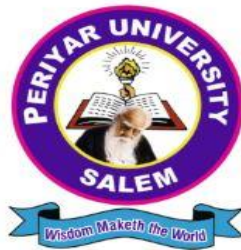


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SALEM - 636 011

**CENTRE FOR DISTANCE AND ONLINE EDUCATION
(CDOE)**

**BACHELOR OF BUSINESS ADMINISTRATION
SEMESTER - IV**



Core Paper VII: Business Environment

(Candidates admitted from 2024 onwards)

PERIYAR UNIVERSITY

CENTRE FOR DISTANCE AND ONLINE EDUCATION (CDOE)

B.B.A 2024 admission onwards

Core Paper VII: Business Environment

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Business Environment

UNIT OBJECTIVES

After studying this chapter, you will be able to:

- Explain the concept of business environment
- Describe the nature and scope of business environment
- Describe the importance of business environment
- Explain the components of business environment
- Discuss the relationship between business environment and strategic management

SECTION 1.1: BUSINESS ENVIRONMENT - AN INTRODUCTION

All living creatures including human beings live within an environment. Apart from the natural environment, environment of humans include family, friends, peers and neighbours. It also includes man-made structures such as buildings, furniture, roads and other physical infrastructure. The individuals do not live in a vacuum. They continuously interact with their environment to live their lives. Just like human beings, business also does not function in an isolated vacuum. Businesses function within the environment and have to negotiate their way through it. The extent to which the business thrives depends on the manner in which it interacts with its environment. A business, which continuously remains passive to the relevant changes in the environment, gradually fade away from the market. To be successful business one not only have to recognize different elements of the environment but also respect, adapt to or have to manage and influence them. The business must continuously monitor and adapt to the environment if it is to survive and prosper. Disturbances in the environment may spell extreme threats or open up new opportunities for the firm. A successful business has to identify, appraise, and respond to the various opportunities and threats in its environment. As stated above, the success of every business depends on adapting itself to the environment within which it functions. For example, when there is a change in the government policies, the business has to make the necessary changes to adapt it to the new policies. Similarly, a change in the technology may make the existing product useless or of no importance, as we have seen that the introduction of computer has replaced the typewriters; the colour television has made the black and white television out of fashion. Again a change in the fashion or customers' taste may shift the demand in the market for a particular product, e.g., the demand

for jeans reduced the sale of other traditional wear. All these aspects are external factors that are beyond the control of the business. So the business units must have to adapt themselves to these changes in order to survive and succeed in business. Hence, it is very necessary to have a clear understanding of the concept of business environment and the nature of its various components.

1.1.1 Meaning and Definition Business Environment

The word 'business environment' indicates the aggregate total of all people, organisations and other forces that are outside the power of industry but that may affect its production. According to an anonymous writer- "Just like the universe, withhold from it the subset that describes the system and the rest is environment". Therefore, the financial, cultural, governmental, technological and different forces which work outside an enterprise are part of its environment. The individual customers or facing enterprises as well as the management, customer groups, opponents, media, courts and other establishments working outside an enterprise comprise its environment.

Business Environment has been defined by Bayard O. Wheeler as "the total of all things external to firms and industries which affect their organization and operation".

According to Arthur M. Weimer, business environment encompasses the 'climate' or set of conditions, economic, social, political or institutional in which business operations are conducted.

According to Glueck and Jauch, "The environment includes factors outside the firm which can lead to opportunities for or threats to the firm. Although there are many factors, the most important of the sectors are socio-economic, technological, supplier, competitors, and government."

According to Barry M. Richman and Melvyn Copen "Environment consists of factors that are largely if not totally, external and beyond the control of individual industrial enterprise and their managements. These are essentially the 'givers' within which firms and their management must operate in a specific country and they vary, often greatly, from country to country".

1.1.2 Concept of Business Environment

A business firm is an open system. It gets resources from the environment and supplies its goods and services to the environment. There are different levels of environmental forces. Some are close and internal forces whereas others are external forces. External forces may be related to national level, regional level or international level. These environmental forces provide opportunities or threats to the business community. Every business organization tries to grasp the available opportunities and face the threats that emerge from the business environment. Business organizations cannot change the external environment but they just react.

They change their internal business components (internal environment) to grasp the external opportunities and face the external environmental threats. It is, therefore, very important to analyze business environment to survive and to get success for a business in its industry. It is, therefore, a vital role of managers to analyze business environment so that they could pursue effective business strategy. A business firm gets human resources, capital, technology, information, energy, and raw materials from society. It follows government rules and regulations, social norms and cultural values, regional treaty and global alignment, economic rules and tax policies of the government. Thus, a business organization is a dynamic entity because it operates in a dynamic business environment.

1.1.3 Importance of Business Environment

Just like us, business operations do not survive in confinement. Every enterprise is not an island to itself; it subsists, endures and develops within the circumstances of the part and forces of its situation. While an individual enterprise is able to do minute to change or manage these forces, it has no choice to reacting or modifying according to them. Good knowledge of the environment by business managers allows them not only to recognise and assess but also to respond to the forces outside to their enterprises. The significance of the business environment and its perception by managers can be understood if we contemplate the below-mentioned following points:

(A) It Helps in Identifying Opportunities and Making First Mover Advantage

- The environment provides numerous opportunities, and it is necessary to identify the opportunities to improve the performance of a business.

- Early identification gives an opportunity to an enterprise be the first to identify opportunity instead of losing them to competitors.

Example: 'Airtel' identified the need for fast internet and took first-mover advantage by providing 4G speed to its users followed by Vodafone and Idea.

- Asian paints lost market share to Nerolac because it failed to match its technology.

(B) It Helps the Firm Identify Threats and Early Warning Signals

- The business environment helps in understanding the threats which are likely to happen in the future.
- Environmental awareness can help managers identify various threats on time and serve as an early warning signal.

Example: Patanjali products have become a warning signal to the rest of the FMCG

- The sector to develop similar products. Similarly, if an Indian firm finds that a foreign multinational is entering the Indian market with new substitutes; it needs to prepare accordingly.
- Chinese mobile phones have become a threat for Indian mobile phone manufacturers.

(C) It Helps in Tapping Useful Resources

- Business and industry avail the resources (inputs) from the environment and convert them into usable products (outputs) and provide to society.
- The environment provides various inputs (resources) the like finance, machines, raw materials, power and water, labour, etc.
- The business enterprise provides outputs such as goods and services to the customers, payment of taxes to the government, to investors and so on.

Example: With the demand for the latest technology, manufacturers will tap the resources from the environment to manufacture LED TVs and Smart TVs rather than collecting resources for colour or Black & White TVs.

(D) It Helps in Coping With Rapid Changes

- The business environment is changing very rapidly, and the industry is getting affected by changing market conditions.
- Turbulent market environment, less brand loyalty, divisions of markets, changes in fashions, more demanding customers, and global competition are some examples of changing the business environment.

Example: Jack Ma started Alibaba as he could see the potential of interest in E-Commerce.

(E) It Helps in Assisting in Planning and Policy Formulation

- The business environment brings both threats and opportunities to a business.
- Awareness of business environment helps in deciding future planning or decision making.

Example: Multiple entries of Chinese phones like VIVO, Gionee, OPPO, etc. have posed a threat to local players like Micromax, Karbonn, Lava etc. to think afresh how to deal with the situation.

(F) It Helps in Improving Performance

- Environmental studies reveal that the success of any enterprise is closely bound with the changes in the environment.
- The enterprises which monitor and adopt suitable business practices not only improve their performance but become leaders in the industry also.

Example: Apple has been successful in maintaining its market share due to its proper understanding of the environment and making suitable innovations in its products.

1.1.4 Features of Business Environment

(A) The totality of External Forces

- Business environment includes everything which is outside the organisation.
- If we add all these forces, they will form a business environment.

Example: When Pepsi and Coca-Cola got permission to set up their business in India, it was an opportunity for them and threat for local manufacturers like gold spot, camp-cola etc.

(B) Specific and General Forces

- **Specific forces** are those forces which directly affect the operational activities of the business enterprise.
- **Example:** *Suppliers, Customers, Investors, Competitors, Financers etc.*
- **General forces** are those forces which indirectly affect the functioning of business enterprises.

Example: Economic, Social, Political, Legal and Technological conditions.

(C) Inter-relatedness

- Different forces of business environment are interrelated to each other.
- One component of the business environment affects the functioning of other components.

Example: The increased life expectancy of people and awareness of health consciousness has increased the demand for many health products like diet coke, olive oil, and so many health products.

(D) Dynamic Nature

The business environment is dynamic in nature and keeps on changing in terms of :

- (a) Technological improvement,
- (b) Shifts in consumer preferences,
- (c) The entry of new competition in the market.

Example: Many established companies in FMCG (Fast Moving Consumer goods) sector are focusing on producing the goods with natural ingredients with the entry of 'Patanjali Products'.

(E) Uncertainty

- The changes in the business environment cannot be predicted accurately because of future uncertainties.
- It is very difficult to predict the changes in the economic and social environment.

Example: There has been a sharp decline in the prices of Android smartphones due to the entry of many new companies.

(F) Complexity

- All forces of the Business environment are interrelated and dynamic, which makes it difficult to understand.
- Complex nature of Business environment can be understood if we study it in parts.
- **Example:** *Increase in goods and service tax to 15 % would increase the revenue of the government (economic), which would help the government to improve social being of people (social) and reduce the personal disposable income of rich people and thereby controlling inflation.*

(G) Relativity

Business Environment differs from place to place, region to region and country to country.

Example: In China, the electricity to the industry is provided at cheaper rates as the consumption increases and hence, it leads to mass production whereas, in India, it is otherwise, higher consumption of electricity leads to costly electricity which results in lower production & higher cost of production.

1.1.5 Nature of Business Environment

Business Environment is very complicated, dynamic and multi-dimensional and affects different business institutions in different ways. It exhibits many characteristics like:

1. Complex Environment comprises of many factors. All these factors are related to each other. Therefore, their individual effect on the business cannot be recognised. This is perhaps the reason which makes it difficult for the business to face them.

2. Dynamic As is clear that environment is a mixture of many factors and changes in some or the other factors continue to take place. Therefore, it is said that business environment is dynamic.

3. Uncertain Nothing can be said with any amount of certainty about the factors of the business environment because they continue to change quickly. The professional people who determine the business strategy take into consideration the likely changes beforehand.

4. Multi-dimensional Business environment is related to the local conditions and this is the reason as to why the business environment happens to be different in different countries and different even in the same country at different places.

5. Interdependent components The different factors of business environment are co-related. For example, change in the import-export policy with the coming of a new government. In this case, the coming of new government to power and change in the import-export policy are political and economic changes respectively. Thus, a change in one factor affects the other factor.

1.1.6 Scope of Business Environment

The aspects which fall under business environment are as follows:

Internal and external environment: Internal environment includes all those factors that are within an organisation and impart strength or cause weakness in business. For example, inefficient human resource, superior raw material, etc.

External environment includes those factors which are beyond the control of business and are outside the organisation. They provide opportunities and pose threat to business. For example, change in political conditions, technological change, etc.

Specific and general environment: Specific environment includes external forces that directly impact or influence organisations' decisions and actions and are directly relevant to the achievement of organisations' goals. The main forces that make up the specific environment are customers, suppliers, competitors and pressure groups.

General environment includes the economic, political/legal, socio-cultural, demographic, technological and global conditions that affect organisations. External forces do not affect organisations to a great extent, but organisations must plan, organise, lead and control their activities taking into account these factors.

Micro environment and macro environment: Micro environment impacts the working of a particular business. It has direct impact on business activities. It includes customers, suppliers, market intermediaries, competitors, etc. These factors are controllable to some extent.

Macro environment is general environment that impacts the working of all businesses. It is uncontrollable and influences indirectly. Political conditions, economy, technology, etc., come

under macro environment.

Controllable and uncontrollable environment: All those factors which are governed by business come under controllable environment. Internal factors are treated as controllable factors, like men, material, machine, money, etc. Uncontrollable factors are external and are beyond the control of business like technological change and law related change.

1.1.7 Components of Business Environment

The performance of an organisation is affected by the business environment. It has a far-reaching impact on its survival, profit and growth. There are certain forces inside and outside the organisation. These forces affect the business both in positive and negative ways.

Figure 1 displays components of business environment:

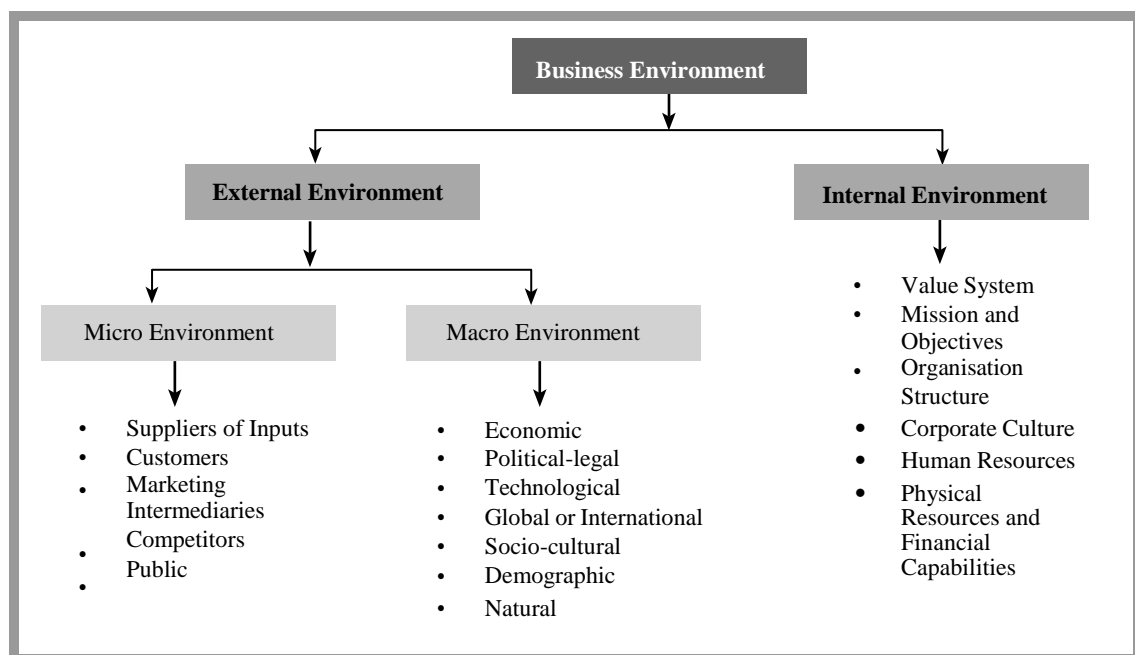


FIGURE 1: Components of Business Environment

Various components of business environment are as follows:

- **Internal environment:** These are those factors or conditions that exist within an organisation and affect its performance. These factors are controllable in nature and organisation can try to change or modify these factors. Organisation's resources like men, material, money, method and machine come under internal environment.

Various internal factors are as follows:

- **Value system:** The values are the ethical beliefs that guide the organisation in achieving its mission and objectives. It is framed by top-level managers like board of directors. The extent to which the value system is shared by all in the organisation is an important factor contributing to its success.
- **Mission and objectives:** The objective is the end towards which business activities are directed. All businesses focus on maximisation of profit. Mission is defined as the overall purpose or reason for its existence. A mission guides and influences an organisation's decisions and economic activities. An organisation can change or modify its mission and objective accordingly.
- **Organisation structure:** The organisational structure is the hierarchy in business that define roles, responsibilities and supervision. The composition of the board of directors, the professionalism of management, etc., come under organisation structure and are important factors influencing business decisions. For efficient working of a business organisation and to facilitate prompt decision making, the organisation structure should be conducive.
- **Corporate culture:** Shared values and belief in an organisation which determine its internal environment are called corporate culture. Organisation where there is strict supervision and control results in lack of flexibility and unsatisfied employees. The sets of values that help members understand what organisation stands for how it does work, what it considers, cultural values of business forces of business, and so on. It helps in direction of activities.
- **Human resources:** Human quality of a firm is an important factor of internal environment. Skills, qualities, capabilities, attitude, competencies and commitment of its employees, etc., could contribute to the strengths and weaknesses of an organisation. Organisations may find it difficult to carry out modernisation and redesigning because of resistance by its employees.
- **Physical resources and financial capabilities:** Physical resources, such as plant and equipment, facilities and financial capabilities of a firm determine its competitive strength which is an important factor for determining its efficiency and unit cost of production. Also research and development capabilities of a company determine its

ability to introduce innovations which enhance the productivity of workers. Financial capabilities are company's source of fund generation.

- **External environment:** These are those factors and the conditions which are outside the organisation and affect the performance of business. External factors are further divided into micro environment and macro environment which are as follows:
 - **Micro environment:** Those factors which have direct impact on business. The various constituents under micro environment are as follows:
 - ✓ **Suppliers of inputs:** The suppliers of inputs are important factors in the external micro environment of a firm. Suppliers provide raw material and resources to the firm. A firm should have more than one supplier for proper inflow of inputs.
 - ✓ **Customers:** They are the buyers of firm's products and services. Customers are an important part of external micro environment because sales of a product or service are critical for a firm's survival and growth, so it is necessary to keep the customers satisfied.
 - ✓ **Marketing intermediaries:** Intermediaries play an essential role of selling and distributing its products to the final customers. Marketing intermediaries are an important link between a business firm and its ultimate customers. Retailers and wholesalers buy in bulk and sell business products and services to the ultimate consumer.
 - ✓ **Competitors:** Competitors are the rivalry in business. Competition can be based on pricing of products or based on competitive advertising. For example, organisations may sponsor some events to promote the sale of different varieties and models of their products. Business formulates strategies after analysing their competitor.
 - ✓ **Public:** Public or groups, such as environmentalists, media groups, women's associations, consumer protection groups, are important factors in external micro environment. Public, according to **Philip Kotler**, *is any group that has an actual or potential interest in or impact on the company's ability to achieve its objective.*
- **Macro Environment:** These are the factors or conditions which are general to all businesses and are uncontrollable. Because of the uncontrollable nature of macro forces, a firm needs to adjust or adapt it to these external forces. These factors are as follows:
 - ✓ **Economic environment:** All those forces which have an economic impact on businesses are called economic environment. It includes agriculture, industrial production, infrastructure, and planning, basic economic philosophy, stages of economic development,

trade cycles, national income, per capita income, savings, money, etc., For example, low per capital income will negatively impact business because people have less money to spend.

✓ **Political-legal environment:** The activities of legislature, executive and judiciary play a vital role in shaping, directing, developing and controlling business activities. Rules and regulations, framed by the government, like licensing policy, polythene ban, etc., affect the business. Business growth can be achieved by using a stable and dynamic political-legal environment.

✓ **Technological environment:** Systematic application of scientific or other organised knowledge to practical tasks or activities is called technology. As it is changing fast, businessmen should keep a close look on those technological changes for its adaptation in their business activities.

✓ **Global or international environment:** The global environment is also important for shaping business activity. In the era of globalisation, whole world is a market. Business analyses international environment to cope upwith the changes.

✓ **Socio-cultural environment:** People's attitude towards work and wealth, lifestyle, ethical issues, role of family, marriage, religion and education and also social responsiveness of business affect the business.

✓ **Demographic environment:** Population size and growth, life expectancyof the people, rural-urban distribution of population, the technological skills and educational levels of labour force come under demographic environment. These features also affect the functioning of organisations.

✓ **Natural environment:** The natural environment plays an important role as it provides raw materials and energy for production in a firm. Natural environment consists of geographical and ecological factors a such as minerals and oil reserves, water and forest resources, weather and climatic conditions and port facilities. These are very important for many business activities. For example, in places where temperatures are high, the demand for coolers and air conditioners is high. Also, demand for clothes and building materials depends on weather and climatic conditions. Natural calamities like floods, droughts, earthquakes, etc., immensely affect business activities.

Let's Sum Up

The business environment encompasses the combination of internal and external factors that influence a company's operating situation. Internally, it includes elements such as employees, management, and organizational culture. Externally, it comprises the microenvironment, which consists of immediate factors like customers, suppliers, and competitors, and the macroenvironment, which includes broader forces such as political, economic, social, technological, legal, and environmental factors. Tools like PESTLE analysis help evaluate these external macroenvironmental factors, while SWOT analysis identifies internal strengths and weaknesses along with external opportunities and threats. Understanding the business environment is crucial for companies to adapt to changes, identify opportunities, formulate strategies, and enhance decision-making, ultimately leading to sustainable growth.

Check Your Progress - QUIZ – 1

1. **Which of the following best describes the term "business environment"?**
 - A. The physical location where a business operates
 - B. The combination of internal and external factors that influence a company's operating situation
 - C. The economic conditions of a country
 - D. The internal culture and values of a business
2. **Which of the following is NOT considered a factor in the external environment of a business?**
 - A. Competitors
 - B. Suppliers
 - C. Company's management team
 - D. Legal and regulatory factors
3. **Which analysis tool is commonly used to evaluate the external environment of a business?**
 - A. SWOT Analysis
 - B. Balanced Scorecard
 - C. PESTLE Analysis
 - D. Six Sigma
4. **In the context of a business environment, what does the term "microenvironment" refer to?**
 - A. The broad forces that affect not just the company, but the entire industry
 - B. The internal environment of the company, including employees and management
 - C. The immediate environment surrounding a company that affects its performance and decision-making
 - D. The international environment affecting a company's operations

5. What is the primary focus of the social environment in the business context?

- A. Economic policies and market trends
- B. Social trends, demographics, and cultural aspects
- C. Technological advancements and innovations
- D. Legal regulations and compliance requirements

SECTION 1.2 AN OVER VIEW OF POLITICAL ENVIRONMENT

The political environment of global marketing is the set of governmental institutions, political parties and organizations that are manifestations of the people of the nations of the world. In particular, anyone involved in global marketing should have a comprehensive understanding of the importance of sovereignty to national governments. The political environment varies from country to country and it is important to assess political risk. It is important to understand a particular government's actions with respect to taxation and property seizure. Historically, these have been done in the form of expropriation, confiscation, and nationalization

- The political environment plays an important role in business regulations.
- The political environment mainly affects the way a business operates. But more than once it became an obstacle in the operation of the business.
- The political environment is related to the business environment including all the rules and regulations, laws and the role of government in the day-to-day operations of organizations.

The business political environment refers to the political or governmental actions that affect business operations. Political factors often go hand-in-hand with legal factors and are often seen as non-market forces affecting business operations. Political decisions ultimately affect the entire economic, social and cultural environment.

The political environment can be studied in terms of central government, a country's citizens, rules and regulations or international relations. Examples of political factors associated with a country's central government are the level of bureaucracy, corruption, and government stability . A culture of corruption in a country stifles business by creating an uneven playing field where corrupt individuals are better able to achieve their business goals than those who are not corrupt. A highly unstable government cannot provide entrepreneurs with the security they need to transact peacefully, resulting in a volatile business environment. Examples of political

factors related to international relations are trade tariff policies, import and export policies of goods and services, and international trade agreements.

The political environment can be of paramount importance to a company. How a government develops its policies and the type of economic measures it adopts can determine the success or failure of a company. Promoting a particular type of business can lead to increased income for industries and players in that sector, but can result in losses for others. The government also takes into account all these risks and effects, as sudden or prolonged changes in the political environment can impact GDP and the economy as a whole.

Many external environmental factors can affect your business. Often managers have to carefully consider each of these factors. The goal is always to make better decisions for the growth of the business. Some of the common factors are political, economic, social and technological (known as PEST analysis). Companies also consider environmental, legal, ethical, and demographic factors.

Political Stability

- The political scenario of a country has a huge impact on the operation of a business.
- If political stability is lacking, there are always interruptions and unequal work patterns to be observed.
- The government continues to impose restrictions in various sectors, thus affecting large-scale business.

Taxation The tax system is very important when it comes to the political environment. If a government balances taxes and budgets, businesses have an incentive to produce more and grow.

Foreign Trade Regulations

Expansive business management policies enable businesses to operate on a global scale, where the government plays a role. The government sets various rules and regulations (EXIM policy, Forex policy, etc.), to enable the company to operate in the international market and maintain its competitiveness in the global market.

The political situation of a country affects its economic framework. The economic environment affects business performance. For example, there are major differences between Democratic and Republican politics in the United States . This affects factors such as taxes and government spending, which ultimately affects the economy. Higher levels of government spending generally stimulate the economy.

Governments should adjust their regulations and guidelines. This should in flip have an impact on a business. After the accounting scandals of the early twenty first century, America SEC have become greater attentive on company compliance. The authorities brought the Sarbanes-Oxley compliance guidelines of 2002. This became a response to the social surroundings. The social surroundings advised a extrude to make public corporations greater liable.

Lack of political stability in a country affects business. This is especially true for companies that operate internationally. For example, a drastic takeover could topple the government. This can lead to riots, looting and general disorder in the environment. These disrupt business operations. Sri Lanka was in a similar state during a civil war. Egypt and Syria faced disturbances too.

1.2.1 An over view of cultural environment

Certainly! Here's a concise overview of a fictional cultural environment:

Cultural Diversity: The cultural environment is characterized by a vibrant mix of traditions, languages, and customs stemming from various ethnicities and historical influences. This diversity enriches daily life and fosters a spirit of inclusivity and tolerance.

Arts and Expression: Creativity flourishes in this society, with a rich tapestry of artistic expressions including literature, music, dance, visual arts, and theater. Artistic endeavors serve as mediums for storytelling, social commentary, and cultural preservation.

Cuisine and Gastronomy: Food is more than sustenance; it's a celebration of heritage and community. Culinary traditions are cherished, and local cuisine reflects a fusion of flavors and techniques passed down through generations.

Festivals and Celebrations: Throughout the year, the calendar is filled with colorful festivals and cultural celebrations that bring people together to honor traditions, share joy, and strengthen bonds. These events are marked by music, dance, feasting, and rituals.

Religious and Spiritual Practices: Religion and spirituality play integral roles in daily life, with a diverse array of belief systems coexisting harmoniously. Places of worship serve as centers for reflection, community, and shared values.

Education and Knowledge: Learning is highly valued, and educational institutions serve as pillars of society. Knowledge is revered, and intellectual pursuits are encouraged, fostering innovation, critical thinking, and lifelong learning.

Social Customs and Etiquette: Social interactions are governed by customs and etiquette that emphasize respect, hospitality, and consideration for others. Shared meals, gatherings, and ceremonies serve as opportunities for connection and camaraderie.

Language and Communication: Language serves as a bridge that connects people across cultural divides. Multilingualism is common, and communication is facilitated by a shared appreciation for linguistic diversity.

Fashion and Style: Fashion is an expression of individuality and cultural identity, reflecting both tradition and modernity. Clothing styles vary widely, with each garment telling a story and embodying cultural values and aesthetics.

Environmental Stewardship: There is a deep reverence for the natural world, and efforts are made to protect and preserve the environment for future generations. Sustainable practices, conservation efforts, and eco-friendly initiatives are embraced by the community.

This overview captures the essence of the cultural environment, highlighting its richness, dynamism, and interconnectedness.

Let's Sum Up

The cultural environment of a business encompasses the societal norms, values, beliefs, customs, and behaviors that shape the social context in which a company operates. It is a

crucial aspect of the external environment that influences consumer preferences, buying behavior, and overall market dynamics. Understanding the cultural environment helps businesses tailor their products, services, and marketing strategies to align with local customs and expectations. It includes factors such as language, religion, social norms, and traditions, which can vary significantly between regions and countries. A keen awareness of the cultural environment enables companies to build stronger relationships with customers, avoid cultural misunderstandings, and enhance their global competitiveness. This understanding is vital for international businesses aiming to enter new markets, as it ensures that they can effectively communicate and connect with diverse consumer bases, ultimately contributing to the business's success and sustainability.

Check Your Progress - QUIZ – 1

1. What is meant by the term 'cultural environment' in business?

- A. The natural resources available in a country
- B. The customs, beliefs, values, and norms of a society that influence business practices
- C. The physical location where a business operates
- D. The economic conditions affecting a business

2. Which of the following is a characteristic of a high-context culture?

- A. Communication is direct and explicit
- B. Relationships are short-term and task-oriented
- C. Non-verbal cues and context are significant in communication
- D. Business is conducted quickly and efficiently

3. In Hofstede's cultural dimensions theory, which dimension measures the degree to which people in a society accept inequality in power and distribution?

- A. Individualism vs. Collectivism
- B. Power Distance Index
- C. Uncertainty Avoidance
- D. Masculinity vs. Femininity

4. Which of the following best describes a collectivist culture?

- A. Emphasis on individual achievements and personal goals
- B. Preference for working alone rather than in groups
- C. Focus on group goals, harmony, and collective well-being
- D. High value placed on competition and assertiveness

5. What is 'cultural intelligence' in the context of international business?

- A. The ability to analyze market trends and economic indicators
- B. The capacity to function effectively in different cultural contexts
- C. The skill of developing innovative business strategies
- D. The knowledge of a country's political environment

SECTION 1.3 MEANING OF LEGAL ENVIRONMENT – AN OVERVIEW

The legal environment of business refers to the framework of laws, regulations, and legal principles that govern and impact business activities. To operate properly, there are other aspects, such as contracts, employment laws, intellectual property rights, antitrust regulations, and ethical considerations. These factors provide a structure within which businesses operate, ensuring compliance with legal requirements and promoting fair and ethical business practices.

When it comes to dealing with the legal aspects of running a business, it's not just about knowing the specific rules that directly impact your company. The law is constantly changing in response to changes in society, technology, and the global economy. For business leaders and professionals, a comprehensive knowledge of the law is vital to making informed decisions, minimizing risks, and ensuring adherence to regulations.

1.3.1 Different Types of the Legal Environment

The legal environment of business consists of various types, each playing a crucial role in developing how business companies operate. Below, we discuss some significant categories of legal environments that impact the company.

Domestic Legal Environment

- The domestic legal environment encompasses the laws and regulations governing business activities within a specific country.
- It comprises legislation passed by the government, court decisions, administrative orders, and policies issued by government authorities.
- This legal system significantly influences businesses, shaping aspects ranging from company formation to the sale of goods and services.

- Examples of laws and regulations in the domestic legal environment include labor laws, environmental regulations, tax codes, intellectual property laws, antitrust regulations, and consumer protection laws.

Social Legal Environment

- The social legal environment involves the regulatory framework and legal structures governing societal interactions and behaviors.
- It comprises a diverse set of laws grounded in cultural, ethical, and social values, reflecting the prevailing norms of a given community or nation.
- This legal environment extends to personal rights, civil liberties, discrimination, family matters, and various other social issues.
- Its role is crucial in maintaining order, justice, and fairness within society, influencing individual behavior, and shaping institutional practices.

Economic Legal Environment

- The economic legal environment constitutes the system of laws and regulations governing economic activities.
- It includes laws related to business formation, operation, contract, property, and employment.
- Sector-specific regulations within industries such as finance, energy, and healthcare are incorporated into the regulatory structure.
- This legal environment plays a vital role in shaping the economy and promoting economic growth.

Technological Legal Environment

- The technological legal environment constitutes the body of laws and regulations governing the development, use, and commercialization of new technologies.
- It includes laws about intellectual property, data privacy, and security, as well as regulations specific to technologies like artificial intelligence, autonomous vehicles, and drones.

Political Legal Environment

- The political-legal environment involves the interaction between the political and legal systems in a particular society or country, significantly impacting business operations.
- It comprises government structures, policies, regulations, and the broader legal framework set by the governing body with respect to the country's benefit.
- Changes in government, shifts in policies, and alterations in legal regulations can profoundly affect businesses, shaping their strategies, decision-making processes, and overall viability.
- A thorough understanding and assessment of the political-legal environment are crucial for businesses to anticipate and adapt to challenges and opportunities within a specific jurisdiction.

