** Like earthquakes, floods, or storms, which can cause accidents.

Preventive Measures:

1. **Training and Education:** Providing comprehensive training to employees on safety protocols and procedures.
2. **Regular Maintenance:** Ensuring all equipment and machinery are regularly inspected and well-maintained.
3. **Safety Protocols:** Implementing and enforcing strict safety guidelines and protocols in workplaces.
4. **Emergency Preparedness:** Developing and practicing emergency response plans and evacuation procedures.
5. **Personal Responsibility:** Encouraging individuals to be aware of their surroundings and adhere to safety rules.
6. **Safety Inspections:** Conducting regular safety inspections to identify potential hazards and rectify them.
7. **Reporting and Analysis:** Establishing systems for reporting near misses and accidents to investigate their causes and implement preventive measures.

General Safety Rules:

1. **Wear appropriate safety gear:** Always wear helmets, gloves, goggles, and other necessary safety equipment depending on the task.
2. **Follow proper procedures:** Adhere to established procedures and guidelines for tasks and operations.
3. **Keep work area clean:** Clutter-free environments reduce the risk of accidents.
4. **Use tools and equipment correctly:** Improper use can lead to accidents. Use tools only for their intended purpose.
5. **Avoid shortcuts:** Do not bypass safety procedures or take shortcuts to complete tasks quickly.
6. **Report hazards:** Report any unsafe conditions or practices to supervisors immediately.
7. **Stay alert:** Being aware of your surroundings can prevent many accidents.
8. **Proper lifting techniques:** Use proper body mechanics and equipment to lift heavy objects.
9. **Fire Safety:** Know the location of fire exits, fire extinguishers, and evacuation routes. Participate in fire drills.

Personal Protection Equipment (PPE)

PPE means personal protective equipment or equipment you use to guarantee your (own) safety.

Use PPE always and anywhere where necessary. Observe the instructions for use, maintain them well and check regularly if they still offer sufficient protection. But when do you use what type of protection?

These 7 tips will help you on your way.

1. SAFETY FOR THE HEAD- Wearing a helmet offers protection and can prevent head injuries. Select a sturdy helmet that is adapted to the working conditions. These days you can find many elegant designs and you can choose extra options such as an adjustable interior harness and comfortable sweatbands.

2. PROTECT YOUR EYES- The eyes are the most complex and fragile parts of our body. Each day, more than 600 people worldwide sustain eye injuries during their work. Thanks to a good pair of safety glasses, these injuries could be prevented. Do you meet bright light or infrared radiation? Then welding goggles or a shield offer the ideal protection!

3. HEARING PROTECTION

Do you work in an environment with high sound levels? In that case it is very important to

consider hearing protection. Earplugs are very comfortable, but earmuffs are convenient on the work floor as you can quickly put these on or take them off.

4. MAINTAIN A GOOD RESPIRATION

Wearing a mask at work is no luxury, definitely not when coming into contact with hazardous materials. 15% of the employees within the EU inhale vapours, smoke, powder or dust while performing their job.

Dust

masks offer protection against fine dust and other dangerous particles. If the materials are truly toxic, use a full-face mask. This adheres tightly to the face, to protect the nose and mouth against harmful pollution.

5. PROTECT YOUR HANDS WITH THE RIGHT GLOVES

Hands and fingers are often injured, so it is vital to protect them properly. Depending on the sector you work in, you can choose from gloves for different applications:

protection against vibrations

protection against cuts by sharp materials protection against cold or heat

protection against bacteriological risks

protection against splashes from diluted chemicals.

6. PROTECTION FOR THE FEET

Even your feet need solid protection. Safety shoes (type Sb, S1, S2 or S3) and boots (type S4 or S5) are the ideal solution to protect the feet against heavy weights. An antiskid sole is useful when working in a damp environment, definitely if you know that 16,2% of all industrial accidents are caused by tripping or sliding. On slippery surfaces, such as snow and ice, shoe claws are recommended. Special socks can provide extra comfort.

7. WEAR THE CORRECT WORK CLOTHING

Preventing accidents is crucial in a crowded workshop. That is why a good visibility at work is a must: a high-visibility jacket and pants made of a strong fabric can help prevent accidents. Just like the hand protection, there are versions for different applications.