1.3.2 Characteristics of a Legal Environment of Business

Several fundamental features define the legal environment of business, shaping the framework in which businesses conduct their operations and make decisions. These characteristics include:

- **Fairness:** The legal environment must uphold fairness for all businesses, irrespective of their size or influence, promoting confidence in the courts' ability to enforce contracts and protect property rights.
- **Consumer Protection:** The legal environment commonly incorporates regulations designed to protect consumers against unfair business practices. These may consist of standards for product safety, rules governing advertising, and mechanisms to address consumer complaints.
- **Certainty:** Businesses need to be able to predict the outcome of legal disputes in order to make informed business decisions. A legal environment that is uncertain can lead to businesses being reluctant to invest and grow.
- **Efficiency:** An effective legal system is crucial for timely dispute resolution, as businesses cannot bear the burden of lengthy and expensive legal processes.
- **Regulatory Agencies:** Government agencies oversee and regulate specific industries, forming part of the legal environment. Regulatory bodies within this framework monitor compliance and enforce industry-specific laws.

1.3.3 Different Aspects of the Legal Environment of Business

The legal environment of business consists of an array of legal considerations. This includes taxation laws, antitrust regulations, laws overseeing different business structures (such as companies, partnerships, limited liability partnerships, or sole proprietorships), labor regulations, contract laws, consumer protection laws, international trade and business laws, regulations for mergers and acquisitions, health and safety standards, environmental statutes, and laws about intellectual property. Understanding and navigating these various legal facets is crucial for businesses to operate within the bounds of the law.

Let's now have a look into the business activities and the corresponding legal framework in the context of India:

Companies Act of 2013

- **Company Formation:** Defines the process and requirements for forming companies, including types of companies, their incorporation, and dissolution.
- **Corporate Governance:** Regulates the management, responsibilities, and duties of directors, board meetings, audits, and shareholder rights.
- **Financial Reporting:** Specifies financial statement requirements, audits, and disclosures for transparency and accountability.

Partnership Act of 1932

- **Partnership Formation:** Specifies the formation, registration, and dissolution of partnerships.
- **Rights and Duties of Partners:** Defines the rights, responsibilities, and liabilities of partners within a partnership.

Consumer Protection Act 1986

- **Consumer Rights:** Defines and protects the rights of consumers against unfair trade practices and deficiencies in goods and services.
- **Consumer Forums:** Establishes consumer forums at district, state, and national levels for redressal of consumer grievances.

- **Compensation and Penalties:** Allows consumers to claim compensation for losses suffered due to defective products or deficient services. It also imposes penalties on entities found guilty of unfair trade practices.

Competition Act of 2002

- **Antitrust Regulations:** Prevents anti-competitive practices, regulates mergers and acquisitions, and promotes fair competition.
- **Competition Commission:** Establishes the Competition Commission of India to enforce antitrust laws and regulate markets.

Copyright Act of 1957

- **Copyright Protection:** Safeguards literary, artistic, and musical works, granting exclusive rights to creators.
- **Duration of Copyright:** Specifies the duration of copyright protection for various types of works.

Environmental Protection Act 1986

- **Environmental Standards:** Sets standards and guidelines for environmental protection, conservation, and management.
- **Regulatory Authorities:** Establishes bodies such as the Central Pollution Control Board (CPCB) and State Pollution Control Boards (SPCBs) to enforce environmental regulations.
- **Environmental Impact Assessment (EIA):** Mandates the assessment of the potential environmental impact of new projects, industries, or activities before initiation.

Trademark Act of 1999

- **Trademark Registration:** Regulates the registration, use, and protection of trademarks, logos, and brand names.
- **Trademark Infringement:** Outlines actions against unauthorized use or infringement of trademarks.

Sale of Goods Act 1930

- **Contract of Sale:** Defines the contract of sale, including the essentials of a valid sale contract, such as offer, acceptance, consideration, and intention to transfer ownership.
- **Goods and Their Classification:** Specifies what constitutes 'goods' under the Act and categorizes them into existing, future, specific, and unascertained goods.
- **Transfer of Ownership:** Determines when the ownership of goods passes from seller to buyer, considering specific conditions like an unconditional contract or specific performance terms.

1.3.4 Impact of the Legal Environment on Business

A successful business depends heavily on a stable legal environment, which is a key factor that determines the rules and regulations that govern its operations. The legal environment includes laws, rules, and regulations established by the government, which have a significant impact on various aspects of business.

Below are some the impact of the legal environment on business:

- Taxation plays a critical role in impacting business growth. Higher tax rates can limit profitability, while lower rates create better conditions for increased earnings.
- A favorable legal environment is crucial for economic growth. Government-imposed taxation and regulations can foster development while safeguarding consumer rights.
- Businesses prioritize consumer rights within this legal framework to prevent exploitation, unfair practices, and fraud.
- The legal environment also encompasses regulatory activities such as controlling environmental pollution, enforcing employment and minimum wage laws, and ensuring food and drug safety.
- Also, a strong legal framework contributes to sustained business prosperity and benefits both consumers and entrepreneurs.

Let's Sum Up

The legal environment of business encompasses the framework of laws and regulations that govern commercial operations, ensuring fair practices and protecting stakeholders. This environment includes various aspects such as contract law, employment law,

antitrust laws, intellectual property rights, and environmental regulations. Compliance with these laws is crucial for businesses to avoid legal disputes and penalties. The legal environment also affects business strategies and decisions, influencing areas like marketing, human resources, and operations. By understanding and adhering to legal requirements, businesses can operate ethically, maintain their reputation, and contribute to a stable and predictable market environment.

Check Your Progress - QUIZ – 1

- 1. What does the legal environment of business refer to?**
 - A. The natural resources available for business operations
 - B. The system of laws and regulations that affect business operations
 - C. The cultural norms and values that influence business practices
 - D. The economic conditions impacting business activities
- 2. Which of the following is a primary source of law in the United States?**
 - A. International treaties
 - B. Company policies
 - C. Constitutions
 - D. Business ethics
- 3. Which law regulates the competition among businesses to promote fair competition and prevent monopolies?**
 - A. Contract Law
 - B. Antitrust Law
 - C. Employment Law
 - D. Intellectual Property Law
- 4. What is the primary purpose of consumer protection laws?**
 - A. To regulate trade between countries
 - B. To safeguard the interests and rights of consumers
 - C. To manage the financial reporting of companies
 - D. To enforce workplace safety standards
- 5. Which act requires public companies to follow strict financial reporting and disclosure practices?**
 - A. Sarbanes-Oxley Act
 - B. Fair Labor Standards Act
 - C. Sherman Antitrust Act
 - D. Consumer Protection Act

SECTION 1.4 MEANING OF ECONOMIC ENVIRONMENT – AN OVERVIEW

The economic environment relates to all the economic determinants that influence commercial and consumer compliance. The term economic environment indicates all the

external economic circumstances that affect the purchasing practices of customers and markets. Hence, it influences the production of the business.

As a component of economic reformations, the government of India declared a new industrial system in July 1991. The extensive characteristics of this system were as follows:

- The government decreased the number of enterprises below mandatory licensing to six.
- Many of the businesses held for the public sector under the initial policy were justified. The purpose of the public sector was defined only to four industries of vital importance.
- Disinvestment was conducted in case of many public sector industrial companies.
- The policies towards foreign funds were expanded. The percentage of foreign equity partnerships was extended. In many ventures, 100 percent of foreign direct investment (FDI) was allowed.
- The automatic approval was now given for technology transactions with foreign firms.
- Foreign investment promotion board (FIPB) was established to support and channelise the foreign financing in India.

Liberalisation

The economic reforms that were presented were directed at liberalising the Indian business and trade from all the redundant restrictions and limitations. They indicated the end of the licence-permit-quota raj. The liberalisation of the Indian business has taken place with respect to the following:

- By eliminating the licensing terms in most of the industries, excluding a shortlist
- By providing freedom in determining the range of marketing activities, i.e., no constraints on the development or consolidation of business pursuits
- By dismissing the restraints on the transportation of commodities and services
- By providing freedom in deciding the cost prices of commodities and services

Privatisation

The new set of economic changes intended at proffering a prominent position to the private sector in the nation-building rule and a diminished role to the public sector. This was a withdrawal of the growth policy attempted so far by the Indian directors. To accomplish this, the administration redefined the role of the public sector in the new industrial policy of 1991,

approved the policy of proposed disinvestments of the public sector, and determined the loss-making and weak industries to the Board of Industrial and Financial Reconstruction (BIFR).

Globalisation

Globalisation implies the combination of different economies of the world heading towards the development of a united (closely-knitted) global marketplace. Till 1991, the government of India had followed a course of stringently controlling imports in terms of price and quantity. These laws were with respect to the following:

- Licensing of imports
- Tariff limitations
- Quantitative constraints

The new economic reforms directed at business liberalisation were focused towards import liberalisation, export improvement through rationalisation of the tax structure, and changes with respect to the foreign exchange so that the nation does not remain separate from the rest of the world.

Let's Sum Up

The economic environment encompasses the various economic factors that impact a business's operations and decision-making processes. This environment includes the broader economic conditions such as inflation rates, interest rates, economic growth, unemployment levels, and exchange rates. It also involves the economic policies of the government, including fiscal and monetary policies, taxation, and trade regulations. These factors collectively influence consumer purchasing power, business investment decisions, and overall market conditions. Understanding the economic environment is crucial for businesses as it helps in forecasting market trends, assessing risks, and planning strategic initiatives to ensure stability and growth in a dynamic economic landscape.

Check Your Progress - QUIZ – 1

1. Which of the following is NOT a component of the economic environment?

- A. Inflation rates
- B. Cultural beliefs
- C. Interest rates

D. Economic growth

2. What is the term for a prolonged period of economic downturn marked by high unemployment, low consumer spending, and declining business activity?

A. Inflation

B. Recession

C. Boom

D. Recovery

3. Which economic system is characterized by the government making all economic decisions and owning most of the resources?

A. Market economy

B. Mixed economy

C. Command economy

D. Traditional economy

4. In which type of economy do supply and demand primarily determine the prices of goods and services?

A. Command economy

B. Market economy

C. Mixed economy

D. Traditional economy

5. Which of the following is a measure of a country's economic performance and indicates the total value of all goods and services produced over a specific time period?

A. Consumer Price Index (CPI)

B. Gross Domestic Product (GDP)

C. Unemployment Rate

D. Balance of Trade

SECTION 1.5 MEANING OF SOCIAL ENVIRONMENT - AN OVERVIEW

A social environment includes the values, beliefs, customs, and practices of a group of people. A business is subject to an external social environment and also its own internal social environment. The external social environment provides both risks and opportunities for a business.

Community Cohesion: The social environment is characterized by strong bonds among community members. There's a sense of belonging and mutual support, with neighbors looking out for one another and coming together in times of celebration or need.

Social Structures: Various social structures exist, ranging from familial units to larger community organizations. These structures provide support networks and avenues for social interaction, contributing to a sense of stability and belonging.

Inclusivity and Diversity: Diversity is celebrated, and inclusivity is a cornerstone of the social fabric. People from different backgrounds, cultures, and identities are welcomed and respected, fostering a sense of unity amidst diversity.

Social Norms and Customs: Social interactions are governed by established norms and customs that guide behavior and etiquette. Politeness, respect for elders, and hospitality are commonly valued traits, shaping everyday interactions and relationships.

Social Activities: Social life is vibrant, with a variety of activities and events that bring people together. From community festivals and gatherings to recreational sports leagues and hobby groups, there's always something happening to foster connections and build friendships.

Technology and Social Media: Technology plays a significant role in shaping the social landscape. Social media platforms and digital communication tools provide avenues for staying connected, sharing experiences, and building virtual communities.

Social Justice and Advocacy: There's a strong emphasis on social justice and advocacy within the community. People actively work towards promoting equality, fairness, and inclusion, and there are organized efforts to address social issues and support marginalized groups.

Social Support Services: Various social support services are available to assist those in need. This includes access to healthcare, counseling services, community outreach programs, and support for vulnerable populations, ensuring that everyone has access to resources and assistance when required.

Volunteerism and Civic Engagement: Volunteerism and civic engagement are encouraged and valued. Many community members actively participate in volunteer projects, community service initiatives, and grassroots movements aimed at making a positive impact and improving society.

Social Mobility and Opportunities: The social environment provides opportunities for personal growth, advancement, and social mobility. Education, skill development programs, and mentorship opportunities are available to empower individuals and enable them to achieve their full potential.

This overview encapsulates the key elements of the social environment, highlighting its interconnectedness, inclusivity, and emphasis on community well-being and social justice.

1.5.1 Impact of Environment on Business and Strategic Decisions

A business enterprise is a part of society and changes in environment influence its functioning and performance. The environment may pose constraints on the enterprise as well as open new opportunities for it. The impact of different elements of macro environment on business decision-making may be summarized as follows:

The economic system prevailing in a country determines the scope for private enterprises. The general level of development of the economy influence the nature and size of demand. The structure of the economy in terms of contributions of agriculture, industry and services indicates the prospects for different types of business.

The economic environment exercises most significant influence on business because business itself is an economic institution. For example, decline in interest rates has reduced the cost of capital for business firms in India. Reforms in industrial and fiscal policies have led to the growth of new in India. Reforms in industrial and fiscal policies have led to the growth of new business such as venture capital funds, mutual funds, vulnerable to competition from multinational corporation and liberal imports due to liberal economic policy of the Government.

Social and cultural forces exercise significant influence on business. For example, social consciousness among public requires more responsible behavior on the part of business in the matter of environment, customer service and labour welfare. Growing number of working women have increased the demand for life style products. Demand for reservation in jobs for minorities and women, equal pay for equal work, rise in middle class are some of the social changes affecting business.

The costs of ignoring the customs, beliefs, tastes and preferences of society can be very high. Pepsi's cola lost market share in some countries where the company's slogan 'come alive' translates as 'come out of the grave' in local language. Customs and beliefs of society shape the legal and technological system. For example, social pressures against pollution led to antipollution system. For example, social pressures against reduce pollution. Shifts in population may cause changes in plant location. Preference for small family influences sales of baby food, toys and other such items. Emergence of a strong consumer movement led to new marketing strategies such as Customer Relationship Management.

The political and legal environment provides the framework within which business has to function. The viability of a business firm depends upon its ability for meeting the challenges arising out of political and legal change. No business can succeed without understanding the dynamics of the country's political system and without the support of public opinion. A stable, efficient and honest political system serves as a boost for growth of business, political instability due to terrorism, fall of Government, civil war, etc. restricts business growth.

Political decisions have serious economic and business implications. In fact major economic policies such as industrial policy, fiscal policy and foreign trade policy are political decisions. Political environment determines the nature of governance. The supportive political climate has for example made Bangalore and Hyderabad as the hub of information technology firms. Similarly, deregulation of capital markets has led to surge in initial public offers (IPO). Multinationals and foreign direct investment (FDI) have come to India in a big way due to removal of controls over foreign exchange.

Technological, physical and natural environment also affect business. For example, cable TV has adversely affected radio and cinema. Xerography has example, cable TV has adversely affected radio and cinema. Xerography has damaged carbon paper business. Digital watches destroyed business prospects of traditional watches. Information technology and

telecommunications have given rise to a global market which requires better system of production (robots controlling factories) and distribution (internet marketing).

Let's Sum Up

The social environment of business encompasses the societal trends, cultural norms, demographics, and ethical considerations that impact how businesses operate and interact with their stakeholders. It is a critical aspect of the external environment, influencing consumer behavior, market demand, and corporate strategies. Understanding the social environment helps businesses anticipate shifts in consumer preferences, adapt their products and services to meet societal needs, and align their marketing and communication strategies effectively. Factors such as changing demographics, cultural diversity, evolving consumer values, and ethical expectations shape business decisions and reputation. Moreover, businesses must navigate social responsibilities and sustainability concerns, aiming to foster positive relationships with communities and stakeholders while maintaining ethical practices. By integrating a deep understanding of the social environment into their operations, businesses can enhance their competitiveness, build stronger relationships with customers and stakeholders, and contribute positively to societal well-being.

Check Your Progress - QUIZ – 1

1. What does the social environment of business refer to?

- A. The technological infrastructure available to businesses
- B. The customs, lifestyles, and values that characterize the society in which a business operates
- C. The legal regulations that govern business operations
- D. The economic conditions affecting business activities

2. Which of the following is an example of a social factor that can affect a business?

- A. Interest rates
- B. Cultural attitudes towards work and leisure
- C. Technological advancements
- D. Exchange rates

3. **Which term describes the social trends and demographic characteristics that affect a business environment?**
- A. Economic factors
 - B. Political factors
 - C. Social factors
 - D. Technological factors
4. **Why is it important for businesses to understand the social environment?**
- A. To ensure compliance with laws and regulations
 - B. To predict economic fluctuations
 - C. To effectively market products and services to different social groups
 - D. To develop new technological innovations
5. **Which of the following aspects of the social environment can influence consumer behavior?**
- A. Currency exchange rates
 - B. Cultural values and norms
 - C. Interest rates
 - D. Industrial production levels

1.6 Case Study

TATA NANO–ENVIRONMENTAL ANALYSIS

In 1868, Tata Gamsi founded Tata group. It is the largest conglomerate in India and is owned by Tata sons. Tata Motors is a leader in manufacturing of commercial, passenger, military and electric vehicles. It is also the world's 4th largest truck and 2nd largest bus manufacturer by volume. In January 2008, Tata Motors introduced Tata Nano, dubbed as the 'People's Car' and also known as the world's cheapest car. The car was launched in March 2009 which created a significant impact in the Indian automobile market. Tata Motors Ltd. is one of the few companies which has its own R&D centres. It has established an engineering research centre at Pune (with a strength of around 3,500 personnel).

The main target group of customers for Tata Nano are the lower- and middle- income

families in India, many of whom resisted purchasing four-wheelers mainly due to the price affordability and maintenance cost. Launching of Tata Nano gave an opportunity for these groups to purchase a car within their means.

During the initial launch, Tata Nano was priced at about rupees one lakh. In December 2008, the cost of the car increased significantly due to higher raw material costs.

TABLE A: Passenger Car Segments in India

Awards	Awarding Organisation	Year
Indian Car of the Year (ICOTY) Award.	Instituted by leading automotive magazines in India, in association with JK Tyre	2009
Business Standard Motoring Indian Car of the Year	Business Standard	2010
Good Design Award	Museum of Architecture and Design together with The European Centre for Architecture, Art, Design and Urban Studies	2010
Gold Prize in the Best New Product segment	Edison Awards	2010
Best Car Advertisement of the Year Award	Bloomberg, UTV, Autocar India Awards	2011

Source: SIAM

TABLE B: Awards Tata Nano Received

Segment	Type	Length
A1	Mini	Up to 3400 mm
A2	Compact	3401-4000 mm
A3	Mid-size	4001-4500 mm
A4	Executive	4501-4700 mm
A5	Premium	4701-5000 mm
A6	Luxury	Above 5000 mm

Further, in 2013, Tata Nano was rated as the most trusted 4-wheeler brand by Brand Trust Report India Study.

Tata Motors was so confident about Nano that they thought this is going to be a massive success. But it failed and became one of the most disaster products in the history of marketing.

FIGURE a: TATA Nano sales

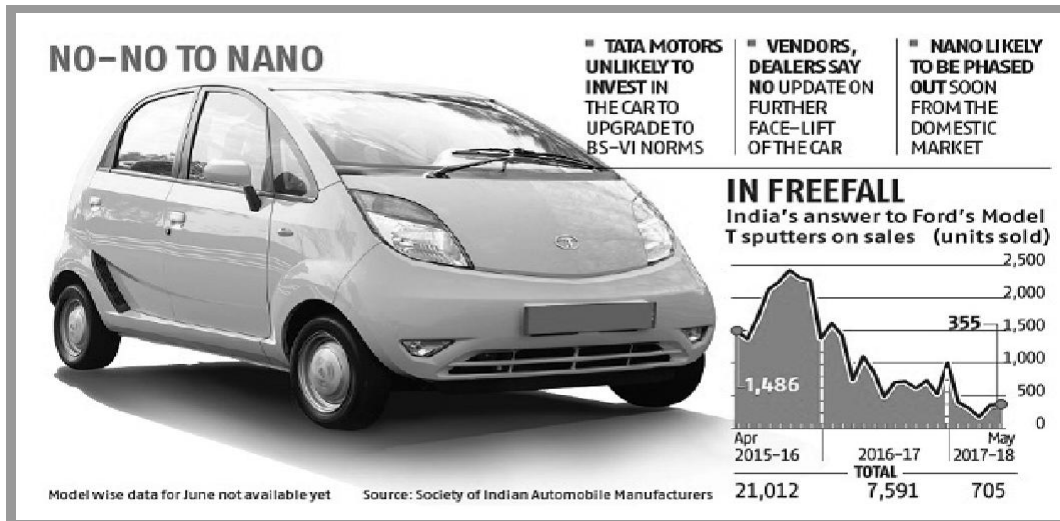


TABLE C: TATA Nano Sales Figure (2017-2018)

Month	Oct. 2017	Nov. 2017	Dec. 2017	Jan. 2018	Feb. 2018	Mar. 2018	Apr. 2018	May 2018	Jun. 2018
Tata Nano GenX	57	121	94	62	52	29	42	20	3

Tata Nano Failure Reasons

- Tata Nano projects itself as the cheapest car. Nobody wants to drive the cheapest car. Buying a car is related to social status and prestige in society.

Ratan Tata says:

“It (Nano) became termed as the cheapest car by the public and, i am sorry to say, by ourselves, not by me, but the company when it was marketing it. I think that is unfortunate.”

- So many Nano cars catch fire. This created a complete buzz in media. Despite the low price, everyone hesitated to buy them because of the incidences of fire.
- After the announcement of Nano, the second-hand market of cars faces a drop in price by 15% to 20%. New cars like Alto 800, Maruti 800, Indica, etc., also have to reduce the price. People called it a Nano effect.

- The vision of Tata was an affordable car that could fit a family of four. But, in reality, it was not fitting an Indian family of 4 with ease.

QUESTIONS

1. What was the vision of Ratan Tata behind the launch of Nano project? How did he analyse the environment?

(Hint: Low-income group people, safety, substitute for a bike.)

2. In spite of extensive research and development programme, Nano was a huge failure. Why?

(Hint: Poor vision and mission, competition, quality, etc.)

1.7 Unit Summary

- Business environment is a combination or mixture of complex, dynamic and uncontrollable external factors within which a business is to be operated.
- Business environment is complex, uncertain, inter-related, dynamic and interdependent.
- Specific environment includes external forces that directly impact or influence organisations' decisions and actions and are directly relevant to the achievement of organisations' goals.
- General environment includes the broad economic, political/legal, socio-cultural, demographic, technological and global conditions.
- Business environment helps in identifying opportunities and threats.
- The components of business environment are: internal and external environment. External environment consists of micro and macro factors which affect the business.
- The set of decisions and actions that result in the formulation and implementation of plans designed to achieve a company objectives are called strategic management.
- Strategic management helps in defining the objectives and policies for the business. To make a strategy, a business needs to scan its environment

1.8 Glossary

- **Business Environment:** The combination of internal and external factors that affect a company's operations, including economic, social, legal, technological, and environmental factors.
- **Internal Environment:** Factors within a company's control, such as its employees, management structure, organizational culture, and operational processes.
- **External Environment:** Factors outside a company's control that can influence its performance and decisions, including economic conditions, competitors, suppliers, legal and regulatory framework, technological advancements, and societal trends.
- **Microenvironment:** The immediate environment surrounding a company that directly impacts its operations and includes stakeholders such as customers, suppliers, competitors, and local communities.
- **Macroenvironment:** The broader external forces that affect not only a specific company but also the industry as a whole, encompassing economic, political, legal, technological, social, and environmental factors.
- **PESTLE Analysis:** A strategic tool used to analyze the external macroenvironment by considering Political, Economic, Social, Technological, Legal, and Environmental factors.
- **SWOT Analysis:** A strategic planning tool that assesses a company's Strengths, Weaknesses, Opportunities, and Threats to understand its competitive position and develop effective strategies.
- **Social Environment:** Focuses on societal trends, cultural norms, demographics, and ethical considerations that influence consumer behavior, market demand, and corporate strategies.
- **Demographics:** Statistical data about a population, including age, gender, income level, education, and other characteristics that impact consumer behavior and market segmentation.
- **Corporate Social Responsibility (CSR):** The ethical framework and practices that businesses adopt to contribute positively to society and minimize their

environmental impact while enhancing their reputation and stakeholder relationships.

- **Sustainability:** The practice of conducting business in a way that meets the needs of the present without compromising the ability of future generations to meet their own needs, encompassing environmental stewardship, social responsibility, and economic viability.
- **Ethical Considerations:** The moral principles and standards that guide business conduct, encompassing fairness, honesty, transparency, and respect for stakeholders' interests.

1.9 Answers for check your Progress

Sections	S.No	Answers
Section 1	1	B. The combination of internal and external factors that influence a company's operating situation
	2	C. Company's management team
	3	C. PESTLE Analysis
	4	C. The immediate environment surrounding a company that affects its performance and decision-making
	5	B. Social trends, demographics, and cultural aspects
Section 2	1	B. The customs, beliefs, values, and norms of a society that influence business practices
	2	C. Non-verbal cues and context are significant in communication
	3	B. Power Distance Index
	4	C. Focus on group goals, harmony, and collective well-being
	5	B. The capacity to function effectively in different cultural contexts
Section 3	1	B. The system of laws and regulations that affect business operations
	2	C. Constitutions
	3	B. Antitrust Law
	4	B. To safeguard the interests and rights of consumers
	5	A. Sarbanes-Oxley Act
Section 4	1	B. Cultural beliefs
	2	B. Recession
	3	C. Command economy
	4	B. Market economy
	5	B. Gross Domestic Product (GDP)
Section 5	1	B. The customs, lifestyles, and values that characterize the society in which a business operates
	2	B. Cultural attitudes towards work and leisure
	3	C. Social factors
	4	C. To effectively market products and services to different social groups
	5	B. Cultural values and norms

1.10 Suggested Reading

- 1 Worthington, I., & Britton, C. (2015). *The Business Environment* (7th ed.). Pearson.
- 2 Morrison, J. (2020). *The Global Business Environment: Meeting the Challenges* (5th ed.). Macmillan International Higher Education.
- 3 Daniels, J. D., Radebaugh, L. H., & Sullivan, D. P. (2019). *International Business: Environments and Operations* (16th ed.). Pearson.

1.11 - Open Source E-Content Links

Sl.no	Topic	E-Content Link	QR Code
1	Business Environment	https://www.youtube.com/watch?v=EK53DG6BRJ8	
2	Political Environment	https://www.youtube.com/watch?v=YCkznHnW-4c	
3	Economic Environment	https://www.youtube.com/watch?v=dHn_bNfbIA	
4	Social Environment	https://www.youtube.com/watch?v=gspWEzVg6ks	

1.12 References

- 1 Aswathappa, K. (2010). *Essentials of Business Environment* (10th ed.). Himalaya Publishing House.
- 2 Cherunilam, F. (2009). *Business Environment* (20th ed.). Himalaya Publishing House.

Unit - 2

POLITICAL ENVIRONMENT

UNIT OBJECTIVES

After studying this Unit you should be able to explain the nature and significance of political environment; identify the critical elements of political environment and describe the nature of political system and the position of centre-state relations in India, evaluate the nature of social issues like secularism, minority rights, social disparities and reservations, etc, enumerate the relevant Constitutional provisions - Fundamental Rights and Directive Principles of State Policy; explain the various dimensions of government role in business in India.

SECTION 2.1: POLITICAL ENVIRONMENT - AN INTRODUCTION

In political system a country follows and the nature of ideology of the political party in power exert a lot of influence on the course of action and the strategies the business enterprises may adopt because the government plays an active role as planner, regulator and promoter of economic activity in every country. In this unit you will learn in detail about the significance of political environment for the business, its critical elements, the nature of state responses to some important social issues in India, and the Fundamental Rights and Directive Principles of State Policy as provided in the Indian Constitution. Besides, you will learn about the various dimensions of government's role in business in India, the changes in its regulatory activity in the post liberalization era, and the administrative set-up for making policies and their implementation at the Central and the State levels.

2.1.1 Meaning and Definition of Political Environment

The political environment of a country affects its economic environment. The economic environment, in turn, affects the performance of a business organization. India being the largest democracy of the world enjoys a federal form of government. The political environment in India is largely influenced by factors such as policies of the government and the ideologies of various political parties. This unit will introduce you to the role of the government in business through the growth and development of the public sector and the significance of political stability and political maturity as conditions of business growth.

2.1.2 Nature and Significance of Political Environment

Simply stated, political environment of business refers to the political conditions - factors and forces -which have a bearing on business activities. Such factors may include competing political ideologies, electoral majority of the party in power, strength of the parliamentary opposition parties, internal dissensions within the ruling party, insurgencies in border areas, as well as international power alignments and alliances. Ideological leanings of the ruling party or coalition of parties at the centre (Federal level) and those of the ruling parties in the federating states often form the basis of Government policies impacting industry and trade. Political instability caused by the failure of law and order, recurring and widespread incidents of crime and violence are also traceable to political factors which constitute business risks and impinges on the predictability of business prospects. Obviously, political factors may have regional, national as well as global implications. Let us note a few examples of the impact of political factors on business environment in India.

Janta Party, which was in power at the Centre for three years after 1977, followed a strict policy of restricting the role of multinational corporations. Some of the Ministers in the Government had strong socialist leanings. As a result, Coca Cola and IBM were forced to move out of India. This opened up a vast market for Indian soft-drink manufacturers and IT companies. Take another example. During December, 1992 and January, 1993, there were violent riots in different parts of India followed by serious law and order problems. These were caused by the Ayodhya-Babri Masjid episode on which political parties were sharply divided. Apart from apprehensions of political instability, the events disrupted transport, slowed down industrial production and exports. It was also reported that many potential foreign investors had deferred their decisions or revised their plans.

Regulatory policies of the Government with respect to industry and trade also come under political factors since political processes determine the composition of the Government based on the electoral platforms of the ruling and opposition parties. The prospects of many companies in India have been affected by changes in the

regulatory policies of the Government many a time. For instance, large scale manufacturers of cycle tyres had to close down their plants when production of cycle tyres was decided to be reserved for the small-scale sector. Likewise, the textile mills were required to modify production plans when Government extended fiscal protection and incentives to the power-loom sector. Again in the early 60's, some industries like telecommunication equipments and oil drilling rigs, which were earlier reserved for the public sector, were decided to be opened to the private sector. Many companies seized the opportunities then to enter these markets. On the other hand, industrial growth in West Bengal was reported to have slackened due to the ideological leanings of the ruling left parties and militant trade unionism.

All business firms are affected, 'in a greater or lesser degree, by the government policies and programmes at central, state and local levels. The shift in the political weather arising from changes in the attitudes and preferences of political leaders often result in changes in the government policies and programmes. The firms have to anticipate such changes, analyse their impact on the business with a view to predict the probable

2.1.3 Critical Elements of Political Environment

There are several aspects of the political environment which may be regarded as its critical elements in relation to business.

The more important of these elements are

- 1 Political system;
- 2 Political processes;
- 3 Stability of the political structure; and
- 4 Centre-State relations.

Let us consider these elements in the Indian context

Political System

The Indian polity or political system is governed by the Constitution of India which was adopted by the Constituent Assembly in November, 1949 and came into force on 26th January, 1950. Under the Constitution, India has a parliamentary form of government and federal structure comprising at present 28 States and 7 Union

Territories. President of India is the constitutional head of the Indian Union. But he has to act in accordance with the aid and advice of the Council of Ministers with Prime Minister as its head. The real executive power thus vests in the Council of Ministers which is collectively responsible to the elected members of the Lok Sabha (House of the People). Likewise, in the States, the Governor is the head of executive, but executive powers of governance vests in the Council of Ministers with Chief Minister as its head, and the Council of Ministers is collectively responsible to the State Legislative Assembly.

The supreme legislative body of the Indian Union is the Parliament consisting of two houses -the Lok Sabha (house of people) and Rajya Sabha (Council of States). Members of the Lok Sabha are chosen by direct election for a five year term on the basis of adult suffrage. Elections to the Rajya Sabha are indirect; Members representing states are elected by elected members of legislative assemblies of states. A few members are nominated by the President. One-third of the members retire every second year

Like the Parliament, States have the legislative assemblies which are also elected bodies. There is direct election of members for a five year term from the territorial constituencies of the state. A few states, not all, have legislative councils (Vidhan Parishad) besides legislative assemblies (Vidhan Sabha). One-third of the members of Vidhan Parishads retire every second year. Their membership includes members elected by the legislative assemblies, members elected by local authorities municipalities, district boards etc., members representing teachers of secondary schools and registered graduates, and some members nominated by the Governor.

Union Territories are administered by the President acting through an Administrator appointed by him, designated as Lieutenant Governor or Chief Commissioner. The National Capital Territory of Delhi and the Union Territory of Pondicherry also have legislative assemblies and Councils of Ministers.

Local Government in urban areas consist of elected municipal bodies. Constitutional amendment effective from June, 1993 has provided for three types of municipalities, viz., Nagar Panchayats for areas in transition from a rural area to urban area,

Municipal Councils for smaller urban areas, and Municipal Corporations for large urban areas. At the village level, Gram Sabha and Panchayats function as units of local self-government.

Political Processes

As a democratic republic, the Indian political system is governed by the electoral laws enacted by the Parliament, the Constitutional provisions for the setting up of the Election Commission of India as an independent authority. The electoral process essentially hinges on the functioning of political parties organized at the national, regional and state levels. There are some parties also organized at the local level. The law provides for registration of political parties by the Election Commission.

A party so registered may be granted recognition as a national or state party. This requires fulfillment of certain criteria based on the party's poll performance in terms of percentage of votes polled by the candidates and the number elected to the Lok Sabha or State Assembly as the case may be. Nonetheless, the number of political parties has been on the rise in course of time. As of July, 2002, members of the Lok Sabha represented as many as 40 political parties. Some of the parties are state level ruling parties. Quite many of them however happen to be breakaway groups from state level or national level parties.

The concept of a secular state was adopted in the Indian Constitution in view of the Society. The Constitution, under Article 25 assures 'Freedom of conscience, and free profession, practice and propagation of religion'. The State or the government cannot aid one religion or give preference to one religion as against another. In view of the constitutional provision, secularism as an ideology does not figure in the electoral plans of the political parties. Socio-economic issues thus constitute the ideological differences with differences in emphasis and priorities of particular problems focused in the light of the interest of electorate. Some of the issues taken up by the parties have been : alleviation of poverty; problems of backward classes; generation of employment for the urban middle class; rural upliftment; subsidizing agricultural inputs; Extending facilities for literacy, education, and health care; women's empowerment; infrastructure development ensuring adequate power and water supply; protection of small business and cottage industries against foreign incursion into the small sector; preserving India's cultural heritage.

In predominantly industrial areas where factory workers largely inhabit the constituency, issues bearing on shutdown and closure of factories, Retrenchment of employees, and welfare amenities naturally become more important to focus in election campaigns.

Educated urban constituencies are found to respond to national issues like the impact of economic forms, causes leading to scams in security markets, increasing tax burden of the salaried class, housing problems, power shortage, supply of safe drinking water, unhygienic conditions due to growth of slum-dwelling population, etc. Middle-level business communities spend to electoral appeals based on their economic problems which may include introduction of VAT, rising cost of transportation due to spurt in diesel prices, or railway freight rates, dumping of cheaper foreign goods from neighboring countries, etc. Above all, depending on the electorate and constituency, parties in opposition often resort to 'negative electioneering focusing on the ruling party's failure to deal with popular issues like alleviation of poverty, ignoring the farmers'

Leaderships, neglecting the cause of backward classes, growing unemployment, and so on. The political processes passed through distinct changes in the 90's when the dominant position of the Congress Party in Lok Sabha and many state assemblies was challenged by the emerging national and regional parties. As a result, political processes involving elections to the Parliament and state assemblies have often been contested by more than two opposition candidates against the ruling party candidate. This gave rise to uncertainty of outcomes. Often it has also led to no single party having a clear majority in the legislature. In view of this possibility, national parties have resorted to electoral alliances with regional parties to facilitate formation of coalition government after election. But even this strategy had failed to provide stable government at the centre after the Lok Sabha elections in 1996 as the Eleventh Lok Sabha constituted in May, 1996 was dissolved after one and a half year. Similarly, within a year after the Twelfth Lok Sabha was constituted in March 1998, it had to be dissolved in April, 1999.

However, when the Thirteenth Lok Sabha was constituted in October, 1999, a coalition government again came to power as National Democratic Alliance (NDA) led by BJP. The same thing happened in May, 2004 when the Fourteenth Lok Sabha was constituted, a coalition government came to power as United Progressive Alliance (UPA) led by the Congress Party. Besides, instability in governance which occurred hasty caused policies and programmes to be hampered. If coalition governments at the centre and states are indicated by the current trend, it may not only pose political instability but also cause policies and programmes to be hampered which has serious implications for the business.

Stability of the Political Structure

Any political structure based on democracy can live the benefits of stability depending on checks and balances between the executive, legislature and judiciary. In India, the executive power at the Centre and the states lies with the ministries departments, secretariats and offices. The functionaries are accountable to the respective ministries, which in turn are responsible to the legislatures at the Union and State levels. Comptroller and Auditor General, who is appointed by the President, has the duty to report on the accounts of the Union and states. These reports are submitted to the President and respective Governors and also placed before Parliament and State legislatures. At times political stability has been disturbed by agitations of a section of people demanding autonomy and self-governing powers for themselves under local leadership.

These agitations sometimes assumed the character of political movements based on Linguistic, ethnic or sociological affinity of the inhabitants of a territory. So far, such developments have been met by Parliamentary enactments for reorganization of states. Towards that end, the Constitution was also required to be amended on several occasions. In recent years states of Uttar Pradesh, Jharkhand and Chhattisgarh have been carved out on the reorganization of the states of Uttar Pradesh, Bihar and Madhya Pradesh respectively. In a few cases, autonomous self-governing councils have been created to meet the agitation of local minority groups like Gorkhas in West Bengal and Assam

Centre-State Relations

While framing the Constitution of India, the leaders did visualize the possibility of conflict of interest between the Union and federating states. Hence, the Constitution provided for distribution of powers between the Union and individual states which indicate the general predominance of Parliament in the legislative field. There is a three fold enumeration of powers, viz., Union, State and Concurrent. The subjects included in the Union list are the ones on which only the Central Government make policies. Likewise, the subjects in the states list are reserved for the states and on the subjects included in the concurrent both the Central and the State governments can make policies. Though the state legislatures have exclusive powers over subjects listed in List I of the Seventh Schedule of the Constitution, and concurrent powers over subjects enumerated in List III, the residuary powers are vested in the Parliament. Otherwise, even in normal times, the Parliament can, under certain legislative power with respect to a subject falling within the sphere exclusively reserved for the states. Article 356 also provides for imposition of President's rule and dissolution of state assemblies in case of failure of constitutional machinery in the states. There were occasions when state assemblies were dissolved, where parties in power were different from the ruling party at the Centre. There have also been cases where Article 356 was applied due to the inability of the state government to maintain law and order, or to curb anti-national activities, or adopting a low profile or lukewarm attitude in the face.

Let's Sum Up

The current political environment is characterized by intense polarization, both within and between major political parties. In many countries, traditional political alliances are shifting as populist movements gain traction, often fueled by dissatisfaction with the status quo and economic inequalities. The rise of social media has amplified political discourse, sometimes leading to misinformation and heightened partisanship. Issues such as climate change, immigration, and healthcare continue to be highly contentious, influencing voter priorities and policy debates. Additionally, geopolitical tensions, particularly involving major powers like the United States, China, and Russia, are impacting international relations and trade policies, further complicating the global political landscape. Overall, the political climate is marked by uncertainty, rapid change, and significant public engagement.

Check Your Progress - QUIZ – 1

1. **Which of the following is NOT a characteristic of a political environment?**
 - A. Government policies and regulations
 - B. Political stability or instability
 - C. Technological advancements
 - D. International relations
2. **Which type of political system allows citizens to have the most direct influence over government policies?**
 - A. Autocracy
 - B. Oligarchy
 - C. Democracy
 - D. Theocracy
3. **A mixed economy typically features:**
 - A. Complete government control over the economy
 - B. Complete private sector control over the economy
 - C. Both government and private sector involvement in the economy
 - D. A lack of any government intervention in the economy
4. **Which of the following is an example of political risk for businesses?**
 - A. Exchange rate fluctuation
 - B. Changes in tax laws
 - C. Natural disasters
 - D. Technological disruptions
5. **Political lobbying is primarily aimed at:**
 - A. Influencing public opinion
 - B. Enforcing legal contracts
 - C. Reducing business competition
 - D. Influencing legislation and government policy

SECTION 2.2 FUNCTIONS OF STATE

State governments perform various essential functions to govern effectively and meet the needs of their citizens.

Law and Order

State governments are responsible for maintaining law and order within their jurisdiction, ensuring the safety and security of their citizens. They oversee police administration and take measures to prevent and combat crime.

Education

State governments manage the state's educational system, including schools and universities. They formulate and implement educational policies, ensuring access to quality education for all.

Health and Welfare

State governments play a crucial role in providing healthcare services and implementing social welfare programs. They strive to improve public health facilities, promote preventive healthcare, and address the welfare needs of marginalized communities.

Infrastructure Development

State governments build and take care of things people need, like roads, bridges, buildings and services. These are called infrastructure. States work to improve towns and villages. This makes life better for people.

Finance and Budgeting

State governments collect taxes and revenues to fund various developmental projects and welfare schemes. They prepare and execute state budgets, ensuring prudent fiscal management and resource allocation.

Interactions with Central Government

States collect taxes and money from people. They use this money to pay for projects and schemes to help people. They make a plan called a budget for how to spend the money each year. States try to spend the money in a smart way.

2.2.1 Challenges and Issues in State Government Administration

State governments face several challenges in their administration, which impact their efficiency and effectiveness.

Corruption and Governance

Corruption poses a significant challenge, affecting transparency and hindering the delivery of public services. Ensuring good governance practices is crucial to address this issue.

Bureaucratic Inefficiencies

Bureaucratic red tape and delays in decision-making can hamper the implementation of policies and projects. Streamlining administrative processes and promoting accountability can help overcome such inefficiencies.

Political Interference

Political interference in administrative matters can undermine the autonomy and impartiality of state governments. Upholding the principles of democratic governance is vital to mitigate this challenge.

Fiscal Management and Budget Deficits

Balancing budgets and managing finances effectively is a constant challenge for state governments. Addressing budget deficits and exploring innovative revenue generation mechanisms can help alleviate this issue.

Let's Sum Up

The state has several key functions that include maintaining law and order, protecting citizens from external threats, and ensuring the smooth operation of the economy. It provides public goods and services such as education, healthcare, and infrastructure. Additionally, the state regulates economic activities, enforces contracts, and implements policies to address social inequalities. By doing so, the state aims to create a stable environment conducive to the well-being and prosperity of its citizens.

Check Your Progress - QUIZ – 1

1. Which of the following is NOT a primary function of the state?

- A. Maintenance of law and order
- B. Provision of public goods and services
- C. Regulation of economic activities
- D. Encouraging private monopolies

2. The concept of "welfare state" refers to:

- A. A state that primarily focuses on military strength
- B. A state that ensures minimal government intervention in the economy
- C. A state that provides extensive social services and economic support to its citizens
- D. A state that prioritizes international trade over domestic policies

3. Which function of the state involves creating laws to protect the rights of individuals and ensure justice?

- A. Economic management
- B. Lawmaking and enforcement
- C. Public health services
- D. National defense

4. Which of the following best describes the role of the state in national defense?

- A. Implementing economic policies
- B. Providing healthcare and education
- C. Protecting the country from external threats and maintaining internal security
- D. Regulating industries

5. The function of the state in regulating economic activities typically includes:

- A. Determining prices for all goods and services
- B. Imposing tariffs and trade restrictions
- C. Providing legal frameworks for businesses and protecting consumer rights
- D. Managing daily operations of private businesses

SECTION 2.3 ECONOMIC ROLES OF GOVERNMENT

The Government plays an important role in almost every national economy of the world. Even in the countries described as capitalist economies or market economies, “a substantial share of the nation’s product goes to satisfy public wants, a substantial part of the private income originates in the public budget and public tax and transfer payments significantly influence the state of private income distribution. Moreover, the budget policy affects the level of employment and prices in the private sector.”⁹

In the predominantly private enterprise economies, government interference is necessitated by the fact, besides the socio-political ideological reasons, if any, “that the market mechanism alone cannot perform all economic functions. Public policy is needed to guide, correct and supplement it in certain respects. It is important to

realise this fact since it implies that the proper size of the public sector is, to a significant degree, a technical rather than ideological issue. Governments normally play four important roles in an economy, viz., regulation, promotion, entrepreneurship, and planning. As stated above, the extent and nature of these roles in a given situation depend on a number of factors. Some salient features of these roles are outlined below:

Regulatory Role

Government regulation of the business may cover a broad spectrum extending from entry into business to the final results of a business. The reservation of industries to small-scale, public and cooperative sectors, licensing system etc. regulate the entry. Regulations of product mix, promotional activities etc. amount to regulation of the conduct of business. Results of business operations may be regulated by such measures as ceilings on profit margins, dividend etc. The State may also regulate the relationship between enterprises. Examples of this include restrictions on intra-corporate investments, interlocking of directors and appointment of sole selling agents. Government regulation of the economy may be broadly divided into direct controls and indirect controls. Indirect controls are usually exercised through various fiscal and monetary incentives and disincentives or penalties. Certain activities may be encouraged or discouraged through monetary and fiscal incentives and disincentives. For instance, a high import duty may discourage imports and fiscal and monetary incentives may encourage the development of export-oriented industries.

The direct administrative or physical controls are more drastic in their effect. The distinguishing characteristic of direct controls is their discretionary nature. They can be applied selectively from firm to firm and industry to industry, at the discretion of the State. Regulation of the business had been rampant in the developing countries. Since the late 1980s, however, a deregulation trend has set in. This has drastically transformed the competitive environment and has given an impetus to globalisation.

Promotional Role

The promotional role played by the Government is very important in developed countries as well as in the developing countries. In developing countries, where the

infrastructural facilities for development are inadequate and entrepreneurial activities are scarce, the promotional role of the Government assumes special significance. The State will have to assume direct responsibility to build up and strengthen the necessary development infrastructures, such as power, transport, finance, marketing, institutions for training and guidance and other promotional activities. The promotional role of the State also encompasses the provision of various fiscal, monetary and other incentives, including measures to cover certain risks, for the development of certain priority sectors and activities.

Entrepreneurial Role

In many economies, the State also plays the role of an entrepreneur – establishing and operating business enterprises and bearing the risks. A number of factors such as socio-political ideologies; dearth of private entrepreneurship; neglect of certain sectors, like the unprofitable sectors, by the private entrepreneurs; absence of or inadequate competition in certain segments and the resultant exploitation of consumers, etc. have contributed to the growth of State owned enterprises (SOEs) in many countries.

There was a tendency in many developing countries to assign a dominant place to the public sector. Public sector dominance was usually established in capital-intensive projects like steel, capital goods, petrochemicals and fertilisers for which investment requirements were very large and the expected private returns, at least in the short-run were too low to provide an incentive for private profitability. In many cases even when the private sector was prepared to undertake the risk and invest, State ownership of such industries existed for one reason or other. However, recently, many governments have resorted to privatisation in varying degrees, and have redefined the role of the public sector.

Planning Role

Especially in the developing countries, the State plays a very important role as a planner. The importance of planning to a less developed economy was often emphasised by Jawaharlal Nehru, the chief architect of Development Planning in India. He rightly observed: “Whatever it may be in other countries, in underdeveloped countries like ours, which have to develop fairly rapidly, the time element is important and the question is how to use our resources to the best advantage. If our resources

are abundant, it will not matter how they are used. They will go into a common pool of development. But where one's resources are limited, one has to see that they are directed to the right purpose so as to help to build up whatever one is aiming at".

2.3.1 Economic System

The scope of private business depends, to a large extent, on the economic system which indeed is rooted in political philosophy. At one end, there are the free enterprise/market economies or capitalist economies, and at the other end are the centrally planned economies or communist countries. In between these two are the mixed economies. Within the mixed economic system itself, there are wide variations. The freedom of private enterprise is the greatest in the market economy, which is characterised by the following assumptions:

1. The factors of production (labour, land, capital) are privately owned, and production occurs at the initiative of the private enterprise.
2. Income is received in monetary form by the sale of services of the factors of production and from the profits of the private enterprise.
3. Members of the free market economy have freedom of choice insofar as consumption, occupation, savings and investment are concerned.
4. The free market economy is not planned, controlled or regulated by the government.

The government satisfies community or collective wants, but does not compete with private firms; nor does it tell the people where to work or what to produce. The completely free market economy, however, is an abstract system rather than a real one. Today, even the so-called market economies are subject to a number of government regulations. Countries like the United States, Japan, Australia, Canada and member countries of the EEC are regarded as market economies. The communist countries have, by and large, a centrally planned economic system. Under the rule of a communist or authoritarian socialist government, the state owns all the means of production, determines the goals of production and controls the economy according to a central master plan. There is hardly any consumer sovereignty in a centrally planned economy, unlike in the free market economy. The consumption pattern in a centrally planned economy is dictated by the state.

China, East Germany Soviet Union, Czechoslovakia, Hungary, Poland, etc., had centrally planned economies. However, recently, several of these countries have discarded communist system and have moved towards the market economy.

In between the capitalist system and the centrally planned system, falls the system of the mixed economy, under which both the public and private sectors co-exist, as in India. The extent of state participation varies widely between the mixed economies. However, in many mixed economies, the strategic and other nationally very important industries are fully owned or dominated by the state. The economic system, thus, is a very important determinant of the scope of private business. The economic system and policy are, therefore, a very important external constraint on business.

Let's Sum Up

The economic role of the government encompasses various critical functions aimed at ensuring stability, equity, and growth within a country's economy. Governments regulate markets to correct market failures, provide public goods, and enforce laws that protect property rights and promote fair competition. They also redistribute income through taxation and social welfare programs to reduce economic inequality. Additionally, governments manage macroeconomic policies, such as fiscal and monetary policies, to control inflation, reduce unemployment, and stimulate economic growth. By investing in infrastructure, education, and healthcare, governments enhance the productive capacity of the economy. Through these interventions, the government plays a pivotal role in fostering a stable and equitable economic environment.

Check Your Progress - QUIZ – 1

1. Which of the following is NOT an economic role of the government?

- A. Ensuring economic stability and growth
- B. Providing public goods and services
- C. Encouraging monopolistic practices
- D. Regulating and controlling externalities

2. What is the primary purpose of government intervention in the economy to correct market failures?

- A. To create monopolies
- B. To achieve a more efficient allocation of resources
- C. To increase tax revenues
- D. To limit competition

3. Fiscal policy primarily involves:

- A. Regulating interest rates and money supply
- B. Adjusting government spending and tax policies
- C. Setting price controls on essential goods
- D. Managing trade relations with other countries

4. Which government role involves implementing policies to reduce unemployment and control inflation?

- A. Market regulation
- B. Economic stabilization
- C. Provision of public goods
- D. Environmental protection

5. What is an example of a public good that the government provides?

- A. Private housing
- B. National defense
- C. Restaurant services
- D. Retail banking

SECTION 2.4 GOVERNMENT AND LEGAL ENVIRONMENT

Several aspects of the government environment have already been referred to in the previous chapter and preceding section of this chapter. A detailed description of the government's role in the economy is given in a subsequent chapter. In many countries, with a view to protecting consumer interests, regulations have become stronger. Regulations to protect the purity of the environment and preserve the ecological balance have assumed great importance in many countries.

Some governments specify certain standards for the products (including packaging) to be marketed in the country: some even prohibit the marketing of certain products. In most nations, promotional activities are subject to various types of controls. Several European countries restrain the use of children in commercial advertisements. In a number of countries, including India, the advertisement of alcoholic liquor is prohibited. Advertisements, including packaging, of cigarettes must

carry the statutory warning that “cigarette smoking is injurious to health”. Similarly, baby foods must not be promoted as a substitute for breast feeding. In countries like Germany, product comparison advertisements and the use of superlatives like *best* or *excellent* in advertisements is not allowed. In the United States, the Federal Trade Commission is empowered to require a company to provide sufficient evidence to substantiate the claim concerning the quality, performance or comparative prices of its products.

There are a host of statutory controls on business in India. Although the controls have been substantially brought down as a result of the liberalisation, a number of controls still prevail. Many countries, today, have laws to regulate competition in the public interest. Elimination of unfair competition and dilution of monopoly power are the important objectives of these regulations.

Certain changes in government policies such as the industrial policy, fiscal policy, tariff policy etc. may have profound impact on business. Some policy developments create opportunities as well as threats. In other words, a development which brightens the prospects of some enterprises may pose a threat to some others. *For example*, the industrial policy liberalisations in India have opened up new opportunities and threats. They have provided a lot of opportunities to a large number of enterprises to diversify and to make their product mix better. But they have also given rise to serious threat to many existing products by way of increased competition; many seller’s markets have given way to buyer’s markets. Even products which were seldom advertised have come to be promoted very heavily. This battle for the market has provided a splendid opportunity for the advertising industry.

2.4.1 THE CONSTITUTIONAL ENVIRONMENT

The Indian Constitution incorporates a number of matters that are economically very significant and have far-reaching implications. The socio-economic and political objectives of the Indian Republic and the basic guiding principles of state functioning have been clearly laid down in the *Preamble* to the Constitution, the *Fundamental*

Rights and in the Directive Principles of State Policy. The Constitution also outlines the economic powers and responsibilities of the Union Government and the State Governments.

The economic responsibility bestowed on the state by the Indian Constitution is so enormous that it calls for great government interference in the functioning of the economy. In fact, a number of constitutional amendments, including the first amendment, were effected to enable the state to implement its economic policies and programmes.

The Preamble

The Preamble to the Indian Constitution states that, The people of India have solemnly resolved to constitute India into a Sovereign Socialist, Secular,* Democratic Republic to Secure to all its citizens:

JUSTICE, social, economic and political; LIBERTY of thought, expression, belief, faith and worship; EQUALITY of status and of opportunity; and to promote among them all

FRATERNITY assuring the dignity of the individual and the unity and integrity* of the Nation.

[*The words “Socialist Secular”, and “and integrity” were inserted by the Constitution (42nd Amendment) Act, 1976.]

The Preamble of a statute conveys the general object and intention of the legislature in enacting it. Although not an essential feature, whenever a Constitution contains a Preamble, it expresses the political, religious and socio-economic values which it envisages to promote. But, it does not control the meaning and scope of the other provisions of the Constitution. However, the Preamble may be a guide when the statute is vague. Otherwise, full effect should be given to the express words of the enactment. The Preamble to the Indian Constitution lays down that the attainment of social, economic and political *justice*, and *equality of status and of opportunity* should be among the most important basic guiding principles of the functioning of the State. As if this were not enough, the Constitution was amended in 1976 to add, among other things, that India should be a socialist state. In fact, as early as December

1954, the Indian Parliament had accepted the *socialist pattern of society* as the objective of social and economic policy. As if to give this objective more prominence, it was incorporated in the Preamble to the Constitution in 1976 under the controversial 42nd Amendment. As the Preamble conveys the general object and intention of the Constitution and would be a guide in the interpretation of a statute when it is vague, the above-mentioned aspects of the Preamble to the Constitution give some indications of the need and scope for state intervention in the functioning of the economy with a view to discharging its duties and responsibilities for the realisation of economic and associated objectives.

The Fundamental Rights

It has been claimed that the Indian Constitution offers all citizens, individually and collectively, the best fruits of democracy and those basic freedoms and conditions of if which alone make life significant and productive. The rights enumerated in Part III of the Constitution cover a wide range and are declared to be fundamental and justiceable. But these rights are not absolute; they are subject to limitations imposed by the state in order to secure rights for all individuals or to promote the greater interests of the community or the state, or to serve the ends of a planned society.

The Fundamental Rights enumerated in Part III of the Constitution are:

1. Right to Equality
2. Right to Freedom
3. Right against Exploitation
4. Right to Freedom of Religion
5. Cultural and Educational Rights
6. Right to Constitutional Remedies

The Constitution had also guaranteed, under Article 19(1)(f), the Fundamental Right to Property; and Article 31 had prohibited the deprivation of property of any person save by authority of law; and for the deprivation of property compensation had been payable. But, in 1976, the 44th Amendment of the Constitution abolished the fundamental right to property by deleting Articles 19(1)(f) and 31. However, Article 300A of the new Chapter IV added to Part XII of the Constitution provides that “no person shall be deprived of his property save by authority of law”. Thus, though the

right to property is no longer a fundamental right, it has been retained as a Constitutional Right.

The Fundamental Rights also have economic significance. The Right to Equality prohibits discrimination against any citizen on grounds of religion, race, caste, sex or place of birth. In public employment, it ensures equality of opportunity to all citizens. This is, however, subject to certain limitations, such as the right of the state to reserve posts for backward classes which, in the opinion of the state, are not adequately represented in the services.

The Constitution guarantees the citizens the fundamental right to freedom to practise any profession, carry on any occupation, trade or business. This right is subject to reasonable restrictions in the interest of the general public. Under the First Amendment to the Constitution (1951), the State is empowered to make laws relating to professional or technical qualifications necessary for practising any profession or carrying on any trade, business, industry or service, whether to the exclusion, complete or partial, of citizens or otherwise.

The Fundamental Right against Exploitation prohibits traffic in human beings, and beggary and other forms of forced labour; and any contravention of this provision shall be an offence punishable in accordance with the law. However, this does not prevent the state from imposing compulsory service for public purposes. In imposing such service, the state shall not make any discrimination on grounds only of religion, race, caste or class, or any of them.

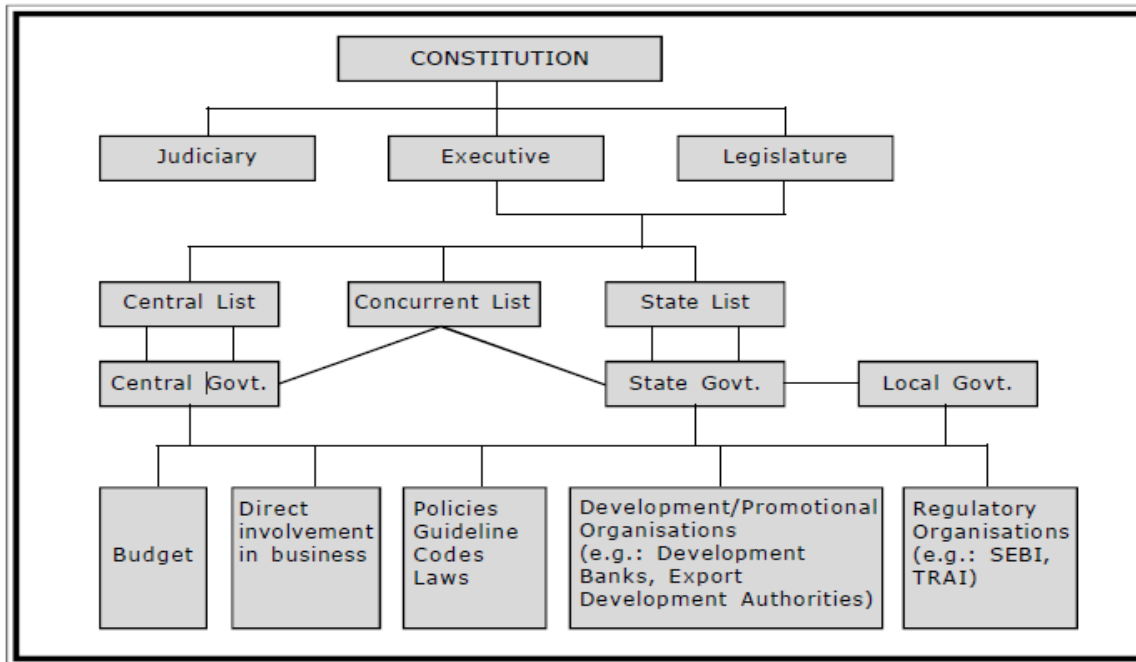
Thus, the Fundamental Rights enumerated in the Constitution guarantee a number of economic rights to the citizens; but at the same time, the State has the power to impose reasonable restrictions on such rights in the public interest. A very important thing to be noted is that this power of the state to impose reasonable restrictions in the public interest had resulted in a remarkable increase in the statutory control over the business and a substantial expansion of the entrepreneurial or participative activities of the state. Consequently, there has been an abridgement of the economic liberty of the citizens embodied in Article 19(l)(g).

2.4.2 Rationale and Extent of state Intervention

The first four decades of planning witnessed an expansion of state intervention in the economy. The Constitution was amended a number of times. The Constitution of India, which came into force in 1950, was first amended in the very next year. By the First Amendment of the Constitution, the State has been empowered to impose restrictions on the right of citizens to carry on any trade, business, industry or service with a view to enabling the state to undertake any scheme of nationalisation or prescribing the professional or technical qualifications necessary for practicing any profession or carrying on any occupation, trade or business.

The state has, from time to time, acquired increasing powers to control private activity and enlarge its own ownership and management of the economy. The brief account of the economic significance of the Indian Constitution given above makes it abundantly clear that the state has to shoulder a very heavy responsibility to attain the egalitarian goals set forth in the Constitution. Any responsibility should have commensurate authority also. Over the years, the Government has assumed enormous powers of control over the economy. How effectively and judiciously these powers have been exercised, and how satisfactorily the problems have been solved are different questions.

The Government has been very active in playing all the four important economic roles.



The first four decades have witnessed a clear trend towards an expanding control of the state over the various segments of the economy. With the increase in the problems, there has also been a tendency on the part of the Government to arm itself with more and more powers of control over the functioning of the economy. The Industries (Development and Regulation) Act, the

Companies Act, Capital Issues Control Act (repealed following the liberalisation), Securities (Contracts Regulation) Act, Monopolies and Restrictive Trade Practices Act, Essential Commodities Act, Prevention of Blackmarketing and Maintenance of Supplies of Essential Commodities Act, Conservation of Foreign Exchange and Prevention of Smuggling Activities Act, Foreign Exchange Regulation Act (replaced by the Foreign Exchange Management Act in 2000), Imports and Exports (Control) Act [replaced by the Foreign Trade (Development and Regulation) Act in 1992] etc., provide the Government with sweeping powers of control over industry and commerce, so much so that Government cannot escape the responsibility for any shortfalls, drawbacks, or imperfections in these sectors of vital importance to the economy.

There are quite a good number of industrial and labour laws which regulate employer employee relations, working conditions, wages, bonus, labour welfare and social

security, etc. The commercial banking sector was brought under the effective control of the Reserve Bank of India by the Banking Companies Act of 1949 and the Amendment Acts of 1956 and 1962, the Banking Laws (Miscellaneous Provisions) Act, 1963, etc. The Securities and Exchange Board of India (SEBI) regulates the capital market.

Indirect controls have also been playing their part in serving the national development goals. Various quantitative and qualitative monetary weapons have been deployed from time to time to regulate the economy, mainly to control prices. A number of fiscal and monetary incentives have been offered to encourage the growth of such priority sectors as the export industry, small industry and small business. Monetary, fiscal, financial and physical incentives have been provided for the accelerated development of the backward regions. Fiscal and monetary policies have also been employed, as disincentives to discourage certain undesirable or inessential activities.

The direct controls had considerably grown in importance. No less important than the regulatory role is the promotional role of the Government in India. Being a mixed economy, the state has to provide the necessary facilities for the growth of the private sector. Our industrial policy has assigned an important role to the private sector in a number of industries. State's promotional role include development of infrastructural facilities, fostering of institutions to provide financial aid developmental support to business.

Let's Sum Up

The constitutional environment refers to the overarching legal and institutional framework established by a country's constitution, which delineates the structure, functions, and limits of government. It sets forth the foundational principles and rules that govern the political and legal system, ensuring the protection of fundamental rights and freedoms, the separation of powers among the legislative, executive, and judicial branches, and the processes for making and enforcing laws. This environment also includes mechanisms for checks and balances, ensuring that no branch of government exceeds its authority. The constitutional environment thus

provides stability, predictability, and legitimacy to the governance of a nation, guiding political behavior and safeguarding democratic values and the rule of law.