CHAPTER8

Legislation

IntellectualPropertyRights(IPR),Patents,Trademarks,Copyrights

Intellectual Property Rights (IPR) are legal rights that protect creations of the mind, such as inventions, literary and artistic works, designs, symbols, names, and images used in commerce. These rights grant creators and inventors' exclusive rights to their intellectual property, enabling them to control its use and receive recognition or financial benefits.

There are several types of intellectual property rights, including patents, trademarks, and copyrights, each serving different purposes:

1. Patents:

Definition:A patent is a legal document granted by a government that gives inventors the exclusive right to make, use, and sell their inventions for a limited period, usually 20 years from the filing date of the application.

KeyPoints:

1. **Inventions:** Patents protect new and useful inventions, processes, products, or improvements on existing inventions.
2. **Exclusive Rights:** Patent holders have the exclusive right to use and license their inventions, preventing others from using, making, selling, or importing the patented invention without permission.
3. **Public Disclosure:** In exchange for the exclusive rights, patent holders must publicly disclose the details of their invention, contributing to the body of knowledge in their field.

2. Trademarks:

Definition: A trademark is a distinctive sign, symbol, logo, word, or phrase used to identify and distinguish goods or services from those of other companies. It serves as a brand identifier in the marketplace.

KeyPoints:

1. **Distinctiveness:** Trademarks must be distinctive and not generic, descriptive, or commonly used to identify specific products or services.
2. **Protection of Brand Identity:** Trademarks protect the unique identity of products or services, enhancing brand recognition and consumer trust.
3. **Renewable:** Trademarks can be renewed indefinitely, as long as they are actively used and maintained.

3. Copyrights:

Definition: Copyright is a legal protection granted to the creators of original literary, artistic, and musical works, giving them the exclusive right to reproduce, distribute, perform, and display their work.

KeyPoints:

1. **Original Works:** Copyright protects original works of authorship, including books, music, software, art, films, and other creative expressions.
2. **Limited Duration:** Copyright protection typically lasts for the lifetime of the author plus an additional 50 to 70 years after their death, depending on the jurisdiction.
3. **Fair Use:** Certain uses of copyrighted works are allowed under the doctrine of fair use, such as for educational or critique purposes, without the need for permission.

Importance of Intellectual Property Rights:

- **Encouragement of Innovation:** IPR protection encourages inventors and creators to invest time and resources in developing new technologies, products, and creative works.
- **Economic Growth:** IPR fosters economic growth by promoting entrepreneurship, attracting investments, and creating jobs in innovative industries.
- **Protection of Investments:** IPR safeguards the investments made in research, development, and branding by providing legal protection against unauthorized use.

- **Consumer Protection:** Trademarks and copyrights ensure that consumers receive genuine and high-quality products or services from trusted sources.
- **Cultural Development:** Copyright protection preserves cultural heritage by encouraging the creation and dissemination of artistic and literary works.

Features of Factories Act 1948 with Amendment (only salient points)

The Factories Act, 1948 is an important legislation in India that regulates the conditions of work in factories. Over the years, several amendments have been made to the Act to address emerging issues and improve the working conditions of factory workers. Below are the salient points of the Factories Act, 1948 with its amendments:

Salient Features of the Factories Act, 1948 (with Amendments):

1. Definition of Factory:

- A place where ten or more workers are employed with the use of power, or
- A place where twenty or more workers are employed without the use of power, in a manufacturing process.

2. Licensing and Registration:

- It is mandatory for factories to obtain a license for operation, and they must be registered before commencement of work.

3. Working Hours:

- Maximum 48 hours of work per week and 9 hours of work per day.
- Overtime is to be paid for work done beyond the regular hours.

4. Holidays:

- Weekly holiday (usually Sunday) is compulsory.
- National and festival holidays with pay.

5. Health and Safety:

- Adequate measures for the health and safety of workers, including cleanliness, ventilation, lighting, and drinking water facilities.
- Provision for first aid, medical examination, and ambulance room for emergencies.

6. Welfare Provisions:

- Facilities such as restrooms, creches (for factories with more than 30 women workers), and lunchrooms.
- Safety measures for hazardous processes and dangerous operations.

7. Child Labor and Young Workers:

- Prohibition of employment of children below the age of 14 years.
- Special provisions for the employment of young persons (age 15 to 18 years), ensuring their safety and proper working conditions.