Check Your Progress - QUIZ – 1

1. Which of the following best defines a constitution?

- A. A set of laws passed by the legislature
- B. A document outlining the fundamental principles and structures of a government
- C. A collection of judicial decisions
- D. A list of government officials

2. Which type of constitution is written and codified in a single document?

- A. Unwritten constitution
- B. Flexible constitution
- C. Rigid constitution
- D. Written constitution

3. Which branch of government is primarily responsible for interpreting the constitution?

- A. Executive branch
- B. Legislative branch
- C. Judicial branch
- D. Administrative branch

4. What is the primary purpose of a constitution?

- A. To establish a national religion
- B. To outline the distribution of power among government institutions
- C. To dictate economic policies
- D. To elect government officials

5. The principle of "separation of powers" in a constitution aims to:

- A. Concentrate power in a single branch of government
- B. Distribute power among different branches to prevent any one branch from becoming too powerful
- C. Merge the executive and legislative branches
- D. Limit the power of the judicial branch

2.5 Case Study

ROLE OF GOVERNMENT IN BUSINESS ENVIRONMENT

Provisions by which politically associated firms get economic favours are very common nowadays, but little is known of the effects or form of influence in business government affairs. Not much is known about the firm-level political influence or its significance. What characterises the bargain between governments and influential firms? How do influential firms pay governments, in exchange for any benefits

they receive? Recent firm-level analyses have examined various determinants of political influence, and how these connections influence market valuation while some have detailed the networks through which the benefits accrue. Still others, finally, have explained how “systems” of influence come into being, and why they endure. Much less is identified, however, of how these political connections influence decisions within firms or of the strings that may come along with political influence.

A general model in which influence entails firms to offer goods of political value in return for economic privileges. An investigation on both the characteristics that define political influence among firms in developing countries and the effects of that influence on company performance and behaviour. An argument that political influence develops the business environment for selected firms through industrial or quasi-industrial policies, but restricts their ability to fire workers.

Under such conditions, if political influence primarily sinks fixed costs over variable costs, then favoured firms will be less favoured to invest and their output will ache, even if they earn more profits than non-influential firms. Depending on the World Bank’s Enterprise reviews of approximately 8000 firms in 40 developing countries, and control for a number of prejudices present in the data. Our viewpoint is that influential firms benefit from lower managerial and monitoring barriers (including bribe taxes), superior pricing power, and easier entree to credit. But these firms also deliver politically valuable benefits to occupants through bloated payrolls and greater tax payments. At last, these firms are worse-performing than their non- influential foils. The results highlight a potential channel by which cronyism leadsto obstinate underdevelopment.

QUESTIONS

1. Discuss the role of politics in the above case.
(**Hint:** Political Environment)
2. Discuss the role of government in a business environment.
(**Hint:** Government intervention in the private sector)

2.6 Unit Summary

The political environment encompasses the myriad of factors and elements within the political sphere that impact the operations and decision-making processes of businesses and organizations. Key components include government policies, political stability, governmental systems, and the overall political climate of a nation or region. Understanding these factors is crucial for businesses as they navigate the complexities of operating within different political frameworks.

2.7 Glossary

Political Environment: The collection of political factors that influence the operations of a business or organization, including government policies, political stability, and governmental systems.

Government Policies: Directives issued by the government that influence economic and social outcomes, including taxation, spending, and regulation.

Political Stability: The degree to which a government is free from turmoil, upheaval, or sudden changes in leadership, which affects the predictability and consistency of the political environment.

Governmental Systems: The structure and processes through which a government operates, including democratic, authoritarian, and hybrid systems.

Legislation: Laws enacted by a government that impact business operations, such as labor laws, environmental regulations, and trade restrictions.

Regulation: Rules or directives made and maintained by an authority to regulate conduct, typically within a particular industry.

Political Risk: The potential for losses or negative impacts on business operations due to political changes or instability.

Lobbying: The act of attempting to influence decisions made by officials in the government, often by special interest groups or businesses.

Public Policy: The principles on which social laws are based, often reflecting the priorities of the government and influencing economic and social outcomes.

Bureaucracy: A system of government in which most of the important decisions are made by state officials rather than by elected representatives.

Political Parties: Organized groups of people with similar political aims and opinions, that seek to influence public policy by getting their candidates elected.

2.8 Answers for check your Progress

Sections	S.No	Answers
Section 1	1	C. Technological advancements
	2	C. Democracy
	3	C. Both government and private sector involvement in the economy
	4	B. Changes in tax laws
	5	D. Influencing legislation and government policy
Section 2	1	D. Encouraging private monopolies
	2	C. A state that provides extensive social services and economic support to its citizens
	3	B. Lawmaking and enforcement
	4	C. Protecting the country from external threats and maintaining internal security
	5	C. Providing legal frameworks for businesses and protecting consumer rights
Section 3	1	C. Encouraging monopolistic practices
	2	B. To achieve a more efficient allocation of resources
	3	B. Adjusting government spending and tax policies
	4	B. Economic stabilization
	5	B. National defence
Section 4	1	B. A document outlining the fundamental principles and structures of a government
	2	D. Written constitution
	3	C. Judicial branch
	4	B. To outline the distribution of power among government institutions
	5	B. Distribute power among different branches to prevent any one branch from becoming too powerful

2.9 Suggested Reading

- 1 Musgrave, R. A., & Musgrave, P. B. (1989). *Public Finance in Theory and Practice* (5th ed.). McGraw-Hill Education.
- 2 Mankiw, N. G. (2018). *Principles of Economics* (8th ed.). Cengage Learning.

- 3 O'Neil, P. H. (2015). *Essentials of Comparative Politics* (5th ed.). W.W. Norton & Company.
- 4 Elster, J. (1995). *Forces and Mechanisms in the Constitution-Making Process*. *Duke Law Journal*, 45(2), 364-396.
- 5 Dicey, A. V. (1885). *Introduction to the Study of the Law of the Constitution*. Macmillan and Co.

2.10 Open Source E-Content Links

Sl.no	Topic	E-Content Link	QR Code
1	Political Environment	https://www.youtube.com/watch?v=7BF4fVrVq-c	
2	Economic roles of government	https://www.youtube.com/watch?v=a3-bp0h5rE8&t=66s	
3	The constitutional environment	https://www.youtube.com/watch?v=uRAauChi_gg	
4	Extent of state intervention	https://www.youtube.com/watch?v=PsAuhB1ZnQc&list=PLBTOcfYduPRMVVrNPH2_GrN932KaPHrvI	

2.11 References

- 1 Hill, C. W. L., & Hult, G. T. M. (2019). *International Business: Competing in the Global Marketplace* (12th ed.). McGraw-Hill Education.
- 2 Caramani, D. (2017). *Comparative Politics* (4th ed.). Oxford University Press.
- 3 Roskin, M. G., Cord, R. L., Medeiros, J. A., & Jones, W. S. (2019). *Political Science: An Introduction* (14th ed.). Pearson.
- 4 Stiglitz, J. E., & Rosengard, J. K. (2015). *Economics of the Public Sector* (4th ed.). W.W. Norton & Company.

UNIT – 3

ECONOMIC ENVIRONMENTS

UNIT OBJECTIVES

Define what you mean by “environment”, Classify the complex environmental variable on the basis of objective criteria. Identify the critical elements of economic environment of business. Analyse the interactions between economic and non-economic environment. Explain the impact of economic environment on business management; and Illustrate your understanding of economic environment with reference to the Indian business situation.

SECTION 3.1 ECONOMIC ENVIRONMENTS - AN INTRODUCTION

You may have a variety of reasons for studying this course, but the main reason, we presume, is to become a successful manager. Your success or failure as a manager depends on a number of factors and these factors may not always be within your control; very often such factors constitute your work environment. These include your job, your department, your organisation, your nation and the world around you. After all, as a manager you do not function in a vacuum. You exist and operate within and not without, an environment. Therefore as a manager when you think, or take decisions, you cannot neglect the limitations of your environment. Just think for a while and then answer. Don't you arrive at decisions after examining the possible reactions from the environment in which you are placed ? Say, as a marketing manager, would you not study your market environment before launching a new product ? Or, as a finance manager, wouldn't you study how the capital and money markets of the country are structured and organised before deciding on the sources and uses of your funds ? Or, as a personnel managers wouldn't you care to find the rules and regulations laid down by the government on subjects like reservation before undertaking recruitment and selection of your required staff? When you have answered these questions, you will discover that all your answers are in the affirmative : “Yes, I would”. You can't do without thinking about your environment. As a business manager, you have to constantly evaluate your business environment.

This opening unit aims to set you thinking about these ideas. It aims to help you to : precisely define “environment”, classify your business environment on the basis of some criteria; identify some of the critical elements of economic environment of business; establish the nature of interaction between economic environment and business management; and analyse the interaction between economic and non-economic environment variables.

In pursuing these aims and objectives, our focus will primarily be on the Indian environment of business. We shall try to identify, describe and analyse the Indian situation to understand its impact on our business. Our ultimate purpose is to train our business managers to face the macro-level environment of business. As managers, wherever you are be it in the public or the private sector, you have to remain alive and alert to your environment so that you are successful in your day-to-day business operations.

3.1.1. Meaning and Definition of Economic Environment

The economic environment relates to all the economic determinants that influence commercial and consumer compliance. The term economic environment indicates all the external economic circumstances that affect the purchasing practices of customers and markets. Hence, it influences the production of the business.

The term “environment” refers to the totality of all the factors which are external to and beyond the control of individual business enterprises and their managements. Environment furnishes the macro-context, the business firm is the micro-unit. The environmental factors are essentially the “givens” within which firms and their managements must operate. For example, the value system of society, the rules and regulations laid down by the Government, the monetary policies of the central bank, the institutional set up of the country, the ideological beliefs of the leaders, the attitude towards foreign capital and enterprise, etc., all constitute the environment system within which a business firm operates. These environmental factors are many in numbers and various in form. Some of these factors are totally static, some are relatively static and some are very dynamic – they are changing every now and

then. Some of these factors can be conceptualized and quantified, while other can be only referred to in qualitative terms. Thus, the environment of business is an extremely complex phenomenon. The environmental factors generally vary from country to country. The environment that is typical of India may not be found another countries like the USA the (former) USSR, the UK, and Japan. Similarly, the American/Soviet/British/Japanese environments may not be found in India. There may be some factors in common, but the order and intensity of the environmental factors do differ between nations. What to say of countries, the magnitude and direction of environmental factors differ over regions within a country, and over localities within a region. Thus, one may talk of local, regional, national (domestic) and international (foreign) environment of business. For example, the local custom of “coolie” labour, the climate of the northern region of Assam, the policies of the State and Central Governments in India and the size of the world market : all these factors together will have an important bearing on tea industry. The production, consumption and marketing of tea will be affected by environmental factors. The environment differs not only over space but also over time within a country. As such, we can talk of temporal patterns of environment, i.e., past, present and future environment. Future environment is the product of past and present environments. The Indian economy of tomorrow will be influenced by what the state of the economy is at present and what it was in the past. Sometimes the environment may be classified into market environment and non-market environment depending upon whether a business firm’s environment is influenced by market forces like demand, supply, number of other firms and the resulting price competition, or non-price competition, etc., or by non-market forces like Government laws, social traditions, etc. Finally, we may classify the environment into economic and non-economic. Non economic environment refers to social, political, legal educational and cultural factors that affect business operations. Economic environment, on the other hand, is given shape and form by factors like the fiscal policy, the monetary policy, the industrial policy resolution, physical limits on output, the price and income trends, the nature of the economic system at work, the tempo of economic envelopment, the national economic plan, etc. The non-economic environment has economic implications just the economic environment may have non-economic implications. Since the environment is the sum total of the history, geography, culture, sociology, politics

and economic of a national, the interaction between economic and non-economic forces is bound to take place.

3.1.2 Elements of Economic Environment

Several external factors have a significant influence on a country's economy. These factors play a huge role in deciding consumer behaviour and financial flow of a country, thereby affecting its economic activities. All these elements together constitute the economic environment definition.

These elements of economic environment are as follows –

- **Gross Domestic Product (GDP)**

Gross Domestic Product is the total value of all products and services produced in a country. Therefore, the growth of GDP signifies that the economy of a country is stable and improving. It also means that people have more disposable income that, in turn, leads to increased demand for products and services.

It evaluates the financial worth of final goods and services—those that are purchased by the end user—produced in a country over a specific time period (say a year). It includes all of the output generated within the country. GDP also includes non-market production, for example, education services which are provided by the government itself. The GDP growth rate measures the economic reports and amount of a country's [economic growth](#) (or contraction). Faster growth in the gross domestic product (GDP) expands the overall size of the economy and strengthens fiscal conditions.

- **Unemployment**

A high level of unemployment in a country means that such an economy is not using its resources to its full potential. At the same time, it would negatively impact individual disposable income that will result in lower demand. It affects the commercial aspect of an economy significantly. This phenomenon is markedly noticed in the existing economic environment in India.

The individuals not only lose income but also face other hurdles financially as well as mentally. Government expenses extend further than the provision of benefits to the loss of worker output, which eventually reduces the gross domestic product (GDP) which in turn leads to economic issues and then poverty. It will lead to lower GDP growth and fall in tax revenue for the government.

- **Inflation**

When the overall prices of goods and services increase in a given period, it is known as inflation. It happens when even though the prices of goods and services are rising the general income level of consumers stays the same. Therefore, individuals have less money at their disposal. Small businesses and cottage industries are also affected as prices of raw goods and labour increase, resulting in smaller profit margins.

The propensity for the price level to rise over time is referred to as inflation. Inflation boosts prices and has the potential to reduce the purchasing power of consumers. People buy more than they need to avoid paying higher costs tomorrow, which drives up demand for products and services. Suppliers are unable to keep up. Worse still, neither can salaries. As a result, most individuals are unable to afford common products and services. Inflation reduces the value of pensions and savings.

- **Government Policy**

Government policies also play a huge role in influencing the economy of a country. Government policy can have a major influence on the economic environment. This can include fiscal or monetary policy. An example of monetary policy is a reduction in interest rates on bank loans which encourages consumers' demand for loans. An example of fiscal policy would be when the government decides to reduce income tax. Both of these policies attempt to gradually increase individual disposable income and encourage consumers to spend more, thus boosting commercial activities.

It can influence interest rate, taxation and a rise, which tends to increase the borrowing cost. Consumers will spend less if the interest is higher but if the interest rate is lower it might attract investments. In general, a government's active role in

responding to the economic circumstances of a country is for the purpose of preserving important stakeholders' economic interests.

• Reforms in the Banking Sector

The banks are considered to be one of the most crucial aspects of the Indian economy. As a consequence, any reforms in this sector will have a huge impact on the economy.

The banking sector plays a vital role in the betterment of the economy. By boosting the quality of financial services and increasing money accessible, banking sector openness may directly improve growth.

• Role of the Public and Private Sector

India has a mixed economy where both the private and public sector plays a significant role. While the public sector plays a valuable role in carrying out plans and reforms, developing infrastructure and building a strong industrial base, the private sector is responsible for generating employment opportunities. About 80% of the population is working in either organised or unorganised private sectors.

The public sector promotes economic development at a rapid pace by filling gaps in the industrial structure. It reduces the disparities in the distribution of income and wealth by bridging the gap between the rich and the poor. Agriculture and other activities like dairying, poultry come under the private sector. It plays an important role in managing the entire agricultural sector.

• Balance of Trade and Balance of Payment

Briefly, Balance of Trade (BOT) is the difference between the money value of a country's imports and exports of material goods only whereas Balance of Payment (BOP) is the difference between a country's receipts and payments in foreign exchange. When the exports are greater than the imports, it leads to a favourable trade balance. It means there is a high demand for its goods offshore, and that increases the demand for its currency. On another hand, when the outflow is greater than the inflow, there is a current account deficit.

BOT records only merchandise and doesn't record transactions of a capital nature. BOP records transactions relating to both goods and services. BOP is a true indicator of the economic performance of an economy.

- **Consumer Confidence**

The consumer is confident about his purchasing habits or decisions when they know they have income stability, and income is stable when the overall economy of a country is. It also affects the markets. For instance, if manufacturers and retail stores detect weak consumer confidence, they have to manage their inventory and cut back on production. Therefore, the economy will experience a slow down and ultimately, recession. A stable and growing economy usually boosts a consumer's confidence. The confidence of consumers impacts their economic decision and hence is a key indicator for the overall shape of an economy.

3.1.3 Role of Economic Policies

The basic purpose of economic policy is to help their country thrive economically through determining tax rates, money supply, government budgets, and interest rates, among other things.

Apart from the components of the economic environment, economic policies introduced by the government can also have an impact on markets. The components of economic policies are mentioned below.

Liberalisation

Liberalization is a broad phrase that refers to any process in which a government removes limitations on some individual person activities. It occurs when something which used to be banned is no longer banned. In simple language, you can say that Govt. eliminates regulation on private firms and trade.

Earlier it was restricted by the government for the production of goods and there is various permission that has to be taken from Govt. Due to this, there was a strong influence of the government in business.

This refers to when a state lifts the restrictions imposed on private business ventures so as to enable them to continue their operations without any hindrance and to facilitate economic growth. For instance, in 1991, the government of India removed some previously enforced restrictions on Indian companies. This includes –

- Removing almost all licenses except for a few
- Freedom in setting the price of products and services
- Reducing tax rates
- Relaxation on import and export of goods
- Allowing foreign investment in India

Some features of liberalisation in India are:

- Abolition of the existing License Raj in the country.
- Reduction of interest rates and tariffs.
- Removing the state sector's monopoly from several aspects of our economy.

Privatisation

In general, privatisation involves transfer of all national economies from the public to the private sector. Privatization can take multiple forms, one of which is the 'partial or total denationalisation of assets.' Disinvestment of government's equity in PSU's and the opening up of hitherto closed areas to private participation is the meaning that economics generally specifies.

The privatization of government assets and functions are seen to generate savings for taxpayers by increasing efficiency, improving incentives, and reducing waste.

This refers to when industries in the private sector are given more roles and the participation of the public sector decreases. Toward this, the Indian government took several steps like –

- Migrating public sector organisations to the private sector

- Setting up a board to manage those public sector enterprises that are not performing well
- Selling off government-owned stakes to private organisations

Recently, The Centre had proposed to privatise the Indian Overseas Bank (IOB) and the Central Bank of India.

A recent example of privatisation would be when the Indian government opted to privatise Bharat Petroleum Corporation Limited in November 2019.

Globalisation

Globalisation refers to something that encompasses or connects the entire world rather than being limited to a single country.

We exist in a world that is now constantly linked. Our everyday lives are strewn with the imprints of other cultures, communities, and economies. The smartphone we use may be made in China, the clothing we wear could be made in Bangladesh, and the fast-food places we frequent could be from a little state in the United States.. It determines how quickly globalisation rates can move by allowing countries to expand their links for mutual benefit with other countries.

This refers to when the economy of a particular nation integrates with the world or global economy. This is done via increased trade with other countries, the use of technology, foreign direct investments, etc. The Indian economy was globalised in 1991 when it faced a severe economic crisis.

Impact of LPG Policies in India

The above economic policies were adopted by our government when India went through a major financial crisis in the year 1991. These policies impacted the business environment of our country in several ways. These include –

- Indian companies faced increasing competition from foreign businesses.
- They had to adopt new technology into their business to keep up.

- Indian industries became more market-oriented, which means that they started manufacturing products based on customer demands.
- Companies focused on developing the skills of their employees.

Let's Sum Up

As of the most recent reports, the global economic environment exhibits a complex landscape shaped by several key factors. Amidst ongoing geopolitical tensions and trade disputes, major economies are navigating challenges such as inflationary pressures and supply chain disruptions. Central banks are employing varied monetary policies to stabilize growth and manage inflation rates, influencing market dynamics and investor sentiment. Technological advancements continue to drive digital transformation across industries, while environmental sustainability goals are reshaping business strategies worldwide. Overall, while some regions are experiencing recovery and growth, uncertainties persist, necessitating adaptive strategies from businesses and policymakers alike to foster resilient economic conditions moving forward

Check Your Progress - QUIZ – 1

1. Which of the following factors is NOT typically considered part of the economic environment?

- A. Inflation rates
- B. Employment levels
- C. Cultural trends
- D. Interest rates

2. The term "economic growth" refers to:

- A. An increase in the population size
- B. A reduction in unemployment rates
- C. An increase in the production and consumption of goods and services
- D. A decrease in government spending

3. Which economic system is characterized by private ownership of resources and free market operations?

- A. Socialism
- B. Capitalism
- C. Communism
- D. Mixed economy

4. Fiscal policy is primarily concerned with:

- A. Regulating the money supply and interest rates
- B. Adjusting government spending and tax policies
- C. Setting wage controls
- D. Managing international trade agreements

5. What is the primary goal of monetary policy?

- A. To control inflation and stabilize the currency
- B. To increase government spending
- C. To reduce trade deficits
- D. To expand the workforce

SECTION 3.2 BUSINESS CYCLE

Meaning

The business cycle is the rise and fall of economic activities that occur over time in an economy. It is also referred to as an 'economic cycle' or 'trade cycle'.

It is an alternate expansion and contraction in overall business activity, as evident by fluctuations in the gross domestic product (GDP). Generally, the business cycle is characterized by four phases which are Expansion (Boom), Contraction (recession), Depression and Recovery. The duration of business cycles may be anywhere from about two to twelve years, with most cycles averaging six years in length.

3.2.1 FEATURES OF BUSINESS CYCLES

Business cycles are economy-wide fluctuations in output, unemployment, prices, revenue, profits, and interest rates, among other variables. These fluctuations occur across the economy and over a number of years. Fluctuations always take place in an economy. Business cycles, however, do not refer to fluctuations that are specific to one geographic region or industry within an economy.

To identify business cycles, we must look at factors that can have an effect on the entire economy. Business cycles consist of recurrent alternating phases of expansions and contractions in a number of economic variables including employment, production, real income, and real sales. Business cycles involve multidimensional processes, in which quantities and prices, stocks and flows, outputs and inputs, real, monetary, and financial variables all tend to move together. These are asymmetric in the sense that expansions typically exceed contractions in _____

size and duration. Business cycles can be distinguished from the other fluctuations in that they are usually larger, longer, and widely diffused.

The major features of business cycles are as follows:

- 1) Though business cycles do not show the same regularity, they have some distinct phases such as expansion, peak, recession, trough and recovery. The duration of cycle can vary between two years to twelve years.
- 2) Business cycles are synchronic. Depression or contraction occurs simultaneously in most industries or sectors of the economy. Recession passes from one industry to another and chain reaction continues till the whole economy is in the grip of recession. Similarly, expansion spreads through various linkages between industries or sectors.
- 3) Fluctuations occur simultaneously in the level of output as well as employment, investment, consumption, etc.
- 4) Consumption of durable goods and investment are affected the most by cyclical fluctuations. As stressed by Keynes, investment is very unstable as it depends on profit expectations of private entrepreneurs. Any change in these expectations makes investment unstable. Thus the amplitude of fluctuation in the case of durable household effects is higher than that of GDP.
- 5) Consumption of non-durable goods and services do not vary much during the different phases of business cycles. Past data of business cycles reveal that households maintain a great stability in the consumption of nondurable goods. Thus the amplitude of fluctuations in the case of nondurable consumption goods is lower than that of GDP.
- 6) The immediate impact of recession or expansion is on the inventories of goods. When recession sets in, inventories start accumulating beyond the desired level. It leads to cut in production of goods. In contrast, when recovery starts, the inventories go below the desired level. It encourages business houses to place more orders for goods which boost production and stimulates investment.
- 7) Profits fluctuate more than any other type of income as the occurrence of business cycles causes lot of uncertainty for the businessmen and makes it difficult to forecast economic conditions. During depression, profits turn negative and many businesses go bankrupt.

8) Business cycles are international in character. That is, once started in one country, they spread to other countries through contagion effect. The downside in financial market, for example, in one country spreads rapidly to other country as financial markets are linked globally through capital flows. Further, recessions in one country, say the United States can spread to other country as the imports of the U.S.A. will decline. Countries which are major exporter to the U.S will witness a decline in their exports and may witness recession

3.2.2 PHASES OF BUSINESS CYCLES

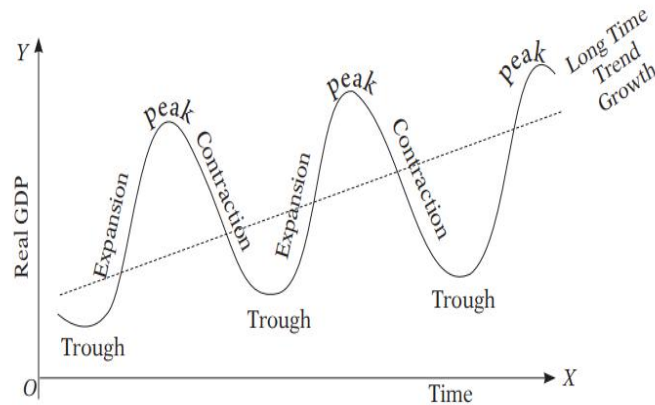
Business cycles are characterized by expansion of economic variables in one period and contraction in the subsequent period. In Fig. 4.1 you can observe the **Economic Growth** upward sloping curve (expansion phase) there is acceleration in growth rate. The downward sloping segment of the curve indicates the 'contraction phase'.

In Fig. 4.1 the upward sloping straight line indicates the steady state growth path or the long run growth path of the GDP. The actual GDP fluctuates around the steady state growth path due to business cycles.

According to some researchers there are four phases of a business cycle, viz., expansion, recession, depression and recovery. The four phases of a business cycle are also depicted in Fig. 4.1. In fact, the expansion phase comprises both recovery and expansion. Similarly, the contraction phase consists of both recession and depression. You should note that the difference between recession and depression is one degree. In the recession phase there is a deceleration in the growth rate. In the depression phase, economic growth is below its long run trend and the economy can witness negative growth rate also.

Similarly, the difference between recovery and expansion is one of degree and extent. After negative growth, the economy passes through the recovery phase and then through the expansion phase. The point at which the expansion ends and a recession begin is called 'peak' of a business cycle. The point at which a depression

ends and recovery begins is called a 'trough'. Thus peak and trough are 'turning points' in a business cycle



Expansion

- The expansion phase is characterised by increase in national output, employment, aggregate demand, capital and consumer expenditure, sales, profits, rising stock prices and bank credit.
- This state continues till there is full employment of resources and production is at its maximum possible level using available productive resources.
- Involuntary unemployment is almost zero and whatever unemployment is there is either frictional (i.e. due to change of jobs, or suspended work due to strikes or due to imperfect mobility of labour) or structural (i.e. unemployment caused due to structural changes)
- Prices and costs also tend to rise faster. Good amounts of net investment occur, and demand for all types of goods and services rises. There is altogether increasing prosperity and people enjoy high standard of living due to high levels of consumer spending, business confidence, production, factor incomes, profits, and investment. The growth rate eventually slows down and reaches its peak.

Peak

- In the later stages of expansion, inputs are difficult to find as they are short of their demand and therefore input prices increase. Output prices also rise rapidly leading to increased cost of living and greater strain on fixed income earners.

- Consumers begin to review their consumption expenditure on housing, durable goods etc. Actual demand stagnates. This is the end of expansion and it occurs when economic growth has reached a point where it will stabilize for a short time and then move in the reverse direction.

Contraction

- As mentioned above, once peak is reached, increase in demand is halted and starts decreasing in certain sectors. During contraction, there is fall in the levels of investment and employment.
- Producers do not instantaneously recognise the pulse of the economy and continue anticipating higher levels of demand, and therefore, maintain their existing levels of investment and production. Supply far exceeds demand. Initially, this happens only in few sectors and at a slow pace, but rapidly spreads to all sectors. Producers knowing, they have indulged in excessive investment and over production, respond by holding back future investment plans, cancellation, and stoppage of orders for equipment and all types of inputs including labour. This in turn generates a chain of reactions in the input markets and producers of capital goods and raw materials in turn respond by cancelling and curtailing their orders.
- This is the turning point and the beginning of recession. Decrease in input demand pulls input prices down; incomes of wage and interest earners gradually decline resulting in decreased demand for goods and services.
- Producers lower their prices in order to dispose off their inventories and for meeting their financial obligations.
- Consumers, in their turn, expect further decreases in prices and postpone their purchases. With reduced consumer spending, aggregate demand falls, generally causing fall in prices. The discrepancy between demand and supply gets widened further.
- This process gathers speed and recession becomes severe. Investments start declining; production and employment decline resulting in further decline in incomes, demand and consumption of both capital goods and consumer goods.
- Business firms become pessimistic about the future state of the economy and there is a fall in profit expectations which induces them to reduce investments. Bank credit

shrinks as borrowings for investment declines, investor confidence is at its lowest, stock prices fall and unemployment increases despite fall in wage rates.

- The process of recession is complete and the severe contraction in the economic activities pushes the economy into the phase of depression.

Trough and Depression

- Depression is the severe form of recession and is characterized by extremely sluggish economic activities.
- During this phase of the business cycle, growth rate becomes negative and the level of national income and expenditure declines rapidly. Demand for products and services decreases, prices are at their lowest and decline rapidly forcing firms to shut down several production facilities. Since companies are unable to sustain their work force, there is mounting unemployment which leaves the consumers with very little disposable income.
- A typical feature of depression is the fall in the interest rate. With lower rate of interest, people's demand for holding liquid money (i.e. in cash) increases. Despite lower interest rates, the demand for credit declines because investors' confidence has fallen.
- Often, it also happens that the availability of credit also falls due to possible banking or financial crisis. Industries, especially capital and consumer durable goods industry, suffer from excess capacity. Large number of bankruptcies and liquidation significantly reduce the magnitude of trade and commerce.
- At the depth of depression, all economic activities touch the bottom and the phase of trough is reached. For example, the great depression of 1929-33 is still cited for the enormous misery and human sufferings it caused.

Recovery

- The economy cannot continue to contract endlessly. It reaches the lowest level of economic activity called trough and then starts recovering. Trough generally lasts for some time and marks the end of pessimism and the beginning of optimism. This reverses the process. The process of reversal is initially felt in the labour market.

Pervasive unemployment forces the workers to accept wages lower than the prevailing rates.

- A time comes when business confidence takes off and gets better, consequently they start to invest again and to build stocks; the banking system starts expanding credit; technological advancements require fresh investments into new types of machines and capital goods; employment increases, aggregate demand picks up and prices gradually rise.
- The spurring of investment causes recovery of the economy. This acts as a turning point from depression to expansion. As investment rises, production increases, employment improves, income improves and consumers begin to increase their expenditure.
- Increased spending causes increased aggregate demand and in order to fulfil the demand more goods and services are produced. Employment of labour increases, unemployment falls and expansion takes place in the economic activity.
- It is to be reemphasized that no economy follows a perfectly timed cycle and that the business cycles are anything but regular. They vary in intensity and length. There is no set pattern which they follow. Some cycles may have longer periods of boom, others may have longer period of depression. It is very difficult to predict the turning points of business cycles.

3.2.3 BUSINESS CYCLE INDICATORS

.As you already know, a major objective of macroeconomic policy is to maintain stability in economic growth and price level. An important part of the job of the central bank is therefore to gather information of the current and if possible, future economic conditions. The theoretical concept of measuring current business activities using economic series such as GDP, sales, investment, stock prices, etc. is rather simple though its practical application is difficult. Usually, the time pattern of these fluctuating economic series is diverse. While some economic series are expanding at a given point in time, others have already reached their upper turning point (peak) and still others are on the downswing; a few economic activities might even be at a lower turning point (trough). Thus the question is how to measure the overall state of the economy using these economic variables as they have diverse trends.

Economic indicators were conceived at the NBER originally by W.C. Mitchell and A. F. Burns in the 1930s. This approach requires monitoring of economic variables that tend to be sensitive to cyclical changes no matter what their cause. There could be three scenarios:

- (i) certain economic variables move ahead of business cycles (they 'lead' a business cycle),
 - (ii) certain other economic variables lag behind a business cycle (the turning points in these variables take place later than with certain 'lag'), and
 - (iii) there are still other economic variables which 'coincide' with business cycles.
- Burn and Mitchell studied a group of about 487 variables to see if the turning points in the variables persistently led, coincided with, or lagged behind the turning points in the U.S. business cycle. Seventy one series were chosen and arranged according to the average lead or lag with regard to the reference revivals. For example, six time series had no average lead or lag. On the average, the leading series were from one to ten months ahead of the reference revivals. The lagging series were on the average from one to twelve months behind.

According to Business Cycle Indicators Handbook 2020, a business cycle indicator should fulfil the following criteria:

- (i) Conformity: the series must conform well to business cycles;
- (ii) Consistent Timing: the series must exhibit a consistent timing pattern over time as a leading, coincident or lagging indicator;
- (iii) Economic Significance: the cyclical timing of the series must be economically logical;
- (iv) Statistical Adequacy: data on the variable must be collected and processed in a statistically reliable way;
- (v) Smoothness: month-to-month movements in the variable must not be too erratic; and
- (vi) Currency: Data on the variable must be available on a reasonable prompt schedule.

Those series are selected which are similar in timing at peaks and troughs with business cycles. Business cycle indicators are classified into three groups, viz., leading, roughly-coincident and lagging

Leading Indicators

Leading economic indicators help us assess where the economy is headed. They foreshadow what is coming, such a turning point, before it actually happens. One of the most significant leading indicators is the stock market itself, gauged by an index such as the S&P 500. It will begin to rise before economic environment seems favourable, and it will begin to decline before economic conditions seem to warrant it. Another important leading indicator is interest rates. Low interest rate stimulates borrowing and buying, which favours the economy. An increase in interest rates shows the economy is doing well, but eventually rising interest rates lead to a slowdown because less people borrow money to start new projects.

Lagging Indicators

Unlike leading indicators, lagging indicators turn around after the economy changes. Although they do not typically tell us where the economy is headed, they indicate how the economy changes over time and can help identify longterm trends. Lagging economic indicators reveal past information about the economy. Gross Domestic Product (GDP) is how much a country is producing. There is significant lag time between when the data is compiled and when it is released, yet it is still an important indicator. Many consider a recession to be underway if two quarters see back-to-back declining GDP. Other indicators, such as the Consumer Price Index (CPI), are also sometimes considered lagging indicators, since they reveal information that is already known to most consumers.

Coincident Indicators

Coincident indicators change (more or less) simultaneously with general economic conditions and therefore reflect the current status of the economy. They give consumers, business leaders, and policy makers an idea about where the economy is currently, right now. When the economy rises today, then coincident indicators are also rising today. Similarly if the economy declines today, then coincident indicators

are also declining today. Typical examples of coincident indicators are industrial production or turnover. In Table 4.1 we present a list of business cycle indicators.

Let's Sum Up

The business cycle refers to the recurring pattern of economic growth and contraction experienced by economies over time. It typically consists of four phases: expansion, peak, contraction, and trough. During an expansion, the economy grows, characterized by rising employment, consumer spending, and business investments. The peak marks the highest point of economic activity, where growth rates start to slow down. A contraction follows, marked by declining economic activity, falling consumer demand, and often rising unemployment. Finally, the trough is the lowest point of the cycle, where economic activity reaches its nadir before beginning to recover again. The business cycle is influenced by various factors including monetary policy, fiscal policy, consumer confidence, and global economic trends, and understanding these fluctuations is crucial for businesses and policymakers to make informed decisions and manage risks effectively

Check Your Progress - QUIZ – 1

1. What is the business cycle?

- A. The annual increase in a country's GDP
- B. The periodic fluctuations in economic activity, such as employment and production
- C. The monthly changes in stock market prices
- D. The long-term trend in technological development

2. Which of the following is NOT a phase of the business cycle?

- A. Expansion
- B. Peak
- C. Contraction
- D. Stagnation

3. During the expansion phase of the business cycle, which of the following is typically observed?

- A. Increasing unemployment rates
- B. Declining GDP
- C. Rising consumer confidence and spending
- D. Decreasing industrial production

4. The peak phase of the business cycle is characterized by:

- A. The highest level of economic activity before a decline
- B. The lowest level of economic activity before a rise
- C. A consistent level of economic activity
- D. Rapidly decreasing inflation rates

5. What typically happens during the contraction phase of the business cycle?

- A. Increased investment in capital goods
- B. Rising inflation and employment
- C. Decreasing GDP and rising unemployment
- D. Growth in consumer spending

SECTION 3.3 MACROECONOMIC

A macroeconomic factor is a pattern, characteristic, or condition that emanates from, or relates to, a larger aspect of an economy rather than to a particular population. The characteristic may be a significant economic, environmental, or geopolitical event that widely influences a regional or national economy.

A macroeconomic factor can include something that affects the course or direction of a given large-scale economy. Monetary policies and other regulations, for example, can affect national and state economies, while also coming with potentially great global consequences.

Inflation, gross domestic product (GDP), national income, and unemployment levels are examples of macroeconomic factors. Such economic performance metrics are closely tracked by states, companies, and consumers alike. The correlation between various macroeconomic factors is extensively researched in the field of macroeconomics.

3.3.1 Understanding Macroeconomics

Macroeconomics is a field of economics that studies broader economic trends, such as inflation, economic growth rates, price levels, gross domestic product (GDP), national income, and changes in levels of unemployment.

Inflation

Inflation is a progressive increase in the average cost of goods and services in the economy over time.

Economic Growth Rate

The economic growth rate is the percent change in the cost of the output of goods and services in a country across a specific period of time, relative to a previous period.

Price Level

A price level is the variation of existing prices for economically produced goods and services. In broader terms, the level of prices refers to the costs of a good, service, or security.

Gross Domestic Product (GDP)

The gross domestic product (GDP) is a quantitative measure of the market value of all finished goods and services produced over a given time period.

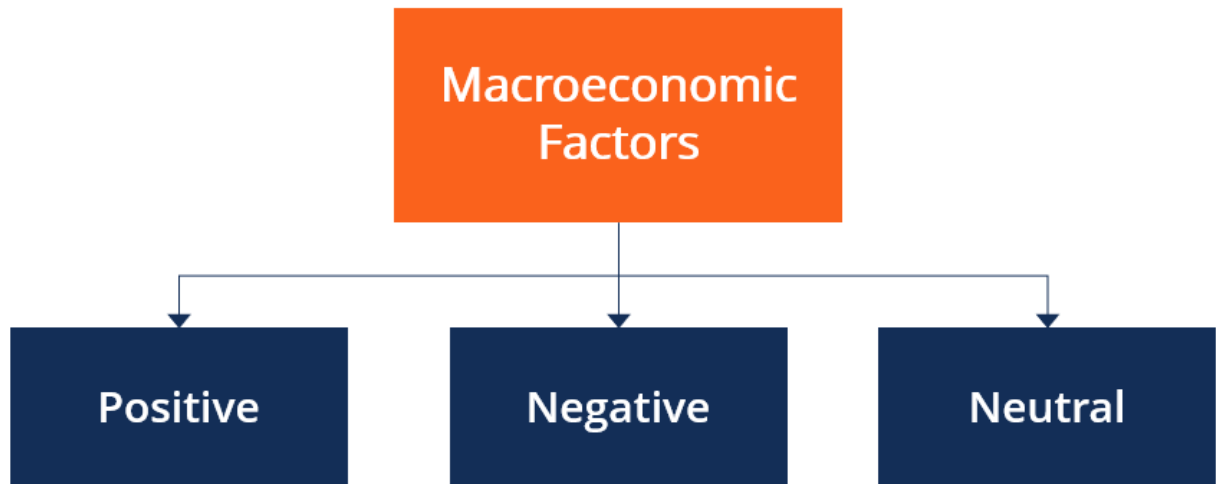
National Income

National income is the aggregate amount of money generated within a nation.

Unemployment Level

The level or rate of unemployment is the unemployed share of the labor force in a given country, calculated and stated as a percentage.

3.3.2 Types of Macroeconomic Factors



1. Positive

Positive macroeconomic factors are comprised of events that ultimately stimulate economic stability and expansion within a country or a group of countries.

Any development leading to a rise in demand for goods or services (e.g., a decrease in price) is considered a positive macroeconomic factor. As the demand for products and services grows, domestic and foreign suppliers of the products will inevitably benefit from increased revenues resulting from increased customer traffic. Higher profits will, in effect, grow stock prices on a larger scale.

2. Negative

Negative macroeconomic factors include events that may threaten the national or global economy.

Concerns of political uncertainty induced by the involvement of a nation in civil or global conflict are likely to worsen economic unrest due to the redistribution of resources or damage to property, assets, and livelihoods.

Negative macroeconomic factors also include global pandemics (e.g., Covid-19) or natural disasters, such as hurricanes, earthquakes, flooding, wildfires, etc.

3. Neutral

Some economic changes are neither positive nor negative. Instead, the exact consequences are assessed based on the purpose of the action, such as the control of trade across regional or national borders.

The nature of a particular action, such as the implementation or discontinuance of a trade embargo, would come with a variety of consequences that are dependent on the country being impacted and the objectives behind the action taken.

3.3.3. Importance of Macroeconomic Factors

Economic experts and researchers frequently refer to macroeconomic factor trends as they try to find ways to clarify economic policy objectives and strive to achieve economic prosperity. They also attempt to forecast future rates of employment, inflation, and other main macroeconomic factors. Such forecasts affect the decisions taken by states, individuals, and businesses.

Let's Sum Up

Macroeconomic parameters provide crucial insights into the overall economic health of a nation. Gross Domestic Product (GDP) serves as a primary indicator, representing the total market value of all goods and services produced within a country in a specific period. It reflects the size and strength of the economy. The growth rate of GDP indicates the pace at which the economy is expanding or contracting over time, influencing employment, investment, and government policies.

Check Your Progress - QUIZ – 1

1. What is macroeconomics primarily concerned with?

- A. Individual markets and consumer behavior
- B. Large-scale economic phenomena and aggregate economic variables
- C. The financial performance of specific companies
- D. The marketing strategies of businesses

2. Gross Domestic Product (GDP) measures:

- A. The total value of all goods and services produced within a country in a given period
- B. The total value of a country's exports
- C. The average income of a country's residents
- D. The total amount of money in circulation in an economy

3. Inflation is defined as:

- A. A sustained decrease in the general price level of goods and services
- B. A sustained increase in the general price level of goods and services
- C. An increase in the supply of money in the economy
- D. A decrease in the unemployment rate

4. Which of the following is NOT a component of aggregate demand?

- A. Consumption
- B. Investment
- C. Government spending
- D. Money supply

5. The unemployment rate is calculated by:

- A. Dividing the number of unemployed people by the total labor force and multiplying by 100
- B. Dividing the number of employed people by the total labor force and multiplying by 100
- C. Dividing the number of unemployed people by the total population and multiplying by 100
- D. Dividing the number of employed people by the total population and multiplying by 100

SECTION 3.4 GROWTH RATE AND POPULATION

An economic growth rate refers to the change in the value of all goods and services produced within a country for a specific period in comparison to an earlier period. It is depicted in terms of percentage. The economic growth rate is a measure for knowing the relative health of an economy over time. The metric is usually collated and published quarterly and annually.

In maximum cases, the economic growth rate estimates the variance in a country's gross domestic product (GDP). The gross national product (GNP) may be used in all those nations with economies heavily dependent on foreign earnings. The GNP takes into account net income from foreign investments.

Population growth is the increase in the number of people in a population or dispersed group. Actual global human population growth amounts to around 83 million annually, or 1.1% per year. The global population has grown from 1 billion in 1800 to 7.9 billion in 2020. The UN projected population to keep growing, and estimates have put the total population at 8.6 billion by mid-2030, 9.8 billion by mid-2050 and 11.2 billion by 2100. However, some academics outside the UN have increasingly developed human population models that account for additional downward pressures on population growth; in such a scenario population would peak before 2100. Others have challenged many recent population projections as having underestimated population growth.

3.4.1 Urbanization

Urbanization is the transformation of unoccupied or sparsely occupied land into densely occupied cities. Urban areas can grow from increases in **human populations** or from migration into urban areas. Urbanization often results in **deforestation**, **habitat loss**, and the **extraction of freshwater** from the environment, which can decrease **biodiversity** and alter **species ranges** and **interactions**. Human activities in urban areas, such as the **burning of fossil fuels** and industrial waste also increases **pollutants** in the environment that can affect the **health** of humans and other species.

3.4.2 Impact of Urbanization

- Causing **habitat loss** and **deforestation**, which can decrease species populations, **ranges**, **biodiversity**, and alter **interactions** among organisms.
- The **evolution of life cycles and traits** that help species survive and reproduce in disturbed or altered ecosystems. For example, some bird populations living in **urban** environments have altered their beak shape to be able to more effectively eat the seeds in human-made bird feeders.
- The transmission of **diseases**. Humans living in densely populated areas can rapidly spread diseases within and, with the ease and volume of transportation, among populations.

- Increasing the transport of **invasive species**, either intentionally or by accident, as people travel and import and export supplies in and out of cities. Urbanization also creates disturbed environments where **invasive species** often thrive and outcompete native species. For example, many invasive plant species thrive along strips of land next to roads and highways.
- Increasing regional **temperatures**. The use asphalt and other dark colored materials in urban areas increases the amount of sunlight **absorbed**. This creates urban heat islands, whereby cities experience higher temperatures than surrounding areas.
- Paving land with concrete can increase **water** runoff, increasing **erosion** and decreasing **soil quality**. This can also decrease **water quality** by increasing **sediment** and **pollutants** in rivers and streams.
- Changing how much and how fast **water cycles** through the biosphere and atmosphere. Trees and other plants return a significant proportion of **precipitation** to the atmosphere via a process called transpiration. Thus, the loss of plant **productivity and biomass** decreases the amount of **water cycling** through the biosphere and atmosphere, while increasing plant productivity and biomass increase the amount of water cycling.

Let's Sum Up

Population size and growth rate are pivotal demographic factors impacting economic dynamics. A growing population can stimulate consumption and labor supply but may strain resources and infrastructure, while urbanization trends highlight shifts in settlement patterns and economic activities concentrated in cities.

Check Your Progress - QUIZ – 1

1. Which of the following best defines the population growth rate?

- A. The number of births per year
- B. The number of deaths per year
- C. The rate at which the number of individuals in a population increases in a given time period
- D. The total population at the end of the year

2. What is the main factor contributing to urbanization?

- A. Decrease in birth rates
- B. Increase in agricultural productivity
- C. Migration from rural areas to cities
- D. Decrease in industrial jobs

3. Which term describes the number of people per unit of area?

- A. Population growth rate
- B. Population density
- C. Birth rate
- D. Mortality rate

4. Which of the following is a common consequence of rapid urbanization?

- A. Decreased demand for housing
- B. Improved air quality
- C. Increased pressure on infrastructure and services
- D. Lower population density

5. The demographic transition model describes:

- A. Changes in birth and death rates as a country develops
- B. Fluctuations in economic growth rates
- C. Variations in urban and rural population distribution
- D. Patterns of migration and immigration

SECTION 3.5 NATIONAL INCOME - DEFINITION

To simply understand what National Income is, it can be represented as - National Income defines a country's wealth. This income depicts the value of goods and services which are produced by an economy. This gives effect to the net result of all the economic activities performed in the country. Imagine how you would define a country's wealth without any economic term? In that case, there would be no accountability and responsibility linked with the production in the country. The resources would go uncalculated and there would be a vague economic atmosphere. Thus, let us indulge in this study which talks about National Income.

3.5.1 Understanding National Income

National income is the sum total of the value of all the goods and services manufactured by the residents of the country, in a year., within its domestic boundaries or outside. It is the net amount of income of the citizens by production in a year. To be more precise, national income is the accumulated money value of all

final goods and services produced in a country during one financial year. Computation of National Income is very vital as it indicates the overall health of our economy for that particular year. The aggregate economic performance of a nation is calculated with the help of National income data. The basic purpose of national income is to throw light on aggregate output and income and provide a basis for the government to formulate its policy, programs, to maximize the national welfare of the people. Central Statistical Organization calculates the national income in India.

3.5.2 Importance of National Income

Setting Economic Policy

National Income indicates the status of the economy and can give a clear picture of the country's [economic growth](#). National Income statistics can help economists in formulating economic policies for economic development.

Inflation and Deflationary Gaps

For timely anti-inflationary and deflationary policies, we need aggregate data of national income. If expenditure increases from the total output, it shows inflammatory gaps and vice versa.

Budget Preparation

The budget of the country is highly dependent on the net national income and its concepts. The Government formulates the yearly budget with the help of national income statistics in order to avoid any cynical policies.

Standard of Living

National income data assists the government in comparing the standard of living amongst countries and people living in the same country at different times.

Defense and Development

National income estimates help us to bifurcate the national product between defense and development purposes of the country. From such figures, we can easily know, how much can be set aside for the defense budget.

Sets of methods for measuring National Income

There are four methods of measuring national income. The type of method to be used depends on the availability of data in a country and the purpose which is attempted for.

Income Method

In this method, we add net income payments received by all citizens of a country in a particular year. Net incomes that result in all the factors of production like net rents, wages, interest, and profits are all added together, but income received in the form of transfer payments are omitted.

Product Method

According to this method, the aggregate value of final goods and services produced in a country during a financial year is computed at market prices. To find out GNP, the data of all the productive activities-agricultural products, Minerals, Industrial products, the contributions to production made by transport, insurance, communication, lawyers, doctors, teachers. Etc are accumulated and assessed.

Expenditure Method

The total expenditure by the society in a financial year is summed up together and includes personal consumption expenditure, net domestic investment, government expenditure on goods and services, and net foreign investment. This concept is backed by the assumption that national income is equal to national expenditure.

Value Added Method

The distinction between the value of material outputs and material inputs at every stage of production is Value added.

Let's Sum Up

National income encompasses all earnings within a nation, including wages, profits, and rents, revealing the aggregate income generated. Per capita income divides national income by population, offering a measure of average individual economic well-being. It signifies the standard of living and consumption capacity of citizens, guiding policy decisions related to income distribution and social welfare.

Check Your Progress - QUIZ – 1**1. What does Gross Domestic Product (GDP) measure?**

- A. The total income earned by individuals in a country
- B. The total value of all goods and services produced within a country in a specific time period
- C. The total government spending on infrastructure projects
- D. The total amount of money in circulation in an economy

2. Which of the following is NOT included in the calculation of GDP?

- A. Consumer spending
- B. Government spending
- C. Transfer payments
- D. Investment spending

3. Net National Product (NNP) is calculated by:

- A. Adding depreciation to Gross Domestic Product (GDP)
- B. Subtracting depreciation from Gross Domestic Product (GDP)
- C. Adding indirect taxes and subtracting subsidies from Gross National Product (GNP)
- D. Subtracting indirect taxes and adding subsidies to Gross National Product (GNP)

4. Which measure of national income accounts for income earned by residents of a country, regardless of where it is earned?

- A. Gross Domestic Product (GDP)
- B. Gross National Product (GNP)
- C. Net Domestic Product (NDP)
- D. Net National Product (NNP)

5. The expenditure approach to calculating GDP includes:

- A. Adding up the value of all final goods and services produced within a country
- B. Summing up all incomes earned by factors of production
- C. Accounting for the difference between exports and imports
- D. Calculating government spending and investments only

SECTION 3.6. MEANING OF PER CAPITA INCOME

Per capita income is a measure of the amount of money earned per person in a nation or geographic region. Per capita income is used to determine the average per-person income for an area and to evaluate the standard of living and quality of life of the population. Per capita income for a nation is calculated by dividing the country's national income by its population.

3.6.1 Per Capita Income impact on business decision

Living Standards

Since per capita income uses the overall income of a population and divides it by the total number of people, it doesn't always provide an accurate representation of the standard of living. In other words, the data can be skewed, whereby it doesn't account for income inequality.

Inflation

Per capita income doesn't reflect [inflation](#) in an economy, which is the rate at which prices rise over time. For example, if the per capita income for a nation rose from [\\$50,000](#) per year to \$55,000 the next year, it would register as a 10% increase in annual income for the population. However, if inflation for the same period was 4%, income would only be up by 6% in real terms. Inflation erodes the purchasing power of the consumer and limits any increases in income. As a result, per capita income can overstate income for a population.

International Comparisons

The cost of living differences can be inaccurate when making international comparisons since exchange rates are not included in the calculation. Critics of per capita income suggest that adjusting for [purchasing power parity \(PPP\)](#) is more accurate, whereby PPP helps to nullify the exchange rate difference between countries. Also, other economies use bartering and other non-monetary activity, which is not considered in calculating per capita income.

Savings and Wealth

Per capita income doesn't include an individual's savings or wealth. For example, a wealthy person might have a low annual income from not working but draws from savings to maintain a high-quality standard of living. The per capita metric would reflect the wealthy person as a low-income earner.

Children

Per capita includes children in the total population, but children don't earn any income. Countries with many children would have a skewed result since they would have more people dividing up the income versus countries with fewer children.

Economic Welfare

The welfare of the people isn't necessarily captured with per capita income. For example, the quality of work conditions, the number of hours worked, education level, and health benefits are not included in per capita income calculations. As a result, the overall welfare of the community may not be accurately reflected.

3.6.2 Understanding the Economic Growth

The economic growth is calculated with the help of the formula as given below:

$$\text{Economic Growth} = (GDP2 - GDP1) / GDP1$$

The formula denotes the percentage difference in the GDP between two periods.

When it is traced over time, the economic growth rate indicates the general tendency of a nation's economy and the size of its growth (or contraction). It may also be used to forecast the economic growth rate for the upcoming quarter or the year.

A jump in the economic growth rate is usually seen as a positive outcome. If an economy shows negative growth rates for two consecutive quarters, it implies that the nation is in a recession.

For example, if an economy downsizes by 2% from the previous year, it reveals that the total population has seen a reduction in earnings of 2% in that year.

2.6.3 Factors that Influence the Economic Growth

Various factors and events can influence economic growth. Most commonly, an increase in the demand for products would lead to a corresponding increase in production. It leads to more income in the net result.

Technological and innovative product developments can have positive influences on economic growth. Increase in demand from foreign markets leads to higher export sales.

In either or all of these cases, a more significant capital infusion causes an increase in the economic growth rate. An economic contraction is a reverse of that. In such a scenario, the consumers cut down their spending. So the demand and, in turn, the production falls with it. It has various repercussions, such as the production falls, people lose jobs, demand falls further, and the quarterly GDP number turns negative.

Let's Sum Up

Per capita income is a widely used economic indicator that measures the average income earned per person in a given area (typically a country) over a specified period, such as a year. It is calculated by dividing the total income of a nation or region by its population. Per capita income provides a snapshot of the economic well-being of individuals within that area, reflecting both the distribution of wealth and the overall economic productivity. Policymakers, economists, and analysts use per capita income to assess standards of living, compare economic performance across countries, and formulate strategies for economic development and poverty alleviation. Rising per capita income generally signifies improving living standards, while stagnation or decline may indicate economic challenges or inequalities that require attention.

Check Your Progress - QUIZ – 1

1. What does "per capita income" measure?

- A. The total income earned by a country
- B. The average income earned per person in a country
- C. The total value of all goods and services produced within a country
- D. The amount of money in circulation in an economy

2. Which of the following factors does per capita income NOT account for?

- A. Population size
- B. Distribution of income
- C. Total national income
- D. Average cost of living

3. Per capita income is calculated by:

- A. Dividing the total national income by the total population of a country
- B. Dividing the total national income by the number of households in a country
- C. Dividing the total GDP by the number of working-age adults
- D. Dividing the total GDP by the total government spending

4. Economic growth is generally measured by changes in:

- A. Per capita income over time
- B. Total population over time
- C. Government spending over time
- D. Corporate profits over time

5. Which of the following is NOT a determinant of economic growth?

- A. Investment in human capital
- B. Technological progress
- C. Population size
- D. Government regulations

SECTION 3.7. NATIONAL INSTITUTION FOR TRANSFORMING INDIA (NITI AAYOG)

The Planning Commission which has a legacy of 65 years has been replaced by the NITI Aayog. The utility and significance of the Planning Commission had been questioned for a longer period. The replacement seems to be more relevant and responsive to the present economic needs and scenario in the country.

The NITI Aayog is a very important topic for the UPSC civil services exam. It is a pivotal organisation that is bound to play a vital role in the country's development process. Hence, you should read about the NITI Aayog in detail as questions can be asked on it both in the UPSC prelims and mains exams.

- **NITI Aayog Chairman** – Narendra Modi
- **NITI Aayog Vice-Chairman** – Shri Suman Bery (May 1, 2022 – present) is the current Vice Chairman of the NITI Aayog.

3.7.1 Objectives of NITI Aayog

1. The active participation of States in the light of national objectives and to provide a framework 'national agenda'.
2. To promote cooperative federalism through well-ordered support initiatives and mechanisms with the States on an uninterrupted basis.

3. To construct methods to formulate a reliable strategy at the village level and aggregate these gradually at higher levels of government.
4. An economic policy that incorporates national security interests.
5. To pay special consideration to the sections of the society that may be at risk of not profiting satisfactorily from economic progress.
6. To propose strategic and long-term policy and programme frameworks and initiatives, and review their progress and their effectiveness.
7. To grant advice and encourage partnerships between important stakeholders and national-international Think Tanks, as well as educational and policy research institutions.
8. To generate knowledge, innovation, and entrepreneurial support system through a shared community of national and international experts, etc.
9. To provide a platform for resolution of inter-sectoral and inter-departmental issues to speed up the accomplishment of the progressive agenda.
10. To preserve a state-of-the-art Resource Centre, be a repository of research on good governance and best practices in sustainable and equitable development as well as help their distribution to participants.
11. To effectively screen and assess the implementation of programmes and initiatives, including the identification of the needed resources to strengthen the likelihood of success.
12. To pay attention to technology improvement and capacity building for the discharge of programs and initiatives.
13. To undertake other necessary activities to the implementation of the national development agenda, and the objectives.

3.7.2 NITI Aayog Evolution

The NITI Aayog was formed on January 1, 2015. In Sanskrit, the word “NITI” means morality, behaviour, guidance, etc. But, in the present context, it means policy and the NITI stands for “**National Institution for Transforming India**”. It is the country’s premier policy-making institution that is expected to bolster the economic growth of the country. It aims to construct a strong state that will help to create a dynamic and

strong nation. This helps India to emerge as a major economy in the world. The NITI Aayog's creation has two hubs called "**Team India Hub**" and "**Knowledge and Innovation Hub**".

1. Team India: It leads to the participation of Indian states with the central government.
2. The Knowledge and Innovation Hub: it builds the institution's think tank capabilities.

NITI Aayog is additionally creating itself as a State of the Art Resource Center, with the essential resources, knowledge, and skills that will empower it to act with speed, advance research and innovation, bestow crucial policy vision to the government and manage unforeseen issues. The reason for setting up the NITI Aayog is that people had expectations for growth and development in the administration through their participation. This required institutional changes in administration and active strategy shifts that could seed and foster substantial scale change.

3.7.3 Verticals of Niti Aayog

The supportive bodies or verticals of Niti Aayog help in smooth functioning of the requisite tasks by the organization.

Niti Aayog has the following verticals under it:

- Administration and Support Units
- Agriculture and Allied Sectors
- Aspirational Districts Programme Cell
- Communication and Social Media Cell
- Data Management and Analysis, and Frontier Technologies
- Economics and Finance Cell
- Education
- Governance and Research
- Governing Council Secretariat and Coordination
- Industry-I

- Industry-II
- Infrastructure-Connectivity
- Infrastructure-Energy
- Micro, Small and Medium Enterprises
- Natural Resources and Environment, and Island Development
- Project Appraisal and Management Division
- Public–Private Partnership
- Rural Development
- Science and Technology
- Social Justice and Empowerment, and Voluntary Action Cell
- Social Sector-I (Skill Development, Labour and Employment, and Urban Development)
- Social Sector-II (Health and Nutrition, and Women and Child Development)
- State Finances and Coordination
- Sustainable Development Goals
- Water and Land Resources

3.7.4 NITI Aayog – Achievements

The latest report of 2022-23 details the following initiatives and achievements of NITI Aayog:

- The Agriculture Vertical in NITI Aayog organised a national-level workshop on “Innovative Agriculture” on April 25, 2022, as part of Azadi ka Amrit Mahotsav in Vigyan Bhawan, New Delhi.
- More than 1,250 participants from Central Ministries, State Governments, industry, farmers, academic and research institutions, Krishi Vigyan Kendras (KVKs), NGOs, and international organisations joined the workshop. The workshop was also streamed live on YouTube.
- NITI Aayog organized a three-week-long virtual fintech summit – ‘Fintech Open’, from 7th to 28 February 2022.

- The Fintech Open brought together regulators, fintech professionals and enthusiasts, industry leaders, the start-up community, and developers for collaboration, idea exchange, and innovation.

The report of 2019-20 mentions the achievements of Niti Aayog:

1. Monitoring and Analysing Food and Agricultural Policies (MAFAP) programme in India – It is a collaborative research project between Niti Aayog and the United Nations' Food and Agriculture Organization (FAO).
 - It aims to monitor, analyse and reform food and agricultural policies.
 - The first phase of the MAFAP programme ran between 23rd September and 31 December 2019.
 - National Agriculture Price Policy and National Food Security Policy for selected agricultural product marketing committees and districts respectively were reported.
 - The second phase of the MAFAP programme is scheduled between 1st January 2020 and 31st December 2021.
2. The Niti Aayog governing council promoted Zero Budget Natural Farming.
3. Additionally, natural farming is being promoted as 'Bhartiya Prakritik Krishi Paddhati' programme under Paramparagat Krishi Vikas Yojana (PKVY).
4. Village Storage Scheme has been conceptualised. Similarly, Union Budget 2021 has proposed Dhaanya Lakshmi Village Storage Scheme, yet to be implemented.

Let's Sum Up

NITI Aayog, short for National Institution for Transforming India, is a policy think tank established by the Government of India in 2015 to replace the Planning Commission. It serves as a catalyst for the economic and social development of India by fostering cooperative federalism and promoting sustainable and inclusive growth. NITI Aayog's key functions include formulating strategic policies and initiatives, monitoring their implementation, and providing relevant advice to central and state governments. It aims to encourage innovation, entrepreneurship, and technology adoption across various sectors while ensuring that India achieves its development goals effectively. Additionally, NITI Aayog plays a crucial role in

promoting cooperative federalism by fostering collaboration and consultation between the center and states, thus paving the way for a more balanced and equitable growth trajectory for the nation.

Check Your Progress - QUIZ – 1

1. What is the full form of NITI Aayog?

- A. National Institution for Technology and Innovation
- B. National Institute for Transforming India
- C. National Institution for Transforming India
- D. National Institute for Technical Innovation

2. When was NITI Aayog established?

- A. 2005
- B. 2010
- C. 2014
- D. 2017

3. Which Prime Minister of India abolished the Planning Commission and replaced it with NITI Aayog?

- A. Atal Bihari Vajpayee
- B. Manmohan Singh
- C. Indira Gandhi
- D. Narendra Modi

4. What is the main objective of NITI Aayog?

- A. To promote and undertake research in agriculture
- B. To promote inclusive and sustainable development
- C. To manage the national budget
- D. To regulate the financial markets

5. Who is the current Vice Chairman of NITI Aayog?

- A. Rajiv Kumar
- B. Amitabh Kant
- C. Narendra Modi
- D. Arvind Panagariya

SECTION 3.8 NEW ECONOMIC POLICY 1991

The Government of India introduced the New Economic Policy (NEP) in 1991 to respond to a balance of payments crisis. The NEP is credited to former Prime Minister Manmohan Singh as its architect. The NEP also emphasized implementing structural reforms to boost economic efficiency. It sought to enhance international

competitiveness by removing rigidities across various economic sectors. The 1991 NEP was pivotal in reshaping India's economic landscape, ushering in significant transformations. The economic policy 1991 aimed at achieving multiple goals within India's economy. These objectives included:

- Accumulating foreign exchange reserves.
- Eliminating market restrictions.
- Facilitating global trade of goods, services, capital, human resources, and technology.
- Fueling economic growth.

3.8.1 Objectives Of New Economic Policy (NEP 1991)

- The goal of the NEP 1991 was to reduce inflation rates and build up adequate foreign money reserves to increase its economic growth rate.
- The major aim is to plunge the Indian Economy into the 'globalization' arena and provide it with a new direction in the market.
- It aimed at economic stabilisation and a market economy by eliminating unnecessary regulations.
- It urged private actors in all areas of the economy to expand their engagement. This is why the reserved government sector numbers have decreased.
- Without limitations, it aimed to enable the worldwide movement of products, services, capital, people resources, and technology.