8. Annual Leave with Wages:

- Workers are entitled to leave with wages after 240 days of work in a calendar year.
- Leave calculation is based on the number of days worked.

9. Dismissal and Discharge:

- Conditions under which a worker can be dismissed or discharged are specified, protecting workers from arbitrary termination.

10. Compensation for Accidents:

- Compensation for workers in case of employment-related accidents leading to disability or death.

11. Employee Records:

- Maintenance of records and registers related to the employment, working hours, accidents, and more.

12. Amendments:

- The Act has been subject to several amendments over the years to accommodate changing

industrial needs, improve safety standards, and enhance workers' welfare

Features of Payment of Wages Act 1936 (only salient points)

The Payment of Wages Act, 1936, is an important labor legislation in India that ensures the timely payment of wages to employees. Here are the salient points of the Payment of Wages Act, 1936:

Salient Features of the Payment of Wages Act, 1936:

- 1. Definition of Wages:** Wages include all remuneration in monetary terms, whether fixed or calculated by the hour, day, or any other method, including bonuses, allowances, or any other special benefits.
- 2. Time of Wage Payment:** Wages must be paid before the 7th and 10th day of the following wage period for establishments with less than 1000 employees and more than 1000 employees respectively.

In case of termination, within two days.

- 3. Deductions:** Permissible deductions include those for income tax, employees' contributions to provident funds, and fines for absence from duty.

Deductions for damages or loss of goods supplied by the employer are allowed only if the employee agrees in writing.

- 4. Maintenance of Records:** Employers are required to maintain records and registers showing various details, including the rates of wages, the nature and extent of work performed by workers, receipts, and disbursements.
- 5. Fines:** Fines imposed on workers should not exceed three percent of the wages payable to the worker in a wage period.

Total fines imposed in any one wage period should not exceed an amount equal to three percent of the wages payable in respect of that wage period.

- 6. Penalties:** Penalties are imposed on employers who contravene the provisions of the Act. Penalties can include fines and imprisonment.
- 7. Claims and Appeals:** Workers have the right to make claims for unpaid wages within a specific period to the authority appointed under the Act.

Provision for appeals against decisions made under the Act.

- 8. Responsibility of Employers:** Employers are responsible for the payment of wages to employees without any unauthorized deductions.

Employers are also required to ensure the accuracy and completeness of records related to wages.

- 9. Non-Application:** The Act does not apply to wages payable in respect of a wage period which does not exceed one month and where the number of persons employed is less than 1,000.

CHAPTER 9

SMART TECHNOLOGY

Introduction to Components of IoT

With the increasing bandwidth availability and cheap hardware cost, IoT is changing the industry landscapes in scale. From medical, construction, governance to Insurance, BFS the use cases of IoT are spreading day by day. The IT spending of multinational corporations, banks, and other institutes are also increasing along with all these developments. Though the hardware, software and infrastructure requirements of Industry grade IoT differ from domain to domain, the basic components remain the same.

In this article, we will discuss the standard components of an IoT system.

Key Components of IoT

We can list down the below components as key parts of an IoT ecosystem.

1. Sensors or End Devices

For any IoT use case, the components of the endpoint are sensors. Sensors capture electric pulse or analog signals which are passed through the IoT ecosystems. Based on the use case and domains RFID, temperature sensors, light sensors, electromagnetic sensors, etc. are used. For example, smartphones and smart wearables are equipped with sensors like accelerometer, Gyroscope sensors, etc. Data obtained from these IoT endpoints can be used in various domains like Human activity recognition, medical stability, etc. Based on the use case and precision requirements sensors can be chosen keeping the following parameters in mind

Accuracy of the input readings Reliability percentage of the inputs

The purpose of the use case, for example, sensors required for a temperature-dependent use case, will differ from use cases based on motions.

Industry grade IoT systems can be integrated with multi-technology, cross-functional and cross-vendor products. Based on the complexity and compatibility sensors are chosen for a particular use case.

2. Network or Connectivity Layer

In a typical IoT ecosystem, sensors are connected with computation layers and intelligent layers via network or connectivity layers. IoT endpoints need to be always connected with various other components seamlessly over the connectivity layer. Based on the scale of the implementations IoT components can be connected over LANs, MANs or WANs. It can also be connected through telephony networks like LTE (Long Term Evolution or popularly known as 4G Network) or light-based technologies like Li-Fi (where light is used as a mode of communication to maintain interconnections). For local use cases, Bluetooth and Wi-Fi can also be used.

An IoT network consists of various network components like routers, gateways, switches, various network protocols, etc. Based on the use case and domain proper network infrastructure is needed to be chosen.

3. Security Layers

The heart of any industry-grade IoT user story is 'data'. In a standard use case, analog or digital signal is acquired by sensors and the signal is then converted to a format on top of which AI/ML components can work. In the total flow of data, proper security systems and methodologies need to be enforced. The data can be compromised in any layers starting from the data acquisition to business insights derivations. We can enforce proper security by using strong encryption in various layers of communication, using proper firmware and anti-malware systems, etc.

Intelligence: This will be essential for smart product

Connectivity: This feature will be responsible for network accessibility and compatibility features of the devices and hence one of the prime characteristics.

Sensing: Like collecting the information basing the retrieval capacity and providing it for intelligent decision

Expressing: This will enable interactivity with humans and the world.

Energy: Without this, there will not be the creation of our devices. Energy harvesting and proper infrastructure to charge and all will be important features for our IoT devices

Safety: The prime feature on which the customer relies and uses the product. Hence no compromise on this is allowed and all the details need to be checked and validated. For some feature, if you see there are even government regulations as well.

Benefits of IoT Technology

There are many benefits of IoT technology which is a niche technology and some of them are listed below:

- 1. Business Opportunity:** There will be enhanced opportunities for the business with IoT and new revenue tracks can be easily developed. IoT-driven products and innovations will be an asset to the organization.
- 2. Enhanced and Efficient Asset Utilisation:** With IoT, there will be improved tracking of the assets and efficient products can be achieved on a real-time basis.
- 3. Enhance Device Communication:** Establishing the interaction between machines will be a boom and IoT will be one step further in this process.
- 4. Automation and Control:** IoT with its device interaction and connectivity strives towards achieving automation with minimal or no human intervention since machines can lead to a faster and timely output.
- 5. Time-Saving and Efficiency:** IoT which uses the machine-to-machine interaction will help us to utilize human time efficiently and also the work gets faster results which will define its efficiency.

The IoT is a complex system with a number of characteristics. Its characteristics vary from one domain to another. Some of the general and key characteristics identified during the research study are as follows:

1. Intelligence

IoT comes with the combination of algorithms and computation, software & hardware that makes it smart. Ambient intelligence in IoT enhances its capabilities which facilitate the things to respond in an intelligent way to a particular situation and support them in carrying out specific tasks. In spite of all the popularity of smart technologies, intelligence in IoT is only concerned as a means of interaction between devices, while user and device interaction is achieved by standard input methods and graphical user interface.

2. Connectivity

Connectivity empowers Internet of Things by bringing together everyday objects. Connectivity of these objects is pivotal because simple object-level interactions contribute towards collective intelligence in IoT network. It enables network accessibility and compatibility in the things. With this connectivity, new market opportunities for Internet of Things can be created by the networking of smart things and applications.

3. Dynamic Nature

The primary activity of Internet of Things is to collect data from its environment; this is achieved with the dynamic changes that take place around the devices. The state of these devices changes dynamically, for example sleeping and waking up, connected and/or disconnected as well as the context of devices including temperature, location and speed. In addition to the state of the device, the number of devices also changes dynamically with a person, place and time.

4. Enormous scale

The number of devices that need to be managed and that communicate with each other will be much larger than the devices connected to the current Internet. The management of data generated from these devices and their interpretation for application purposes becomes more critical. Gartner (2015) confirms the enormous scale of IoT in the estimated report where it stated that 5.5 million new things will get connected every day and 6.4 billion connected things will be in use worldwide in 2016, which is up by 30 percent from 2015. The report also forecasts that the number of connected devices will reach 20.8 billion by 2020.

5. Sensing

IoT wouldn't be possible without sensors which will detect or measure any changes in the environment to generate data that can report on their status or even interact with the environment.

Sensing technologies provide the means to create capabilities that reflect a true awareness of the physical world and the people in it. The sensing information is simply the analogue input from the physical world, but it can provide the rich understanding of our complex world.