3.8.2 Features of New Economic Policy 1991

- Macroeconomic stabilisation and structural changes were part of the reform programme.
- Structural reforms are medium and long-term programmes that address sector adaptation and supply-side issues and bring vitality to the economy and competitiveness.
- Macroeconomic stabilisation is a short-term macroeconomic crisis resolution programme that regulates overall economic demand.

- It featured liberalised trade and investment policies that focused on exports, industrial deregulation, disinvestment, public sector changes, and capital and financial sector reforms.
- Focus areas of the NEP 1991 Economic Reforms were Liberalisation, Privatization, and Globalisation.

3.8.3 Factors Lead to 1991 Economic Reforms

- Dismal PSU performance: This did not do well owing to political involvement and became a major factor in government responsibility.
- Fall in the Reserves: India's foreign currency reserve decreased in 1990-91 to a low ebb and was insufficient to pay the import bill for 2 weeks.
- Price rise: The inflation rate grew from 6.7% to 16.7% as the money supply grew rapidly and the country's economic condition worsened.
- Fiscal Deficit Rise: The government's fiscal deficit has grown due to increased non-development expenditures. The national debt and interest rose due to the increased budget imbalance. Interest liability amounted to 36.4% of government total spending in 1991.
- Iraq Conflict: The Iraq war broke out between 1990 and 1991 and contributed to higher oil prices. The Gulf nations' flow of foreign money ceased, aggravating the issue further.

3.8.4 Major Branches of New Economic Policy, 1991

India's new economic policy, or the model of liberalisation, privatisation, and globalisation, was unveiled on 24 July 1991. India's new economic policy reforms are mentioned as follows.

Liberalisation

Liberalisation is the process of making policies less restrictive of economic activity. It also involves the lowering of tariffs or the removal of non-tariff barriers.

- Before 1991, the government put many restrictions on domestic private companies. Some of these restrictions include the following:
 - Industrial licensing system,

- Price control or financial control on goods,
- Import license,
- Foreign exchange control,
- Limits on major company investment, and so on.
- The term “liberalization of the economy” refers to liberating manufacturing units from government-imposed restrictions.
- The government saw that many flaws had arisen in the economy due to these regulations.
- The NEP believed economic liberalisation to be a critical component. Rather than checks and regulations, market forces were to be relied on more heavily.

Privatisation

Privatization is the process of involving the private sector in owning or operating a government-owned business.

- It aims to give the private sector a larger role while reducing the involvement of the public sector.
- Disinvestment involves selling a part of the stock to the public to privatize public sector businesses.

To implement the privatization policy, the government took the following actions:

- Disinvestment of public sector companies, transferring them to the private sector.
- Establishment of the Industrial and Financial Reconstruction Board (BIFR). BIFR assists financially struggling units in public sector businesses.
- Dilution of the government's stake. Ownership and management are transferred to the private sector if they acquire more than 51% of the shares during disinvestment.

Globalisation

Globalisation refers to the integration of economies worldwide. The Indian government adopted a globalization strategy in 1991. It involved the following steps:

- Import restrictions, such as licensing and tariffs, were relaxed.
- The Foreign Exchange Management Act (FEMA) replaced the Foreign Exchange Regulation Act (FERA).
- The tariff structure was rationalized.
- Export duties were abolished.
- Globalization removed barriers, both physical and political, to economic operations. It transformed the world into a global community.
- It led to increased connections and interdependence among nations in the global economy.
- India became a significant provider of outsourcing jobs. This is especially seen in areas like BPO and banking services.
- India actively participated in the World Trade Organization (WTO) to promote international trade.

Let's Sum Up

The New Economic Policy (NEP) was introduced in Soviet Russia by Vladimir Lenin in 1921 as a temporary measure to revive the country's economy following years of war and economic turmoil. It marked a significant shift from War Communism, which had led to widespread famine and economic collapse. The NEP allowed for limited capitalism within a framework of state control. Key features included the introduction of a mixed economy where small businesses, known as NEP men, could operate privately, while large industries remained under state ownership. Agriculture saw a shift from requisitioning to a tax system, providing incentives for farmers to produce more. This policy brought about a period of economic recovery and relative stability, allowing the Soviet Union to rebuild its industrial base and agriculture. However, it also led to debates within the Communist Party regarding the direction of Soviet economic policy and the balance between socialism and capitalism.

Check Your Progress - QUIZ – 1

1. The New Economic Policy (NEP) was introduced in which country during the early 1920s?

- A. United States
- B. China
- C. Russia (Soviet Union)
- D. Germany

2. Which leader implemented the New Economic Policy in Russia?

- A. Joseph Stalin
- B. Vladimir Lenin
- C. Mikhail Gorbachev
- D. Boris Yeltsin

3. What was the primary objective of the New Economic Policy in Russia?

- A. To promote rapid industrialization
- B. To collectivize agriculture
- C. To transition from capitalism to socialism
- D. To revive the Soviet economy after the Civil War

4. Under the New Economic Policy in Russia, which sector was allowed limited private enterprise and market mechanisms?

- A. Agriculture
- B. Heavy industry
- C. Defense sector
- D. Healthcare

5. In India, the term "New Economic Policy" is often associated with which era of economic reforms?

- A. 1960s
- B. 1970s
- C. 1980s
- D. 1990s

3.9 Case Study

INFLATION AND THE INDIAN ECONOMY

Inflation is the rise in prices which occurs when the demand for goods and services exceeds their available supply. In simpler terms, inflation is a situation where too much money chases too few goods.

In India, the Wholesale Price Index (WPI), which was the main measure of the inflation rate consisted of three main components - primary articles, which included food articles, constituting 22% of the index; fuel, constituting 14% of the index; and manufactured goods, which accounted for the remaining 64% of the index.

For purposes of analysis and to measure more accurately the price levels for different sections of society and as well for different regions, the RBI also kept track of consumer price indices.

The average annual GDP growth in the 2000s was about 6% and during the second quarter (July-September) of fiscal 2006-2007, the growth rate was as high as 9.2%. All this growth was bound to lead to higher demand for goods. However, the growth in the supply of goods, especially food articles such as wheat and

pulses, did not keep pace with the growth in demand. As a result, the prices of food articles increased. According to Subir Gokarn, Executive Director and Chief Economist, CRISIL, 'The inflationary pressures have been particularly acute this time due to the supply side constraints (of food articles) which are a combination of temporary and structural factors'.

To control inflation, the RBI announced some measures late 2006 and early 2007. These measures included increasing repo rates, the Cash Reserve Ratio (CRR) and reducing the rate of interest on cash deposited by banks with the RBI. With the increase in the repo rates and bank rates, banks had to pay a higher interest rate for the money they borrowed from the RBI. Consequently, the banks increased the rate at which they lent to their customers. The increase in the CRR reduced the money supply in the system because banks now had to keep more money as reserves. The RBI again increased the CRR to 5.5% (an increase of 50 basis points) in December 2006. On January 31, 2007, the RBI increased the repo rate by 25 basis points to 7.5%.

In 2006-07, all the measures that were taken by the RBI and the government to control the inflation were based on the traditional and time-tested measures to curb inflation. However, some economists argued that the steps taken by the government to control inflation were not enough.

It was opined by various economic analysts that the RBI could have handled the inflation without changing with the interest rates. The analysts held that changing the interest rates may slow the pace of economic growth. Some of the analysts also explained that high inflation is considered as an indication of economic mismanagement and high inflation that continues to exist for a long period of time affects the confidence of investors. However, the inflation rate in emerging economies was usually higher than developed economies (Refer to Exhibit VI for inflation rates in some developed and developing countries).

QUESTIONS

1. Explain the concept of inflation in the Indian context.

(Hint: Inflation is normally associated with high prices, declining

purchasingpower.)

2. Give out the ways of curbing inflation.

(Hint: Monetary measures and fiscal measures.)

3.10 Unit Summary

The economic environment refers to the conditions and factors that influence the production, distribution, and consumption of goods and services within an economy. It encompasses various elements such as economic policies, fiscal and monetary measures, market structures, and external factors like global trade and technological advancements. These factors collectively shape the economic landscape, impacting businesses, consumers, and governments alike. Understanding the economic environment is crucial for businesses to make informed decisions regarding investment, pricing, and resource allocation. It provides insights into trends, risks, and opportunities that can affect economic growth, employment levels, inflation rates, and overall prosperity within a country or region. By analyzing and adapting to changes in the economic environment, stakeholders can navigate challenges and capitalize on emerging opportunities for sustainable development and growth.

3.11 Glossary

GDP (Gross Domestic Product): The total monetary value of all goods and services produced within a country's borders in a specific time period, often used as a measure of economic performance.

Inflation: The rate at which the general level of prices for goods and services rises, leading to a decrease in purchasing power.

Monetary Policy: Actions taken by a central bank, such as interest rate adjustments or changes in the money supply, to control inflation, stabilize currency, and promote economic growth.

Fiscal Policy: Government decisions on taxation and spending aimed at influencing economic conditions, such as stimulating growth or controlling inflation.

Unemployment Rate: The percentage of the labor force that is actively seeking employment but currently unemployed, indicating the health of the job market.

Exchange Rate: The value of one currency in terms of another, influencing international trade, investment, and the cost of imports and exports.

Interest Rates: The cost of borrowing money or the return on savings, set by central banks and impacting consumer spending, business investment, and economic growth.

Market Structure: The organizational and competitive characteristics of a market, such as monopoly, oligopoly, or perfect competition, affecting pricing, innovation, and market efficiency.

Globalization: The process of increased interconnectedness and integration of economies, cultures, and societies through international trade, investment, and technology transfer.

Business Cycle: The recurring pattern of expansion (growth), peak, contraction (recession), and trough in economic activity over time, influencing overall economic performance and planning.

Economic Growth: The increase in the production of goods and services over time, often measured as the growth rate of GDP, indicating improvements in living standards and economic well-being.

Supply and Demand: The fundamental economic principle where the availability of goods and services (supply) and consumer desire for them (demand) determine prices and quantities exchanged in a market.

3.12 Answers for check your Progress

Sections	S.No	Answers
Section 1	1	C. Cultural trends
	2	C. An increase in the production and consumption of goods and services
	3	B. Capitalism
	4	B. Adjusting government spending and tax policies

	5	A. To control inflation and stabilize the currency
Section 2	1	B. The periodic fluctuations in economic activity, such as employment and production
	2	D. Stagnation
	3	C. Rising consumer confidence and spending
	4	A. The highest level of economic activity before a decline
	5	C. Decreasing GDP and rising unemployment
Section 3	1	B. Large-scale economic phenomena and aggregate economic variables
	2	A. The total value of all goods and services produced within a country in a given period
	3	B. A sustained increase in the general price level of goods and services
	4	D. Money supply
	5	A. Dividing the number of unemployed people by the total labor force and multiplying by 100
Section 4	1	C. The rate at which the number of individuals in a population increases in a given time period
	2	C. Migration from rural areas to cities
	3	B. Population density
	4	C. Increased pressure on infrastructure and services
	5	A. Changes in birth and death rates as a country develops
Section 5	1	B. The total value of all goods and services produced within a country in a specific time period
	2	C. Transfer payments
	3	B. Subtracting depreciation from Gross Domestic Product (GDP)
	4	B. Gross National Product (GNP)
	5	A. Adding up the value of all final goods and services produced within a country
Section 6	1	B. The average income earned per person in a country
	2	C. Total national income
	3	A. Dividing the total national income by the total population of a country
	4	A. Per capita income over time
	5	D. Government regulations
Section 7	1	C. National Institution for Transforming India
	2	C. 2014
	3	D. Narendra Modi
	4	B. To promote inclusive and sustainable development
	5	A. Rajiv Kumar
Section 8	1	C. Russia (Soviet Union)
	2	B. Vladimir Lenin
	3	D. To revive the Soviet economy after the Civil War
	4	A. Agriculture
	5	D. 1990s

3.13 Suggested Reading

- 1 Henderson, D. (2015). *Business environment: Themes and issues in a globalizing world*. Oxford University Press.
- 2 Worthington, I., & Britton, C. (2015). *The business environment: Challenges and changes*. Pearson Education.
- 3 Campbell, D. (2012). *Business environment: Managing in a strategic context*. Palgrave Macmillan.

3.14 Open Source E-Content Links

Sl.no	Topic	E-Content Link	QR Code
5	Economic Environment	https://www.youtube.com/watch?v=EWhRy4MaUeA	
6	Business Cycles	https://www.youtube.com/watch?v=VIHD8QOpHt8	
7	Macroeconomic	https://www.youtube.com/watch?v=2kvZZNd4fCc	
8	Per Capita Income	https://www.youtube.com/watch?v=anv7Q36ae6o	
9	NITI Aayog	https://www.youtube.com/watch?v=MF5IIUcH8As	

3.15 References

- 1 Adhockery, M., 1997. *Economic Environment of Business*, (Ch. I & VIII), Sultan Chand & Sons : Delhi.
- 2 Ghosh, Alak, 1997, *Indian Economy : Its nature and Problems*, The New Book Stall, Calcutta.
- 3 Saleem, Shaikh. *Business Environment 3rd Edition*. Pearson Education
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- 5 (2019). Retrieved from <https://www.foreignaffairs.com/reviews/capsule.../india-transition-freeing-economy>

UNIT – 4

SOCIAL ENVIRONMENTS

UNIT OBJECTIVES

Define what you mean describe the social and cultural environment; identify the elements of socio-cultural environment; analyse the recent changes in socio-cultural environment;

SECTION 4.1 SOCIAL ENVIRONMENTS - AN INTRODUCTION

The social environment consists of the sum total of a society's beliefs, customs, practices and behaviors. It is, to a large extent, an artificial construct that can be contrasted with the natural environment in which we live. Every society constructs its own social environment. Some of the customs, beliefs, practices and behaviors are similar across cultures, and some are not. For example, an American traveling to Britain will find many familiar practices but not so much if traveling to China. This social environment created by a society-at-large in which a business functions can be referred to as its external social environment. If a business operates in a multicultural society, then the social external social environment is even more complicated because the environment will consist of diverse sub-populations with their own unique values, beliefs, and customs. A business also has its own social environment. We can refer to this as its internal social environment, which is simply the customs, beliefs, practices, and behaviors within the confines of the business. A business has much more control over its internal social environment than it does with its external social environment. A business must utilize and adapt to its external social environment, or it will not survive. A business must be keenly aware of the society's social preferences regarding its needs and wants. These preferences and needs and wants will be influenced by a population's values, beliefs, and practices. Let's look at some examples. A change in beliefs and values towards energy conservation and global climate change may create a change in consumer preference away from gas guzzling SUVs to hybrid sedans. Some cultures treat the meal as a long social event, and fast food just won't cut it. Social preferences relating to fashion are constantly changing. Skirt lengths go up and down depending upon the years, as do the preference for single-breasted and double-breasted suits. If a

business refuses to adapt to changing social preferences, its sales will drop, and it will fail. Of course, sometimes the change in social preferences may be so large that a business simply can't adapt. For example, a social movement led to the outlawing of alcohol in the early 20th century, which was known as Prohibition. During Prohibition, it was illegal to sell alcohol. Distilleries were put out of business until Prohibition was repealed. While there are risks with social change, there are also opportunities. Businesses often try to influence social values through the use of marketing, advertising and targeted public relations strategies. Marketing campaigns are used in an attempt to create trends. The fashion industry is a prime example. Public relation campaigns are often used to build up or repair a business' image. For example, BP launched a massive public relations campaign to improve its image after a massive oil leak in the Gulf of Mexico caused by offshore drilling. Fast food restaurants may include healthier choices on their menus and sponsor healthrelated activities. Broader social values will also affect the success of a business. A society that values higher education will provide a better workforce that will lead to more productivity and innovation. Likewise, a society that supports investment in public infrastructure will have access to good transportation and communication systems. And if the social values of a community include a hard work ethic, a business will have access to productive workers and a population that has money to spend on goods and services.

4.1.1. Meaning and Definition of Social Environment

Businesses operate in a society thus their continuous interaction with the society is natural. Businesses require the support from the society in terms of manpower, capital, facilities, etc. while the businesses owe to fulfill their obligations back to the society as they have a social purpose. This in-turn enables them fulfill their responsibility and obligations towards the society as per their accepted levels of social commitment. This becomes an integral part of operating the business for a businessman and thus the understanding of the social environment of business becomes imperative.

Social environment is one of the elements of macro environment of the business. Social environment comprises of social institutions, relationships, beliefs and social structure of the society. In terms of business, social environment of an organisation includes the social values of the workforce along with the society within which the organisation functions. It consists of all the beliefs, customs and practices followed in the society. A business operating within the parameters of a society has to deal with the distinctive values and customs which formulate the factors of social environment affecting a business organisation. In case of a country like India, with diverse cultural backgrounds, the social environment becomes more complex. The social factors are usually influenced by family, friends, co-workers and even the social media. Proliferation of social media influence in present day modern life has increased the perimeter of social environment.

4.1.2 Elements of Social Environment

Let us identify the various critical elements of social environment and the reciprocal relationship between the business and the society.

- Social problems, prospects, social institutions and systems along with their social values and attitudes.
- Education and culture and their impact on Social groups and activities.
- Socio-economic order and corresponding role and responsibilities of the Government.

Though the above list is suggestive, not exhaustive but it enables you to identify the sociocultural environment of business.

Let us now discuss the different elements of the social environment.

Attitudes and Beliefs

Attitudes are the perception which people have towards certain situations or commodities. Attitudes are primarily formed on the values and beliefs of a person. Consumer attitudes towards a product or service can influence the demand and supply of that particular product or service. For example, favourable attitude

towards a low sugar diet has led to increased demand for sugar free products in the market. This shows that the attitudes and beliefs of people have an impact on the social environment.

Social Class

Each society has a certain extent of social and economic inequality. Social inequality deals with the discrimination based on caste in a society. The caste system in India resulted in social differentiation and has created a difference in the number of opportunities available to people. In other words, social class signified the social status of an individual. Consumer choices differ on the basis of their social status. Another way of class distribution is based on the wealth and income of the individuals and are divided into lower class, lower middle class, upper middle class and upper class. The lower class is considered to have the least earning and upper class is considered to have the most earnings amongst all. These income groups often coincide with the social status of an individual. For instance, people belonging to higher income group usually have a higher social status and vice versa.

Lifestyle

Adopted lifestyle is another element which affects the attitude and behavior of the people. Lifestyle is fundamentally concerned with how the people live and spend their money. The lifestyle pattern has changed in the recent times. People are opting for more simplified and natural ways of life. The awareness towards sustainable practices has changed the way of life. With the pandemic this practice has become all the more prevalent.

Preferences

Preferences are the personal taste of individuals about a product or service. These preferences are directed by other social elements such as friends, neighbours, family, education and income. The preferences change with time. This is correlated with the change in the income status thereby the shift in the lifestyle of people. If we go back few decades back then TV was considered to be a luxury and now it is considered to be a necessity. The preferences result in a dynamic shift for a social environment.

Social Communities

Social communities include the circle of friends and co-workers. The need of social belongingness compels an individual to adhere to practices followed amongst the community members. In many cases people decide upon purchasing a product based on the reviews of his/her social circle. The social community in which the individual lives has a great impact on his/her decisions be it the buying behavior, lifestyle status, education, etc.

Social Institutions

Social institutions refer to social structures in a society under which an individual assumes certain roles for the fulfillment of social needs. People under these social institutions are required to follow certain norms and beliefs. There are five kinds of social institutions namely family, economics, religion, education and government. They are referred to as primary institutions which are further divided into secondary level institutions. Family gives rise to secondary institution as marriage and divorce. Hierarchical structure of a family affects an individual's choice of goods and services. Further, secondary institutions of economics are property, trading, credit banking, etc. The secondary institutions also consider temples, churches, mosques, etc. on the basis of religion.

Education and Culture

Education and culture is another important element of social environment. You also would agree to the statement that the percolation of education has gained foothold and this may be attributed to the increasingly positive attitude towards education, especially from the rural areas. Age-old education, made way to technical or skill based education and then to the structured business 5 education. All were poised to increase the employment opportunities aiming at increased manpower utilisation arising from a meaningful industry interaction.

Role of Government

Yet another important contributory element is the government and its role as 'a welfare state'. It is an 'apex social institution' and carries much importance in a democratic set-up where it is assumed to be maintaining social order and harmony in the society. Business organisations and Government play a complementary role. In pursuit of performance driven cultures, organisations strive to bring in social cohesion. So terms like consumerism, trade unionism, the cooperative movement,

professional management, and shareholders' associations, etc. become the associated keywords for the social business environment.

4.1.3 Features of Social Environment:

The process of adjustment has certain distinct features and they are as follows:

(1) Modern complex society presents problems for the individual that he reacts to the conditions with attitudes of 'conflict', to some extent, and of 'accommodation'. As a result, he is able only partially to adjust himself to the surroundings. Every individual selects for himself only that part of his culture which suits his aptitudes and carefully rejects the rest. Thus, he has the right to choose his own occupation and, to adopt educational, recreational and living conditions that associate themselves with such occupation.

(2) Society is never static; it is always changing from one set condition to another. This factor alone requires man to be 'dynamic' in his attitude of 'adjustment'. In the span of one single life, man may have to change from certain conditions to others; and in any developing country, the impact of industrialization is so intense that the individual undergoing the experience has to adjust himself with utmost rapidity.

(3) The efforts required by an individual accustomed to a given environment to adjust himself to a new and unknown environment would raise the question of 're-adjustment'. There may be conditions of political upheaval in a state which would throw out the old establishment and introduce new ideas.

In these conditions, environmental habituation would experience a rude shock, and a consequent readjustment of the individual to the new set-up would become necessary. In India, we have not had the experience of drastic changes in our social conditions and, besides the demands of industrialization no other phenomenon of revolutionary nature has ever affected our society.

But there have been different types of experiences for us which, from time to time, have required a re-adjustment to the new environment. The question of re-

adjustment must have been important when foreigners came to our country' and with their continued stay here, whether by way of adoption of the country itself or purely for purposes of governance of it, they imported a new culture into the soil.

A generally admitted fact is that whenever a culture enters a country as the ruler's culture it tends to master over the local one; and this has been true with India and the change in the society would have been complete, but for the fact that the indigenous population here has an innate quality and a capability of negatively resisting anything that is unacceptable. 'Satyagraha' is characteristic of this quality of the average Indian.

Let's Sum Up

The social environment refers to the collective interactions, relationships, norms, and cultural aspects that shape human behavior within a specific community or society. It encompasses a wide range of factors, including social structures, institutions, and the prevailing attitudes and values held by individuals and groups. In contemporary society, the social environment is increasingly influenced by globalization, digital connectivity, and socio-economic disparities. These factors contribute to the formation of social identities, dynamics of inclusion and exclusion, and the evolution of social norms. The social environment plays a crucial role in determining opportunities for social mobility, access to resources, and the overall quality of life experienced by different segments of the population. It is a complex and dynamic ecosystem that continuously evolves in response to historical, cultural, and technological changes, shaping both individual behaviors and collective outcomes.

Check Your Progress - QUIZ – 1

1. What does the term "social environment" refer to?

- A. The physical surroundings of an individual
- B. The economic conditions of a society
- C. The cultural, political, and economic factors that influence individuals' lives
- D. The weather patterns in a region

2. Which of the following is an example of a social determinant of health?

- A. Climate
- B. Income level

- C. Soil quality
- D. Air pollution

3. Which factor does NOT contribute to the social environment of a community?

- A. Education system
- B. Family structure
- C. Industrial output
- D. Healthcare services

4. The social environment includes:

- A. Government policies
- B. Natural resources
- C. Market demand
- D. Technological advancements

5. Which of the following is an example of social cohesion?

- A. High crime rates in a neighborhood
- B. Strong community bonds and trust among residents
- C. Ethnic segregation
- D. Limited access to education

SECTION 4.2 CULTURAL HERITAGES

Meaning

Heritage means that which is inherited, condition of one's birth or anything that is transmitted from ancestors.

Cultural heritage includes customs and traditions including festival, ways of celebrating different auspicious events, art and literature, ancient places of worship, temple, monuments & buildings and so on

A very important character of culture is transmission. Cultural transmission takes place by means of symbolic communication. The great importance of language in cultural transmission is very clear. Literature, films, television, social institution, advertisement, marketing techniques and other electronic gadgets play a very important role in cultural transmission

Nature and process of cultural transmission and diffusion is very important to business decision making. Businesses including foreign firms contribute significantly to the preservation and promotion of cultural heritage.

Eg: Converting traditional building into heritage hotels, promoting are you pay the tourism, ethnic food festival etc .

4.2.1 Importance of Cultural Heritage

Not everyone feels a connection with their cultural heritage, but many people do. What is it about cultural heritage that draws these people to it? Some may think traditions are archaic and no longer relevant, and that they are unnecessary during these modern times. Perhaps for some, they aren't; but for others, exploring cultural heritage offers a robust variety of benefits.

Culture can give people a connection to certain social values, beliefs, religions and customs. It allows them to identify with others of similar mindsets and backgrounds. Cultural heritage can provide an automatic sense of unity and belonging within a group and allows us to better understand previous generations and the history of where we come from.

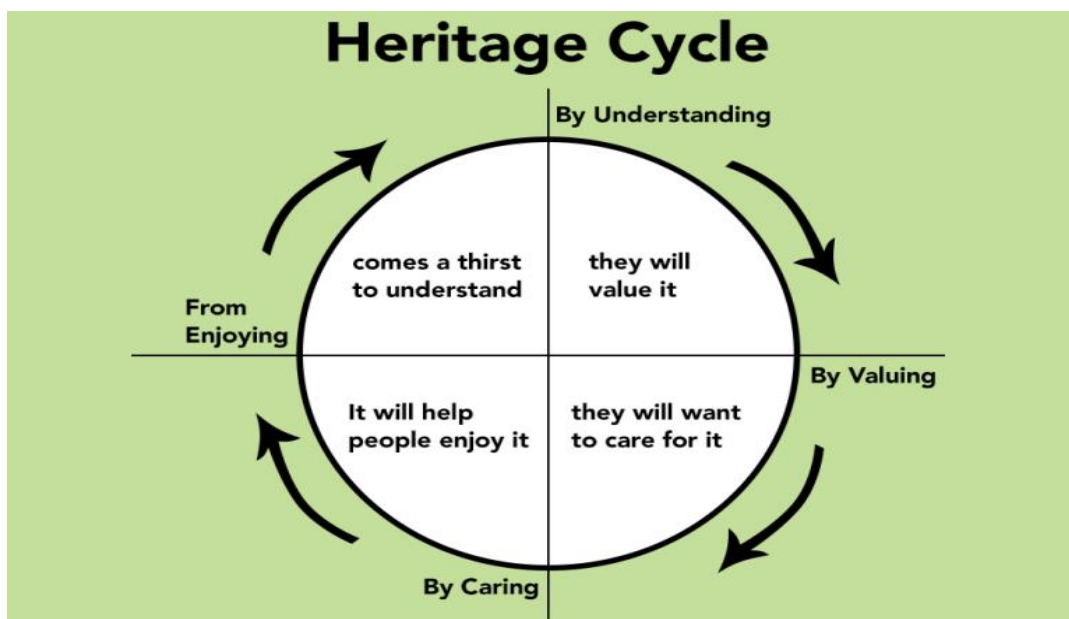
In large cities especially, it can be easy to feel lost and alone among so many other cultures and backgrounds. New York City, for example, is a huge melting pot of people from all over the country and the world. There are large communities based around certain cultural heritages, including Irish, Italian, Asian, and others.

Another benefit that comes from preserving cultural heritage as a whole is the communal support. Those that identify strongly with a certain heritage are often more likely to help out others in that same community. Real estate mogul Carl Mattone and his family, for example, are often sighted at fundraisers for local Catholic schools. Mattone was raised Catholic and attended Holy Cross High School in New York, where he has also been on the Board of Directors.

Cultural heritage is made up of many things large and small. We can see it in the buildings, townscapes, and even in archaeological remains. Culture can be perceived through natural sources as well: the agriculture and landscapes associated with it. It is preserved through books, artifacts, objects, pictures,

photographs, art, and oral tradition. Cultural heritage is in the food we eat, the clothes we wear, the religions we follow, and the skills we learn. Sometimes we can touch and see what makes up a culture; other times it is intangible.

The Heritage Cycle from Simon Thurley helps explain the process of finding and incorporating culture into our lives, if we wish to do so. It begins with understanding the culture. Only then may we begin to value it. From there, we can learn to care for a culture and eventually enjoy it. With more enjoyment, we will want to learn and understand more—and so the circle goes.



4.2.2 The concept of Cultural Heritage

Cultural heritage can be defined as the legacy of physical artifacts (cultural property) and intangible attributes of a group or society inherited from the past. Cultural Heritage is a concept which offers a bridge between the past and the future with the application of particular approaches in the present. Due to its attached values for these groups or societies, cultural heritage is maintained in the present and bestowed for the benefit of future generations.

The concept of cultural heritage developed as a result of complex historical processes and is constantly evolving. The concept of the cultural and natural heritage is based on historically changing value systems. These values are recognized by different groups of people. The ideas developed and accepted by

these different groups create various categories of cultural and natural heritage (world heritage, national heritage, etc.).

Cultural heritage objects are symbolic. They represent identities in terms of culture and natural surroundings. Connection to and traditional activities around these objects create a sense of community. At the same time, the selection of which objects, monuments or natural environments are preserved sets the future trajectory for various cultural narratives and societal consensus about both the past and present.

The history of the concept

The emergence of the concept of cultural heritage is a result of a long historical development in which different values were attached to monuments, buildings, works of arts, artifacts, landscapes, etc. The systematic destruction or losses of these objects led to phrases such as "outstanding universal value" and to the declaration that these objects belong to "humanity". These ideas were developed through an understanding that cultural heritage and the natural environment with which it is intimately entangled, is unique and irreplaceable. The emergence of the concept is directly related to the idea of protection or conservation.

The tradition of collecting of smaller objects such as artworks and other cultural masterpieces belonged to "antiquarian interest". The first collections in the Late Medieval and Early Modern Period consisted either of highly selected assemblages or "the whole world in a room" type encyclopedic collections. These were the first stages of a long institutionalization process. Their selection was based on notions of value inherent for the time and place of the acquisition or the rarity, aesthetic quality of the object. They were also a display of contemporary knowledge expanding with discovering new and new segments of the known world.

Since the 19th century, the concept of national heritage has been one of the key factors in this process. This led to the creation of national museums and of commissions or institutions of monument protection.

In the second half of the 20th century, both spontaneously evolving movements, organizations and political groups – such as the international body UNESCO – have been successful in gaining the necessary support to preserve some particular aspects of the heritage of many nations, through including concepts such as World Heritage, World Memory.

Despite the inherent biases in the World Heritage approach, the door was opened to a more holistic approach in contemporary heritage studies or heritage business. At the same time, recent developments in cultural heritage practices and more generally the uses and abuses of the concept of cultural heritage led to a strong critical approach in the context of "heritage business". While the concept of cultural heritage contributed to the protection of values and objects, it has also often played a negative role in renewed nationalist movements, extremist and even chauvinistic grass-root organizations. Deliberate destruction of heritage values and objects on the one hand and distorted, ahistoric or propagandistic interpretations on the other can be found in different parts of the world, influenced by varied ideologies, religious or political movements.

Now, in the 21st century, it is better understood that heritage has meaning on multiple levels served best by multidisciplinary approaches and methodologies that can be developed and used worldwide. Cultural heritage is in the scope of inquiry of a range of humanities, social sciences and environmental studies. Solutions to Cultural Heritage and resource management issues are best achieved by acknowledging differences and legitimating conflicting interests, so as to seek common ground.

4.2.3 Types of Cultural Heritage

Cultural property

Cultural property includes the physical, or "tangible" cultural heritage, such as artworks. These are generally split into two groups of movable and immovable heritage. Immovable heritage includes buildings (which themselves may include installed art such as organs, stained glass windows, and frescos), large industrial installations, residential projects or other historic places and monuments. Moveable

heritage includes books, documents, moveable artworks, machines, clothing, and other artifacts, that are considered worthy of preservation for the future. These include objects significant to the archaeology, architecture, science or technology of a specified culture

Intangible culture

"Intangible cultural heritage" consists of non-physical aspects of a particular culture, more often maintained by social customs during a specific period in history. The concept includes the ways and means of behavior in a society, and the often formal rules for operating in a particular cultural climate. These include social values and traditions, customs and practices, aesthetic and spiritual beliefs, artistic expression, language and other aspects of human activity. The significance of physical artifacts can be interpreted as an act against the backdrop of socioeconomic, political, ethnic, religious and philosophical values of a particular group of people. Naturally, intangible cultural heritage is more difficult to preserve than physical objects.

Natural heritage

"Natural heritage" is also an important part of a society's heritage, encompassing the countryside and natural environment, including flora and fauna, scientifically known as biodiversity, as well as geological elements (including mineralogical, geomorphological, paleontological, etc.), scientifically known as geodiversity. These kind of heritage sites often serve as an important component in a country's tourist industry, attracting many visitors from abroad as well as locally. Heritage can also include cultural landscapes (natural features that may have cultural attributes).

Digital heritage

Digital heritage is made up of computer-based materials such as texts, databases, images, sounds and software being retained for future generations. Digital heritage includes physical objects such as documents which have been digitized for retention and artifacts which are "born digital", i.e. originally created digitally and having no physical form.

Societal Attitudes

Societal attitudes are factors relating to changes in the attitudes, behavior, tastes and lifestyles of communities on a local, national and international scale. These can influence what service the business will provide or what goods the business will sell, due to the ever changing society the business contributes to. It is society's attitudes that changes what is right and what is wrong in a business, it influences how the business is managed and the services and goods they provide. The increase in access to communications within a business makes the population aware of things such as what the business is doing, where it is getting its supplies from and whether or not a business is socially responsible.

Values & Beliefs

The values and beliefs of a person affects what they do, eat, wear, how they live and a range of other factors. Societies attitudes as to what is 'right' and 'wrong' is constantly changing which requires business to sell acceptable products, source products ethically and responsibly, as well as treating their staff and customers with respect.

Trends

A trend is the general direction in which something is changing and developing. There are a variety of trends in a variety of industries. A business can choose to follow these trends which may increase their sales from particular consumers.

Examples

Example of how values and beliefs influence a business.

Values and Beliefs

The pressure from society forced Woolworths, Coles and other supermarkets to stop using plastic bags and start charging people a small fee to use reusable bags that are 'less' damaging to the environment. This is an socially responsible action which benefits the business, society and the environment.

Examples of how trends influence business.

Trends

In the teaching industry, due to technological advancements, online courses are being made almost everyday for a wide range subjects and topics, and from hearing success stories, more and more people want in. Therefore, making online courses a trend and a new way to do business and make money.

Diversity

Diversity is an example of both value, belief and trend as society believes all people should have the same opportunities within the economy, and it has become a trend to give the people said opportunities. A diverse workforce could lead to increased morale, creativity and productivity as people with different perspectives come together.

Another Example

A recent example of how social attitudes influence a business is the response of supermarkets to the customer pressure over sustainable seafood. This pressure influenced the supermarkets to get their seafood from a more sustainable source and have it certified assures the consumer that the seafood can be traced back to sustainable sources, the Marine Stewardship Council (MSC). The blue MSC label on the packaging of seafood shows the consumer that it is a certified sustainable food source.

Let's Sum Up

Cultural heritage encompasses the wealth of traditions, beliefs, practices, artworks, and artifacts that define a community or society. It is the collective legacy passed down through generations, shaping identities and providing a sense of belonging and continuity. From ancient monuments like the Pyramids of Egypt and the Great Wall of China to intangible cultural expressions such as folklore, music, and rituals, each element contributes to the rich tapestry of human civilization. Cultural heritage not only reflects historical achievements but also serves as a reservoir of knowledge, offering insights into past societies' values, innovations, and social structures. Preservation efforts are crucial to safeguarding this heritage, ensuring future generations can appreciate and learn from the diversity and creativity of cultures worldwide

Check Your Progress - QUIZ – 1**1. What is cultural heritage?**

- A. The natural environment of a region
- B. The economic prosperity of a community
- C. The cultural legacy passed down from previous generations
- D. The political stability of a country

2. Which of the following is NOT considered a form of tangible cultural heritage?

- A. Historic buildings and monuments
- B. Traditional crafts and artworks
- C. Folklore and oral traditions
- D. Archaeological sites and artifacts

3. UNESCO (United Nations Educational, Scientific and Cultural Organization) is known for:

- A. Promoting environmental conservation only
- B. Protecting and preserving cultural heritage worldwide
- C. Advancing military alliances
- D. Managing global financial institutions

4. Intangible cultural heritage includes:

- A. Ancient manuscripts and documents
- B. Folk music and dance traditions
- C. Ancient temples and monuments
- D. Sculptures and paintings

5. Which international treaty is aimed at protecting cultural heritage sites during armed conflicts?

- A. Kyoto Protocol
- B. UNESCO Convention on the Protection of the Underwater Cultural Heritage
- C. Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict
- D. Paris Agreement

SECTION 4.3 JOINT FAMILY SYSTEMS: MEANING AND DEFINITION

This system is called joint family or extended family system. This joint family system is a peculiar characteristic of the Indian social life. Usually a son after marriage does not separate himself from the parents but continue to live under the same roof eating

food cooked at one hearth participating in common worship and holding property in common and every person has share in it.

All the members of joint family keep their earnings in a common fund out of which family expenses are met. Accordingly Indian Joint family system is like a socialistic community in which every members earns according to his capacity and receives according to his needs. This joint family or extended family is organized on close blood relationships. It normally consists of members of three to four generations.

In other words joint family is a collection of more than one primary family on the basis of close blood ties and common residences. The entire members are bound by mutual obligations and have a common ancestor. It consist of an individual his wife and married sons their children and unmarried daughter, his brother and his parent.

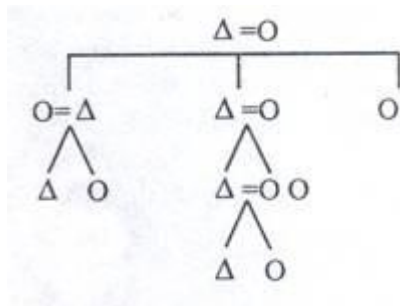
(1) According to Smt. Iravati Karve, “A joint family is a group of people who generally live under one roof, who eat food cooked at one hearth, who hold property in common and who participate in common worship and are related to each other as some particular type of Kindred.”

(2) According to K.M. Kapadia, “Joint family is a group formed not only of a couple and their children but also other relations either from father’s side or from mother’s side depending on whether the joint family is patrilineal or matrilineal.”

(3) According to Henery Maine, “The Hindu joint family is a group constituted of known ancestors and adopted sons and relatives related to these sons through marriage.”

(4) According to K. Davis, “The joint family consists of males having a common male ancestor female offspring not yet married and women brought into the group by marriage. All of these persons might live in a common household or in several households near to one another. In any case, so long as the joint family holds together, its members are expected to contribute to the support of the whole and to receive from it a share of the total product.”

Joint or Extended family



Thus we conclude that the joint family comprises of a large number of members which has greater generation depth and who are related to one another by property, income, household and mutual rights and obligations. It is organised on the basis of close blood ties.

4.3.1 Features or Characteristics of Joint Family:

Joint family has the following features or characteristics.

(1) Large in Size:

The most important characteristic of joint family is that it is large in size. Because it consists of members of three to four generations. It includes parents, grandparents, children grand children and other close blood relatives. Several nuclear families live together as one and constitute a joint family.

(2) Joint Property:

Joint or common property is another important characteristic of joint family. All movable and immovable property of the family held jointly. Ownership, production and consumption of property take place jointly. All the members pool their income in a common family fund from which expenditure is incurred equally irrespective of their income. The head of the family acts as a trustee of the family property and looks towards the material and spiritual welfare of the family members. A family continue to remain joint till it's property held jointly. Division of property means division of family.

(3) Common Kitchen:

It is the next important feature of joint family. All the members of joint family eat food cooked at one hearth. There is division of work in a joint family. Male members work

in the field whereas female members remain engaged in the hearth. The eldest female member remains in charge of the kitchen and supervises the work of other women. This joint kitchen keeps the joint family integrated. Because separate kitchen means separation of family.

(4) Common Residence:

All the members of a joint family live under a common roof or in a common residence. This joint living crates a sense of unity among all the members of the family. As the joint family consists of several nuclear family when it became too large and the accommodation became insufficient they may live in separate houses in close proximity to one another. Thus living in a common residence all the members eats similar type of food, wear similar type of dresses and shows similar type of behavior.

(5) Common Worship:

All the members of a joint family believe in a particular religion and worships common gods and goddesses. This common god is known as 'kula devatas'. All the members participate in common prayer and worship their 'kula devatas' jointly. They have similar faith and beliefs. All the members celebrate religious rites, duties and festivals jointly. This joint worship passes from generation to generation.

(6) Similar rights and obligations:

All the members of the joint family except the head enjoy similar rights and shows similar obligations towards each other. This keeps the joint family integrated. Each member remain conscious about his rights and obligations.

(7) Close blood ties:

All the members of joint family are bound by close blood ties. In other words there exists close blood relationships among the members of joint family.

(8) Absolute power of the head:

In a joint family the eldest male member or the head enjoy absolute power over others. In every respect his decision is final and binding.

(9) Co-operation:

Co-operation is the basis of joint family. All the members co-operate with each other in realization of their common objective and while performing family functions.

(10) Socialistic Ideals:

Joint family based on socialistic ideals “from each according to his capacity and to each according to his necessity”.

4.3.2 The Functions of Joint Family:

Here is your essay for students on the Functions of Joint Family!

Joint family is a peculiar and unique social institution of Indian Society. Joint family or extended family system is a peculiar characteristic of the Indian social life. Since its origin it has been instrumental in providing protection, economic support and recreation to its members. It also helps in fostering good qualities among the members. It nourishes and socializes its members. As an important social institution it has brought about the well being of its members in several ways. It performs many functions. Some of its important functions or advantages or merits are stated below:

(1) Economic functions:

Joint family performs a number of economic functions. It guarantees food, clothing and shelter to its members. All the members of joint family works together on a cooperative basis and in that way it saves money that would have been spent on hired labour. Besides collective purchase of household articles also saves money. It avoids fragmentation of agricultural land and thereby helps in increasing productivity. By this way joint family ensures economic progress of the family as well as society.

(2) Protective functions:

Joint family performs a number of protective functions for its members. It acts as a safe home for the physically or mentally handicapped, sick, old members.

It also acts as an asylum for the orphans. It also assures a proper living for the widows. Thus joint family acts as a social insurance company for the old, sick and destitute.

(3) Recreational functions:

Joint family performed a number of recreational functions for its members. It provides healthy recreation to all its members. By arranging feasts on different religious, social and festive occasions it provides recreation to its members. The joking relationships in the joint family are another source of amusement.

(4) Fosters social virtues:

Joint family fosters good social virtues like sacrifice, love, affection, cooperation, mutual help, selflessness, renunciation among its members and makes the family a cradle of social virtues. Under care and guidance of the elders the youths are prevented from being wayward. These social virtues are learned during the process of socialization.

(5) Socialism:

Socialism prevails in joint family because it believes in the socialistic principle i.e. “from each according to his ability and to each according to his necessity. Hence Sir Henry Maine is right when he remarked that the joint family is like a corporation where the father acts as its trustee. Earnings of all the members are kept in a common family fund from where the expenditures are met.

(6) Acts as a unique device of division of labor:

Joint family acts as a unique system of division of labor. All the advantages of modern division of labor are enjoyed by joint family. All the works of the family are equally distributed according to the abilities of its members. All the family members help during harvesting of crops. None is overburdened. It brought economic benefits to family.

(7) Provides leisure:

Joint family provides necessary leisure to its members. As all the works are divided among the members and it finishes within a little time and the rest time is spent in leisure. Besides the sick and old members are provided with more leisure.

(8) Agency of social control:

Joint family acts as an agency of social control. As an informal agency it controls the deviant behaviors of its members. The unsocial and anti-social activities of its members are suppressed within a healthy family environment.

(9) Agency of Socialization:

Joint family acts as an important agency of socialization. Family first socializes the child. Child learns a number of civic virtues in the family. The environment of family guides the growth of a child. The child gets his first lessons in the family. The family moulds the personality of the individual and continues to exercise its influence throughout life.

4.3.3 Advantages and Disadvantages of Joint Family

Advantages

1. Your child won't experience loneliness

For kids, a united family is ideal. Without having to worry about your child's requirements, you can go to work. You'll feed him with your family. Additionally, they'll look after them well. The cousins of your child can play with him as well. He won't ever feel so lonely in your home as a result. He will consistently have pals.

2. You will discover the value of sharing

Children raised in nuclear families versus joint families will differ significantly from one another. Your child will become more social if he grows up in a shared family. He will also be quite good at sharing stuff. Their cousins have access to their possessions. As a result, sharing has been a habit of theirs since childhood. Children share and stroll together. Before consuming his chocolate, your kid will share it with his siblings. He may dislike giving items to his cousins. But this will equip him for life in the real world. People will like you naturally if you share your possessions. You'll learn the value of "we" through living in a joint family.

3. You'll show everyone respect

If you are raised in a large family, you will naturally begin to respect everyone. You'll share a home with a lot of older people. As a result, you will develop the habit of controlling your tongue. You will respect them and follow their instructions as well.

This will influence how you come across as a whole. Everyone enjoys being respected by others.

4. Compatibility

You will never feel alone if you live with your family in a joint household. Furthermore, your kids won't ever get bored. Playtime with their siblings is always an option. Never will your kids experience loneliness. They will constantly have cousins. Your kids will have the best buddy for life in this great, wide world. They can talk to their cousins about their issues with ease. Additionally, their cousins will support them at all times.

5. Families Values

For every youngster, values are crucial. Every parent strives to instill moral principles in their kids. But if you come from a nuclear family, you could find it challenging to do this. To earn money, you must report to work. You will have less time to spend with your kids as a result.

Your children will naturally learn family values if you live with a combined family. They will pick up crucial morals like compassion and generosity and learn to respect everyone as well.

6. Additional Education to Textbooks

Your children will learn fascinating information from their grandparents, aunts, and cousins. They won't be limited to just scholarly works. Although they will only be able to earn good grades by using these books, these novels won't assist kids in the real world.

Your children will learn about their time if they live with your parents. They will be made aware of their difficulties. They will comprehend that academic texts are only part of it. In life, a lot of things are essential.

7. Support System

Working parents will benefit from the shared family arrangement. In your home, a trustworthy individual will always be present. They'll look after your children nicely. Uncles, parents, and aunts will all take care of your youngster. Because of this, you don't need to worry about their safety. Parents will have more flexibility as a result. They can interact with others. Additionally, they can go out to dinner or office parties without fearing for their child.

8. Possibility of Finance

All employed family members will assist you in managing household expenses if you live in a joint family. Consequently, you can pay only some of the payments. Also serving as a safety net is this mechanism. Other family members will support a person if they are experiencing financial loss.

9. Love and Gratitude

You will get a lot of attention and affection if you are a joint family member. The members of your family will support you if you are depressed. You'll never experience loneliness. The people in your family will help you. The members of your family will look after you if you become ill. If you live alone, you can never feel this. You will experience unfathomable levels of love in a blended family.

10. Develop Social Skills

You will naturally pick up social skills if you live with others in a large family. Your child's personality will be shaped by your relatives, nephews, and elders. They'll be able to interact with others effectively. Your kids will so fit into society with ease. New pals are simple for them to make.

Disadvantages

1. A Lack of Privacy

The most significant drawback of joint family life is this. Your privacy will also be endangered if you live in a shared family. You'll never be left home alone. You should cry onto your bed if you're feeling lonely. In a shared family, though, this is

not conceivable. Everyone in the family is familiar with everyone else. As a result, they might occasionally meddle in your daily affairs. The majority of people don't want anyone meddling in their daily affairs.

People don't like to divulge all of their secrets to their families. Your family will make every effort to assist you. But occasionally, this can be infuriating.

2. Parental Interference

Being a parent will be challenging if you live in a large household. Your relatives might obstruct your parenting approach. They'll give you advice on what to do. For new mothers, this cannot be very pleasant. These suggestions can cause them to get perplexed.

3. Financial Disagreements

Finances may also be a source of argument. Each individual will bolster the household fund. However, this money will be managed by your family's leader. They will choose how to use this funding. Other family members occasionally disapprove of the family head's decisions. As a result, this could result in disputes and arguments.

4. Differences in Opinion on Shopping and Cooking Issues

The women in joint families almost always prepare meals for the entire family. Due to differences in tastes, cooking methods, and health concerns, everyone has distinct preferences. The women would debate this and have some debates about it.

Also, family members, particularly women, would become divided over purchasing issues. You cannot give every woman the same amount of money to spend however you like. Everybody has their preferences. The differences in generational, gender and educational attainment are crucial. So, it may also lead to dissatisfaction among family members.

5. Cannot Make Your Own Decisions

You are not allowed to make your own decisions. Any decision, no matter how small, shall be discussed with all the elders before being made. No one is permitted to make decisions in the household without consulting the wiser members.

6. Children Lack Independence

Children cannot make independent decisions because they were born into a joint family. They struggle because they have a tendency to talk to their elders about everything. As a result, they are indecisive and lack confidence. Due to elders' persistent interference in their decision-making, children's personalities do not emerge.

Let's Sum Up

A joint family is a traditional living arrangement where extended family members, including parents, children, grandparents, and sometimes uncles, aunts, and cousins, live together as a single household. This structure fosters close familial ties, mutual support, and shared responsibilities among its members. Typically, joint families are rooted in cultural and societal norms that prioritize family unity and collective decision-making. They often operate under hierarchical leadership, where elders hold significant authority and influence over family affairs. Such households are characterized by shared resources, communal living spaces, and a sense of belonging that transcends individual interests. While joint families provide emotional security and a strong support system, they can also encounter challenges related to privacy, conflicting opinions, and generational differences. Despite evolving social dynamics and urbanization, joint families continue to hold cultural significance in many societies, preserving familial traditions and values across generations.

Check Your Progress - QUIZ – 1

1. What is a joint family?

- A. A family where individuals live separately
- B. A family consisting of multiple generations living together
- C. A family with only one child
- D. A family with joint ownership of businesses

2. Which of the following is a characteristic of a joint family?

- A. Nuclear family structure
- B. Limited family members
- C. Shared household expenses
- D. Individual property ownership

3. In a joint family, decision-making is often:

- A. Centralized and hierarchical
- B. Decentralized and autonomous
- C. Based on majority voting
- D. Not applicable

4. Which region is commonly associated with the prevalence of joint families?

- A. North America
- B. Western Europe
- C. South Asia
- D. Australia

5. What role does the eldest member typically play in a joint family?

- A. Sole decision-maker
- B. Provider of financial resources
- C. Authority figure and decision influencer
- D. Caretaker of children

SECTION 4.4. THE MEANING OF CASTE

Caste is a system of social stratification. It lies at the root of Indian social structure. It involves ranking according to birth and determines one's occupation, marriage and social relationships. There is a prescribed set of norms, values and sanctions which govern social behaviour within caste. Sociologists have defined caste (locally referred to as "jati") as 'hereditary, endogamous group, which is usually localised. It has a traditional association with an occupation and a particular position in the local hierarchy of castes. Relations between castes are governed, among other things, by the concepts of pollution and purity, and general maximum commensality that occurs within the caste" (Srinivas 1962). This is the definition of the ideal form of caste system

In reality, however, there are variations in the structure and functioning of caste system.

It is imperative to make a distinction between the theoretical formulation of caste system and its existential reality. Theoretically, caste stratification of the Indian society has its origin in the Varna system. This system literally means colour which was prevalent during the Vedic period. According to this doctrine of colour, the Hindu society was divided into four main Varnas : Brahmins, Kshatriyas, Vaishyas and Shudras. A fifth category of untouchables lie outside the fold of the varna scheme. This was mainly based on division of labour and occupation. Members of each varna performed different functions like the priestly function rulers, fighters, traders and servile. The varna system is important because it provides an all- India macro structural scheme within which innumerable variations of castes are found. A varna may include different castes which may be divided into different sub-castes.

The concept of Varna is generally traced to the Purusha Sukta Verse system of the Rig Varna Veda. It said that Varna system originated by the sacrifice of the primeval being or Purusha. After the sacrifice, the Brahmana emerged from the mouth, the Kshatriya from arms, the Vaishya from thighs, and the Sudra from the feet. Thus, the four Varnas that emerged were considered to have a divine origin.

4.4.1 Features of Caste System

Segmental Division of Society

The Hindu society is divided into different castes. Caste membership is determined by birth and not by selection and accomplishments. Hence, caste status is termed as being ascribed (by birth).

Hierarchy

Caste system has a specific scheme of social preference in which they are arranged in a social and ritual hierarchy. A sense of high and low, superiority and inferiority is associated with this gradation or ranking. The Brahmins are placed at the top of the hierarchy and are regarded as ritually pure or supreme. The untouchables, considered most impure, are at the lowest rung of the hierarchy. In between are the Kshatriyas, followed by the Vaishya. Thus, castes occupy a specific status in the overall framework of caste hierarchy.

Restrictions on Feeding and Social Interaction

Rules are laid down which govern the exchange of food which is also called commensality and social interaction between different castes. There are restrictions on the kind of food that can be eaten together, received or exchanged among castes. A Brahmin will accept “pakka” food, i.e., food prepared in ‘ghee’ from any community but he cannot accept ‘kachcha’ food i.e food prepared in water at the hands of other caste. Concept of pollution places severe restrictions on the extent of social interaction.

Civil and Religious Disabilities and Privileges of Different

Sections Each caste is considered to be more pure or impure than the other in the ritual sense of the term. The ideology of pollution and purity regulates the relationship between different castes significantly. There are several taboos practised by the superior castes to preserve their ceremonial purity. Castes considered ritually impure were subjected to manifold disabilities. For example, they were forbidden to use public roads, public well or enter Hindu temples. The shadow of some castes were considered polluting, such as, in Tamil Nadu the Shanars or Toddy-tappers had to restrict their pace away to 24 steps from a Brahmin during the earlier times. Each caste has its own customs, traditions, practices and rituals. It has its own informal rules, regulations and procedures.

Restrictions on Marriage

Endogamy or marriage within one’s own caste or sub-caste is an essential feature of caste system. Generally, people get married within their own caste or subcaste. However, there were a few exceptions. In some regions of India, the upper caste men could marry lower caste women. This kind of marriage alliance is known as hypergamy.

Lack of Unrestricted Choice of Occupation

Traditionally each caste was associated with an occupation. They were ranked higher and lower on the basis of ritual purity and pollution of their associated occupation. The Brahmins who occupied the uppermost rank were prescribed the duties of acquiring and teaching sacred knowledge and of performing sacrifices. The

above is a description of the essential features of caste system. However caste structure has several variations as found in its functioning in different regions of India. As a regional reality, one can see different patterns of caste ranking, customs and behaviours, marriage rules and caste dominance. Each caste had its own caste council or panchayat where the grievances of its caste members were heard. Caste panchayat was regulating the behaviour of the caste people according to the prescribed norms and sanctioned social behaviour. Headed by the elders of that caste, these councils had the power to excommunicate a member if he did not follow caste restrictions. They are distinct from village panchayats in that the latter, as statutory bodies, serve all villagers regardless of caste, although they operate on the same principles.

4.4.2 Theoretical Approaches to the Understanding of Caste

Let us examine the attributional and interactional approach employed by scholars to the understanding of the caste system.

- i) The attributional approach to caste analyses caste in terms of the various immutable characteristics of caste. The sociologists such as G S Ghurye, J H Hutton, using this approach, define caste system through its significant features. The above section includes the six features of caste system as described by Ghurye.

In his book 'Caste in India', (Hutton) held that the central feature of the caste system is endogamy. Around this fact various restrictions and taboos are built up. The interaction among various castes do not violate these restrictions placed on the various castes. Another important feature of the caste system as seen by Hutton is the taboo on taking cooked food from other than their own castes. M N Srinivas chooses to study the structure of relations arising between castes on the basis of these attributes. Thus, he introduces a dynamic aspect of caste identity.

- ii) Interactional approach takes into account how castes are actually ranked with respect to one another in a local empirical context. According to Bailey caste dynamics and identity are united by the two principles of segregation and

hierarchy. He feels that “Castes stand in ritual and secular hierarchy expressed in the rules of interaction”. By secular hierarchy he meant the economic and political hierarchy, rituals being part of the religious system. The ritual system overlaps the political and economic system. Bailey (1957) explained his viewpoint with reference to village Bisipara in Orissa. He has shown how the caste situation in Bisipara is changed and becomes more fluid after Independence when the Kshatriyas lost much of their land. This caused a downslide in their ritual ranking as well. There was a clearly discernable change in the interaction patterns, such as, the acceptance and non-acceptance of food from other castes.

- iii) Marriot studied the arrangement of caste ranking in ritual interaction. He confirmed that ritual hierarchy is itself linked to economic and political hierarchies. Usually economic and political ranks tend to coincide. That is to say both ritual and non-ritual hierarchies affect the ranking in the caste order though ritual hierarchies tend to play a greater role.

4.4.3 The Meaning of Community

Whenever the members of any group, small or large, live together in such a way that share the basic conditions of a common life, we call that group a community.

Therefore, a community refers to a group of individuals living in a geographical area. They share the same physical environment and the basic conditions of community living. There are many types of communities such as, village or rural, city or urban.

German Sociologist F. Tonnies used two terms – Gemeinschaft, often translated as community, refers to groupings based on a feeling of togetherness, Gesellschaft, often translated as society, and refers to groups that are sustained by an instrumental goal. Gemeinschaft may be exemplified by a family or a neighbourhood community; Gesellschaft by a business or a nation.

According to Maclver and Page, there are two main bases or essential elements on the basis of which community is formed.

- i) **Locality:** Locality implies a particular or territorial area unless a group of people live in a particular locality. Living together facilitates the development of social contacts, safety and security. Locality continues to be a basic factor of community life. Maclver says, though due to the extending facilities of communication in the modern world the territorial bond has been broken, yet the basic character of locality as a social classifier has never been transcended.⁴⁴ Indian Perspective on Peace and Conflict
- ii) **Community Sentiment:** Community can be formed on the basis of community sentiment. It is extremely essential. It implies 'a feeling of belonging together.' It is a 'we-feeling' among the members of a community. People living in a community lead a common life, speak the same language, conform to the same mores, feel almost the same sentiment and therefore, they develop a feeling of unity among themselves.

In a community there is a likeness or similarity in language, custom, mores, traditions etc. among the members. So A. W. Green has rightly said, "A community is a cluster of people living within narrow territorial radius who share a common way of life."

Every community is always known with a particular name, their immediate bases of origin give such community a particular name. For example, based on the linguistic condition people living in Odisha are called Odiyas; those living in Kashmiri culture are called Kashmiris.

Every community grows itself spontaneously. A community is not deliberately or purposively created. A kind of natural force acts behind the origin and development of communities. Various factors like customs, conventions, and religious beliefs bind the individuals together.

4.4.4 Types of Community

A community may be big or small. A big community, such as a nation, contains within it a number of small communities and groups with more close, numerous common qualities whereas there are small communities like village or neighbourhood. Both the types of communities, big or small, are essential to the full development of life.

Human communities may be classified on the basis of many different criteria. A large number of classifications of human communities have been made and have been found useful for different purposes. A very broad and familiar classification is based on the size and density of the population, in terms of which we classify communities as neighbourhood, village, city, region and world community. The first two types of communities devote more space to village community.

Village Community

Generally, a village community may be defined as a group of people living in a definite geographical area, characterised by consciousness of kind, common life styles and various intensive social interaction, where agriculture is seen not only as an occupation but also as a way of life.

Mandelbaum writes, “A village is not a neatly separable social and conceptual package but it is nonetheless fundamental social unit.” The French sociologist Louis Dumont refers to three meanings of the term village community as a political society, as a body of coowners of the soil and as the emblem of traditional economy and polity, a watchword of Indian patriotism. Thus, according to this view, the village community in India has been a part of India’s polity and economy.

A village is far more than a locale, more than just a collection of houses, lanes and fields. Village identity, solidarity and loyalty cut across caste and community. There are factions and feuding groups within villages and between villages. Land reforms, Panchayati Raj, sanskritization and other structural and cultural changes have brought about significant changes within its social structure and in its relations with the wider world.

The change in village community may be seen in different spheres. The British rule in India gave a serious blow to the traditional caste system in the villages. The economic policy and the laws of British rulers induced the different castes to adopt occupations other than the traditional ones. The hold of caste panchayat was loosened. Jajmani System, a feature of village community in India has now weakened due to the governmental efforts to raise the status of the lower castes and impact of urbanisation. The occupations adopted by the village people are not entirely hereditary or based on caste system, nor the payment for services rendered by the lower caste is in kind; it is now mostly cash payment.

The joint family system is no longer the peculiar characteristic of the village community. The family is no longer an economic unit. Several activities which once were carried within the family are now performed by outside agencies. The education of village girls has raised the status of rural women.

The economic scene today is different in villages due to education, migration, and change in the cropping pattern, electrification, irrigation and contact with the towns and cities. The traditional pattern of lending has also changed to a large extent due to alternate channels of borrowing money. Modernization of agriculture is taking place at a rapid pace. The setting up of 'panchayats' has led to the growth of political consciousness among the village people. The newspapers, radio and television in some areas have added to the political knowledge of the villagers.

The villages in India are at present passing through a transitional period. From the sociological point of view, the old social relations, bonds and ties have disappeared. The community consciousness is steadily decreasing.

Despite these changes in the village's social structure and economy, the village remains different from towns and cities in its ethos, way of life and interpersonal relations.

Urban Community

Urban communities exhibit salient features which differentiate them from the rural community. As the urban society is diverse and complex, it is considered as a heterogeneous society. In urban communities, there is a confluence of many cultures. If villages are the symbol of cultural homogeneity, the cities symbolize cultural heterogeneity. The cities are characterised by diverse peoples, races and cultures. There is great variety in regard to the food habits, dress habits, living conditions, religious beliefs, cultural outlook, customs and traditions of the urbanites. Density of population in urban areas is greater than in rural communities. In the urban areas, the major occupations are industrial, administrative and professional in nature. Divisions of labour and occupational specialisation are very much common in towns/cities/ metropolises.

Georg Simmel held that the social structure of urban communities is based on interest groups. The circles of social contact are wider in the city than in the country. The city life is characterised by the predominance of secondary contacts, impersonal, casual and short-lived relations.

In urban societies, there is much lesser degree of community feeling. People are more individualistic in their orientation. Formal means of social control such as police, law and courts are more powerful and are essential in regulating the behaviour of the people.

The most important feature of urban community is its social mobility. In urban areas the social status of an individual is determined not by heredity or birth but by his merit, intelligence and perseverance. Urbanity and mobility are positively correlated. Rapid social and cultural change characterises urban life. The importance attached to traditional or sacred elements has been relegated to the background. The benefits of urban life have effected changes in respect of norms, ideologies and behaviour patterns.

The Neighbourhood

The neighbourhood is the first community with which the child comes into contact. It is a “loose integration of several family groups”. In large cities it is largely a group of

“neighdwellers” characterised chiefly by the fact that the members reside within a particular geographic area.

In a city neighbourhood the people generally do not come in close contact and sometimes do not even know each other. Some of you must have experienced the difficulty of finding the house of your relative in a big city if you did not know it already. We may say that in cities neighbourhood as a community does not exist.

As opposed to city neighbourhood, a rural neighbourhood involves persons living close to and well acquainted with each other. Though in a village neighbourhood people may not live in close proximity to each other, they may live somewhat apart, yet unlike city neighbourhood they know each other well. There are immediate contacts between the neighbours in a village.

The neighbourhood feud is common. We often, while passing on the road, come across a quarrel among the neighbours. This quarrel usually begins over children, over livestock, over a boundary wall or over an insulting remark reported to have been made by one member about the member of another’s family. Sometimes, an ordinary quarrel takes serious proportions and divides the neighbourhood into opposing camps. It may even lead to murder.

More recently, the term community has been used to indicate a sense of identity or belonging that may or may not be tied to geographical location. In this sense, a community is formed when people have a reasonably clear idea of who has something in common with them and who has not. Communities are, therefore, essentially mental constructs, formed by imagined boundaries between groups (Anderson, 2006). An example of this is the nation as a community (for example, Indianness) and thereby different from other nations even when they could not know personally other members of the imagined community.

4.4.5 Role of Family and Community in Socialisation

The family is one of the key institutions for maintaining social order. In India, family has been a dominant institution in the life of the individual and in the life of the community. The process of learning to adopt the behaviour patterns of the community is called socialisation. It is the process through which individuals integrate in society through various agencies such as family, peer-group and educational institutions. In the most general sense, socialisation is the process through which individuals acquire the social knowledge and skills necessary to enable them to interact with others. This also includes learning of expectations, habits, values, motives, skills, beliefs that are necessary to interact with one's own social groups. Thus, it is a process that familiarises us with, and makes us learn and imbibe the rules for living in society in an effective manner.

The most fertile time of socialisation is usually the early stages of life, during which individuals develop the skills and knowledge and learn the roles necessary to function within their culture and social environment. It is the family's primary responsibility to socialise children in the norms of society. In all human groups, the family is an important agent of socialisation. It has flexible human relationships in which family members interact informally and deal with common concerns in an atmosphere of mutual respect and love. The family teaches the child his or her first lessons in social living and helps him or her form basic attitude patterns, ideals and style of life. It creates feelings of social responsibility and teaches the importance of cooperation and mutual respect.

The child's personality is formed accordingly and a social identity develops. Socialisation develops the child's ability to control him or herself and helps him/her to realise his/her responsibility towards family, community and society. The social order is maintained largely by socialisation. Unless the individuals behave in accordance with the norms of the group, it is going to disintegrate. Everyone tries to adjust to the condition and environment predominantly determined by the society of which he is a member. Failing to do so, he becomes a social deviant and is brought back into line by the efforts of the group of which he is a member.

Let's Sum Up

The caste system is a hierarchical social structure prevalent in India, traditionally dividing society into distinct groups known as castes. These castes are stratified based on occupation and social status, with each group occupying a specific place in the social hierarchy. At the top are the Brahmins, traditionally priests and scholars, followed by Kshatriyas, warriors and rulers, Vaishyas, merchants and landowners, and Shudras, laborers and service providers. Below these main castes are the Dalits, historically marginalized and often subjected to discrimination and social exclusion. Caste dictates social interactions, marriage alliances, and access to resources and opportunities, despite efforts to abolish discriminatory practices through legislation and social reform movements. The caste system continues to influence societal dynamics and individual lives in India, posing challenges to social equality and integration.

Check Your Progress - QUIZ – 1

1. In the context of South Asia, what is a caste system?

- A. A social hierarchy based on economic status
- B. A system of social stratification based on birth and occupation
- C. A political system governing local communities
- D. A religious belief system

2. Which term refers to the division of society into hierarchical social groups based on birth?

- A. Clan
- B. Caste
- C. Tribe
- D. Sect

3. What role does caste play in traditional joint family systems?

- A. It determines the family's religious practices
- B. It influences marriage and social interactions
- C. It dictates the family's economic activities
- D. It has no impact on family dynamics

4. Which community is associated with the practice of joint family systems in India?

- A. Sikh community
- B. Muslim community

- C. Brahmin community
- D. Tribal community

5. How does caste influence decision-making in joint families?

- A. It ensures equal participation of all family members
- B. It favors decisions made by elder members of higher castes
- C. It promotes democratic decision-making
- D. It encourages individualistic decision-making

SECTION 4.5. MEANING OF LINGUISTIC GROUPS

The linguistic and ethnic groups occupy a significant place in a democracy. Their empowerment in terms of participation in political processes, ability to avail of the distributive justice, security, freedom, equality, etc. is indicative of level of success of a democracy. In a multicultural and diverse society like India, the multiple identities based on the diverse factors - caste, language, religion, race, culture, traditions, customs, etc., play a significant role in impacting their place in democracy. Mobilisation, patronage and discrimination in society and politics based on these markers form a significant aspect of a democratic system.

4.5.1 Linguistic Groups

There could be two levels of identification of the linguistic groups- national and state/ Union Territories. At all India level the linguistic majority consists of Hindi speakers, and other linguistic groups are linguistic minorities. But several linguistic groups which are minority linguistic groups at the all-India level are linguistic majorities in various states or in the regions within the states. The groups within the states which do not speak the language of the majority are linguistic minorities. All states of India have more than one linguistic group.

Linguistic Groups in India

In India, languages can be classified into different categories: mother tongues, dialects, and official languages. Mother tongue is the language which a person learns from his or her childhood. Dialect denotes mother tongue spoken by a particular community or groups of communities generally living in a particular

geographical area. Official languages are those mother tongues or dialects which have got official recognition for official works and medium of instruction in educational institutions.

There are different official languages in different states. The groups identified based on languages spoken by them are known as linguistic groups, for instance, Telugu, Punjabi, or Kannada speaking people. At all India level, Hindi is the official language. It means that all official work pertaining to the central government offices is transacted in Hindi as an official language. Similarly, the official work in a state is carried out in its official language. Some states have more than one official language. Asha Sarangi in the book edited by her *Language and Politics in India* (2009) discusses the relationship between language and politics.

She highlights that the first survey to identify and classify languages was done by Geogre Grierson during colonial India between 1903 and 1923. The reports of the survey were published in twelve volumes entitled *Linguistic Survey of India (LSI)*. The LSI identified 179 languages and 544 dialects in India. According to Asha Sarangi Grierson's survey was used by census commissioners to compile data in the subsequent linguistic surveys. Since 1881, the number of mother tongues in India has been varying. In the 1991 census, there were 1,652 languages which were grouped into 114 mother tongues. In 1951 census, several dialects were referred as dialects of Hindi – Maithili, Bhojpuri, Magadhi. Even Maithili was included in Hindi in 1961 and 1971 censuses). Official languages in India are placed in the VIII Schedule of the Constitution. There are 22 languages in India which are recognized as official languages are placed in the VIII Schedule.

These are languages are as follows: Assamese, Bengali, Bodo, Dogri, Gujarati, Hindi, Kannada, Kashmiri, Konkani, Malayalam, Marathi, Manipuri, Maithili, Nepali, Odia, Punjabi, Sanskrit, Santhali, Sindhi, Tamil, Telugu and Urdu. From these languages Hindi is expected to “draw” its vocabulary wherever necessary and primarily on Sanskrit and secondarily on other languages. Many communities in India demand inclusion of their dialects and languages in the VIII Schedule of the Constitution. Their inclusion in VIII Schedule depends on the political factors. There

are safeguards (Arts. 29-30) in Indian Constitution to protect the linguistic and cultural interests of the linguistic groups.

Three-language Formula

Linguistic and Ethnic Groups As each state in India has multiple languages, the main challenge in the country has been as to how to enable school children to interact with each other across diverse linguistic groups across states. Introduction of three-language formula is such a device conceived by policy makers associated with education in India. The three-language formula suggests that in states children should be made to learn three languages upto (VI-VIII) standard: apart from Hindi and English, a modern Indian language be taught; the modern Indian language in the Hindi speaking-states could preferably be a language spoken in south India. In non-Hindi speaking states, (except in Tamil Nadu that followed two-language formula), three-languages to be taught include – English and Hindi along with a regional language.

Since language is a state subject, which languages to be included in three-language formula fall under the jurisdiction of states. The suggestion to introduce three-language formula first made in the meeting of the Central Board of Education (CABE) the 1950s. Following the recommendations of the National Commission on Education (1964-66) known as Kothari Commission, three-language formula was included in national education policy in 1968. The New Education Policy 2020 suggested that at least upto grade 5 the medium of instruction should be mother tongue, and wherever possible it should be any of the following - mother tongue, home language, local language or regional language upto grade 8.

4.5.2 Linguistic Groups and Politics in India

The significance of language as the basis of identity in India was recognised in the early twentieth century when Congress had organised itself on the linguistic lines. But after independence, the Congress had shown its reluctance to organise states on the linguistic basis till the State Reorganisation Commission made its recommendation for linguistic organisation of states. This happened in the wake of the death of a Gandhian, P. Sriramulu, in 1953 following his hunger strike demanding a Telugu state out of then Madras state. In several states, there are

sections who speak languages which are different from the languages spoken by majority of people in such states. They are known as linguistic minorities. The reorganisation of the states on the linguistic basis in 1956, however, did not resolve the language question. This gave rise to the language- based conflicts within the states. In India, on several occasions language has become an issue of political contest This demand has impacted the politics of several linguistic groups in India. Such politics or the linguistic politics has been impacted by the following factors: perception of linguistic of themselves and of the linguistic majorities; the linguistic majorities' perception of the linguistic minorities; and the attitude of the linguistic majorities towards linguistic minorities.

The linguistic majorities in several states demand that the other linguistic groups accept the language of the majorities as medium of instruction in educational institutions, and as the official language. Several linguistic groups demand for recognition of language as an official language or its inclusion in the VIII Schedule and their recognition as official language. Such demand is generally made by the linguistic groups along with other demands relating to them such economic development, employment, protection of their cultural identities and political autonomy. In this respect the demands of the linguistic groups are also their demands as those of ethnic groups.

The linguistic minorities demand protection of their own languages by asking for opening the educational institutions where the medium of instruction could be their mother tongue rather than that of the linguistic majority. The differences between linguistic groups in a state often lead to linguistic conflicts. There are innumerable examples of linguistic conflicts in states in India. This section discusses some cases concerning relationships between the linguistic groups and politics. Let us start with the northeast India. There are many linguistic groups in state of the northeast India.

The linguistic groups in these states can generally be linked to the ethnic groups. The latter belong to two groups of ethnic communities – the indigenous groups that have not migrated from outside a state and have been living in their areas for generations, and those who have migrated from other regions in search of employment or any other purpose and settled there over the years. Both the

indigenous and migrant groups also consist of several linguistic groups each. Assam is among the northeastern states where the linguistic minorities groups resisted the attempts of the linguistic majority to make its language, the Assamese, as official and court language of all. In Assam, the principal linguistic conflict has been between the Assamese and the non-Assamese languages. When Assam was a composite state, i.e., before other states were carved of Assam, the Assamese and the non-Assamese languages were sources of linguistic conflict. The latter included the Bengali, tribal languages, etc.

The Assamese-Bengali linguistic conflict in Assam can be traced back to the colonial policies. Within a few years of the occupation of Assam, the British made the Bengali as the official language. The Assamese had alleged that the British did so under the pressure of the Bengalis and it was discriminatory to them. They demanded that the Assamese be declared as an official and court language in Assam. This gave birth to a debate between the intellectuals of two linguistic groups. The Bengalis argued that there was no need for a separate court language for Assam, as Assamese was a dialect of the Assamese. The Assamese intellectuals on the other hand argued that Assamese was not a dialect of Bengali; it was an independent language with its own script and history. The Bengalis should be replaced with the Assamese as an official language. The British in fact declared Assamese as official language of Assam in 1873. Since then, the conflict between the two linguistic groups continued in one or the other form. Bengalis are a minority linguistic group in Brahmaputra Valley and while the Assamese are a minority linguistic group in Barak Valley. In the 1960s, the Assamese government attempted to make Assamese compulsory as medium of instructions in the institutions in the areas where non-Assamese were spoken by most people. This was resisted in these areas resulting in violent clashes in the Hills and Barak valley. Bengalis feared that introduction of Assamese as the official language would hamper the progress of Bengalis in Brahmaputra Valley. It also resulted in demand for a tribal state in the Khasi dominated part of Assam. All non-Assamese communities including Bengalis, other non-tribals and tribal groups launched an agitation in the Khasi, Jaintia, and Garo hills for the formation of a separate state.

The new state of Meghalaya was formed in 1972. In another example, as discussed by Sanjib Baruha in *India Against Itself*, after the signing of the Assam Accord in 1986, the Bodos underlined that their identity was different from Assamese, and Bodo was their language. They demanded recognition of Bodo as an official language, which was later given this status by its inclusion in the VIII Schedule. Linguistic and Ethnic Groups Linguistic groups in two south Indian states- Tamil Nadu and Karnataka were involved in fierce language-based riots in 1992. The riot was not directly related to language. It was a fall out of the conflict which took place between the two states over sharing of Cauvery water. The Tamil speaking community was targeted by the Kannada speakers in Karnataka causing damage to their property and lives.

The minority Tamil linguistic groups in Karnataka demanded the introduction of special measures for the protection of their language and property. Paul R Brass argues that the state governments introduced discriminatory policies against the minority languages and the central government did not provide protection to them. The central government's attitude towards Urdu and Mithila spoken in north Bihar is among such examples. Besides, Urdu which is spoken several parts of the country, and is the single largest minority language in U P, has been subject to controversy by the communal forces. Any attempt to give Urdu as a status of official language is met with the criticism by certain groups and is viewed as appeasement of Muslims. But the Urdu speaking section of society consider the opposition to Urdu as an attempt to discriminate against the linguistic minorities. In Punjab, the linguistic issue got linked with the communal divide between Hindus and Sikhs during the Punjabi Suba movement of the 1960s. The Arya Samaj impacted the vision of non-Sikh Punjabis, who declared as Hindi their language in the census enumeration, though in practice it was Punjabi. Hindus in Punjab apprehended that creation of separate states of Punjab would reduce the Hindus to a minority community in Punjab. Among the most crucial example of language politics is the case of Hindi language in South India, especially Tamil Nadu.

In the 1960s, there was an agitation against adoption of Hindi as an official language following the decision. Hindi was adopted as an official language in the Constituent

Assembly in the light of an official resolution which was passed by the Congress legislative party. After Independence, Hindi was adopted as an official language with English as a shared language for a transition period of fifteen years. The decision to introduce Hindi as an official language was opposed in south India.

Let's Sum Up

A linguistic group refers to a community of people who share a common language or dialect. These groups can vary widely in size, from small tribes to large nations, and they often have distinct cultural identities shaped by their language. Linguistic groups play a crucial role in shaping societies, as language is not just a means of communication but also a repository of traditions, history, and collective memory. They influence everything from daily interactions to political affiliations and cultural practices, making them a fundamental aspect of human diversity and social organization worldwide.

Check Your Progress - QUIZ – 1

1. What defines a linguistic group?

- A. A group sharing the same political beliefs
- B. A group sharing the same religious practices
- C. A group sharing the same language or dialect
- D. A group sharing the same economic status

2. Which term refers to the study of languages and their structure?

- A. Archaeology
- B. Sociology
- C. Linguistics
- D. Anthropology

3. In India, which language is commonly associated with the Dravidian linguistic group?

- A. Hindi
- B. Tamil
- C. Bengali
- D. Punjabi

4. How do linguistic groups contribute to cultural diversity?

- A. By promoting uniformity in communication
- B. By preserving unique languages, traditions, and folklore
- C. By imposing language barriers
- D. By minimizing regional identities

5. What is a religious group?

- A. A group sharing the same political ideology
- B. A group sharing the same dietary practices
- C. A group sharing the same religious beliefs and practices
- D. A group sharing the same cultural customs

SECTION 4.6. MEANINGS AND DEFINITION OF SOCIAL ORGANIZATION

Social organization consists of all the ways in which men live and work together, especially all of the participants of societies programmed, ordered and coordinated relationships. Social organizations arrange and communicate group actions at various levels. They organize and crystallize various individual and collective desires.

A social organization, according to Duncan Mitchell, is "the interdependence of components, which is fundamental property of all long lasting collective organizations such as groups or communities and societies."

Organizations, according to Ogburn & Nimkoff, are "groups of people who work together to accomplish a goal."

According to Nimkoff & Ogburn, "An organization is an articulation of various parts performing different functions, an active group device for doing something."

Duncan Mitchell says that, "Social organization means the interdependence of parts of all persistent collective entities, groups, communities and societies that are essential characteristics."

According to Broom and Selznick, an organization implies specialized plan of parts. Social organization implies social relationship among gatherings. People and gatherings interrelated together make social organization. It is the consequence of social association among individuals. It is the organization of social relationship where people and gatherings partake. Every one of the social foundations are social organizations. Affiliations, clubs and any remaining proper gatherings are organizations. Social frameworks are additionally founded on' social organizations. In a coordinated body; its individuals get into each other based on jobs and status. The collaboration among the individuals sets them into organizations. The method of such collaboration is called social organization.

4.6.1 Types of social organization

In social organization people work, co- operation and co-ordination. Members are related to each other on the basis of status in order to accomplish a common goal social organization classified as :-

Political organization:-This form of organization is more concerned with political matter e.g. state, nation, rural, urban etc.

Economic organization :- It is concerned with the production and distribution of wealth e.g. factory industry etc.

Religious organization :- It is a place where people offers prayers carry out religious rituals . The main purpose of religious organization is to meet spiritual needs of the people e.g. Temple, Church mosque etc.

Financial organization :- It is concerned with money matter e.g. Bank , post office, provident fund organization

Educational organization:-It is concerned with providing education and dissemination of knowledge The main goals to make society literate . These organizations provide knowledge skills and change the behavior of individuals e.g. school and colleges

Mode of Participation: • There are two modes of participation in a social organization viz. democratic and autocratic.

- Democratic : Mode of participation, members of the society engaged themselves in the decision process and group related matters.

- Authoritarian participation is based on the use of coercive power /Threat or force.

- Autocratic- In autocratic or authoritarian participation is based on the use of coercive power . Authoritarian Leaders make decisions independently with little or no input from the group.

Let's Sum Up

Social organization refers to the structured relationships and interactions that individuals and groups maintain within a society. It encompasses various elements such as roles, norms, statuses, and institutions that shape how people behave and interact with each other. In any society, social organization provides the framework for organizing activities, distributing resources, and establishing order. It can be formal, as seen in institutions like governments and corporations, or informal, such

as family dynamics and peer groups. Social organization also reflects cultural values and beliefs, influencing patterns of authority, hierarchy, and solidarity within communities.

Check Your Progress - QUIZ – 1

1. What does "social organization" refer to?

- A. The physical layout of cities
- B. The structure and relationships within a society or group
- C. The economic policies of a government
- D. The natural environment of a region

2. Which term describes a hierarchical arrangement of individuals or groups based on social or economic status?

- A. Social mobility
- B. Social stratification
- C. Social cohesion
- D. Social diversity

3. In sociology, what is the term for a small, tightly knit group of people who generally live in the same locality?

- A. Community
- B. Society
- C. Network
- D. Population

4. Which factor does NOT influence social organization?

- A. Cultural norms and values
- B. Economic factors
- C. Climate patterns
- D. Political systems

5. Which social institution primarily regulates social behavior and norms within a society?

- A. Family
- B. Government
- C. Religious institutions
- D. Educational institutions

4.7 Case Study

COCA-COLA-CSR STRATEGY

One of the country's leading beverage companies is Coca-Cola India, offering a wide range of rejuvenate beverage alternatives to consumers. In 1993, the Company re-

entered to establish portfolio of its beverage brands like Coca-Cola Zero, Coca-Cola, Diet Coke, Thums Up, Fanta, Fanta Green Mango, Limca, Sprite, Sprite Zero, VIO Flavored Milk, Maaza, Minute Maid range of juices, Georgia and Georgia Gold range of hot and cold tea and coffee options, Kinley and Bonaqua packaged drinking water, Kinley Club Soda and BURN energy drink.

Coca-Cola noticed that CSR had to be an essential part of its corporate agenda. As per the company, it was familiar with the environmental, social and economic aftermath caused by a business of its scale and, therefore, it had decided to execute initiatives to upgrade the quality of life of its customers, the personnel and society at large.

However, the company received strong criticism from environmental experts and activist who accused it with lower groundwater resources in the areas in which its bottling plants were established, thereby affecting the subsistence of the poor farmers, disposing toxic and dangerous waste materials near its bottling facilities, and dumping waste water into the agricultural lands of farmers. Due to its unethical practices, Coca-Cola get the notorious tag in the world business

Coca-Cola taking initiatives like rainwater harvesting, restoring ground water resources, sustainable development like recycling process of waste materials. It also outlined the plan for water neutrality for India. Its critics also appraised its initiatives project like 'green' and 'environment-friendly' business operation in India and spent millions of dollars on this project. This case study revealed the challenges to prepare and implement its CSR strategy in India.

QUESTIONS

1. Analyse the issues and disagreement faced by Coca-Cola with regard to its sustainability initiatives in India.

(Hint: Disposing toxic material, lower water level, adversely affecting lives of the poor farmers.)

2. Examine the CSR strategy endorsed by Coca-Cola India.

(Hint: rainwater harvesting, restoring groundwater resources, sustainable

packaging, recycling, etc.)

4.8 Unit Summary

The social environment refers to the intricate web of relationships, norms, and institutions that shape human interactions within a society. It encompasses various elements such as family structures, cultural practices, economic systems, and political dynamics. These components collectively influence individuals' behaviors, identities, and opportunities. Social environments can either foster inclusivity and cooperation or perpetuate inequality and exclusion, depending on factors like social class, race, gender, and education. Understanding the social environment is crucial for comprehending societal trends, addressing social issues, and promoting positive social change. It underscores the interconnectedness of individuals and groups within larger social frameworks, highlighting the importance of collective responsibility and shared values in shaping a cohesive and equitable society.

4.9 Glossary

Culture: The shared beliefs, values, customs, and behaviors of a group or society.

Socioeconomic status (SES): A measure of an individual's or family's economic and social position relative to others, often based on income, education, and occupation.

Community: A group of people living in the same locality and under the same government.

Social norms: Unwritten rules and expectations governing behavior within a society or group.

Social capital: The networks of relationships among people who live and work in a particular society, enabling that society to function effectively.

Social inequality: Disparities in income, wealth, power, and other resources among individuals or groups within a society.

Socialization: The process through which individuals learn and internalize the values, norms, and expectations of their society.

Social institutions: Established patterns of behavior organized around particular purposes and social roles, such as family, education, religion, and government.

Diversity: The range of human differences, including but not limited to race, ethnicity, gender, sexual orientation, socioeconomic status, age, physical abilities, religious beliefs, political beliefs, and other ideologies.

Urbanization: The process by which an increasing proportion of a population comes to live in towns and cities rather than rural areas.

4.10 Answers for check your Progress

Sections	S.No	Answers
Section 1	1	C. The cultural, political, and economic factors that influence individuals' lives
	2	B. Income level
	3	C. Industrial output
	4	A. Government policies
	5	B. Strong community bonds and trust among residents
Section 2	1	C. The cultural legacy passed down from previous generations
	2	C. Folklore and oral traditions
	3	B. Protecting and preserving cultural heritage worldwide
	4	B. Folk music and dance traditions
	5	C. Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict
Section 3	1	B. A family consisting of multiple generations living together
	2	C. Shared household expenses
	3	A. Centralized and hierarchical
	4	C. South Asia
	5	C. Authority figure and decision influencer
Section 4	1	B. A system of social stratification based on birth and occupation
	2	B. Caste
	3	B. It influences marriage and social interactions
	4	C. Brahmin community
	5	B. It favors decisions made by elder members of higher castes
Section 5	1	C. A group sharing the same language or dialect
	2	C. Linguistics
	3	B. Tamil
	4	B. By preserving unique languages, traditions, and folklore
	5	C. A group sharing the same religious beliefs and practices
Section 6	1	B. The structure and relationships within a society or group
	2	B. Social stratification
	3	A. Community
	4	C. Climate patterns
	5	A. Family

4.11 Suggested Reading

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- 2 Berger, P. L., & Luckmann, T. 1967, *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*, Anchor Books.
- 3 Hofstede, G 2001 *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations* Sage Publications

3.9 Open Source E-Content Links

Sl.no	Topic	E-Content Link	QR Code
1	Social environment	https://www.youtube.com/watch?v=3fM9YPvliW0&list=PLuXdwbKHu-4Z6uUuHPTbc5lYxWy92OInO	
2	Cultural heritage	https://www.youtube.com/watch?v=CbnXgvCOulq	
3	Castes and communities Joint family systems	https://www.youtube.com/watch?v=-RWtMISyiTQ	
4	linguistic and religious groups	https://www.youtube.com/watch?v=pRmWRfMv0NU	

3.10 References

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- 2 Tulsian, P. (2014). *Business Law*. New Delhi: McGraw Hill Education (India) Private Limited.
- 3 (2019). Retrieved from <http://www.pondiuni.edu.in/storage/dde/downloads/h1040.pdf>
- 4 (2019). [Ebook]. Retrieved from <http://www.sxccal.edu/TwinningProgramme/downloads/MBA-BusinessEnvironment-Law-1stYear.pdf>
- 5 Vidya, Bhushan, & D. R. Sachdeva, *An Introduction to Sociology*, Kitab Mahal, Patna.
- 6 Newman David (2008): *Families: A Sociological Perspective*, McGraw-Hill Higher Education, Boston Mass.

UNIT – 5

TECHNOLOGICAL ENVIRONMENTS

UNIT OBJECTIVES

It is discuss the important aspects of technological environment in international business; analyses recent trends in technological environment; describe the impact of technological environment on international business; and highlight the recent trends in technological advancements adopted by Indian businesses

SECTION 5.1 TECHNOLOGICAL ENVIRONMENTS - AN INTRODUCTION

The technological environment portrays a country's potential in terms of the availability of raw materials and machinery which is required for the manufacturing of goods. No company can possibly control the global environment and hence adaption of technologies may seem to be quite essential for the businesses to ensure a competitive advantage. This unit will essentially focus on making one understand why technological environment is important for a business to flourish both nationally and internationally, what are the advancements in technology that can help a business expand and finally what are its impacts in the global market.

Technology is crucial for the entire global business world. Even though lowering of trade barriers have theoretically helped expand markets and production potential worldwide, the advent of technological innovations has added a practical reality to it. In today's world, almost every business operation and transaction involve a significant use of technology.

Let us look at some of the important aspects of technological environment in the international business.

1. **Business Necessity-** In the earlier days, everything in business was performed manually. Introduction of technology has helped revolutionize the business concepts and models, thereby bringing tremendous growth in trade and commerce. It has provided a faster, more convenient and more efficient way of performing business transactions. Some of the technological uses in an international business

environment include accounting systems, management information systems, logistics tracking systems, customer relationship services, point of sales systems, etc. These have enabled businesses to expand globally as well.

2. Communication with Customers- In today's world, technology has a great importance in building relationships with customers. In a global business environment, quick and clear interaction with the clients (globally) is a necessity as websites take hours to respond to customer queries. Alongside, technological innovations in the transportation services have enabled fast shipment disbursement in a shorter span of time across national borders. Language translation systems have enabled employees of a business/organization to interact with customers worldwide, understand their concerns and resolve their issues. This is how a global business environment benefits from a stronger communication system globally.

3. Efficient Business Operations- Technological advancements in a global business environment have helped them understand their cash flow needs, needs for free flow of shipment, needs for proper inventory management, need for proper tracking and monitoring of shipment and need for proper communication with clients in a much more efficient and faster processes, thereby saving time and physical space. Low-cost internet services and World Wide Web have also enabled businesses to grow internationally and cater to global needs easily.

4. Impact on Business Culture and Relations- With the advent of technology, stronger communications are being facilitated among employees of a business, customers, shipment coordinators and all those who are associated with a global business environment, directly or indirectly. This has helped to keep aside all social tensions, distrust and formation of cliques which might have a negative impact on the business to a large extent. Instead, it has helped develop a strong bond between the employees and customers of a business.

5. Business Security- Businesses are often subject to threats. In order to expand globally, businesses have started expanding online through internet services. This gets them exposed to cyber-crime threats. With the technological innovations in line,

especially in the form of Artificial Intelligence (AI) and Machine Learning (ML), businesses can now monitor and secure financial, transaction, client related data, various confidential reports and other proprietary information. With the help of cloud computing, employees can now access to all business and client related data along with communicating with their clients and other employees, while travelling or working remotely, even without direct active management of data.

6. Research Capacity- All businesses need to expand – both the line of production capacity and client base. Technology helps meet the business with newer opportunities by facilitating enough Research and Development (R&D). This enables a business realise newer dimensions to expand both domestically and internationally, along with facing competition in the world market. Internet has enabled businesses to access data on global markets without facing the costs of travelling or risks of creating separate production plant abroad.

5.1.1. Meaning and Definition of Technological environment

Technological environment refers to the state of science and technology in the country and related aspects such as rate of technological progress, institutional arrangements for development and application of new technology, etc.

According to the well known economist J.K. Galbraith, technology means, “systematic application of scientific or other organised knowledge to practical tasks”.

Technology comprises of both machines (hard technology) and scientific thinking (soft technology) used to solve problems and promote progress. It consists of not only knowledge and methods required to carry on and improve production and distribution of goods and services but also entrepreneurial expertise and professional know how. Technology includes inventions and innovations.

5.1.2 Trends In Technological Environment

A global business environment cannot function without a technological environment. The more the technology evolves, the greater the benefits obtained

by a business from it. Following are some of the important ways in which technology has helped a business environment globally:

Biotechnology

Biotechnology can be defined as an amalgamation of technology and science, more specifically, the creation of agricultural or medical products with the help of industrial usage and manipulation of living organisms. With the rise of digital innovations such as cellular phones, computers and wireless technologies, advancements have not only evolved in efficient communication and productivity, but has also extended its effect towards medical and agricultural use.

Following biotechnological advancements have been witnessed worldwide:

- i) The fusion of science and technology have bred a common bionic man immune to diseases through advanced technologies in prosthetics, cell regeneration through stem cell research and laboratory-engineered drugs which helps in preventing or curing of diseases like HIV or cancer.

- ii) Pharmaceutical advancements are widespread through the raw material reserves of China, arrival of biotech companies such as Genentech and New Merck (which is acquired by Swiss biotech company Serono) and India's emergence as a major supplier of effective and affordable drugs of the largest and most generic pharmaceutical company Ranbaxy.

- iii) Biotech companies have made attempts to discover genetic abnormalities, and therefore medical solutions through exploration of organisms at the molecular level or formulation of compounds from inorganic materials that reflect organic substances. Manipulation of DNA in the laboratories also extended beyond common human research.

- iv) The demand for corn-derived Ethanol as a fuel alternative saw a rise in US due to uncertain future oil supplies. However, usage of corn as a bio fuel not only increased the price of fuel but also created an imbalance between the corn that is used as a bio fuel and the corn consumed. Hence, many global companies are

working in collaboration, towards creation of genetically modified seeds like drought-tolerant corn and herbicide tolerant soybeans. These technological advancements have not only led to nutritionally advanced crops but also helped fight hunger worldwide.

- v) Biotechnological advancements have also benefitted the meat industry worldwide. The collaborative work of researchers in US and Japan, in eliminating the gene which might be responsible for certain ailments in animals, has engineered a solution to the outbreak of certain diseases arising from meat consumption. Furthermore, animal cloning has rose to high demand, where a copy of pre-existing animal DNA, can speed up the food production with the increase in production of meat or dairy- producing animals. US, South Korea, Japan, Australia, Italy, New Zealand and China are among the most active animal-cloning countries.
- vi) vi) Technological advancements have also been witnessed in laser surgeries in correcting eyesight, creation of vaccine to fight against emerging viruses or production of more nutrient-content food products.

E-Commerce

Availability of internet and the growing demand of the worldwide web has brought a drastic change in the marketing of goods and services. It has enabled firms ranging from small enterprises to large industrial houses realise the potential of online global marketing along with facilitating online buying and selling of goods and services globally. The low entry costs of internet have, by far, permitted the small and medium enterprises (SMEs) having low capital investments to emerge as significant global online marketers at a rapid pace. On the other hand, internet has also enabled the customers to get an explosive range of information about varied products and services online, alongside providing the potential to obtain products from the low-priced suppliers in the world. This has helped in increasing the standardization of prices across national borders, thereby narrowing the differences in prices, as consumers are now more aware of prices globally and purchase products online accordingly.

Telecommunications

An important dimension of the technological environment in the international businesses is telecommunications. From hardwiring a city/locality to provide its residents with a telephone service, to wireless telecommunication services through usage of cellular phones, pagers and other such services, technological leapfrogging is quick across the globe. Additionally, technology has also merged the cellular phone and the computer, due to which growing number of people is now getting access to web services, through their cellular phones. This growth is warmly acceptable as businesses, domestic or global, will not be able to prosper without an efficient telecommunication system. Telecom advancements in the form of 4G and 5G services have fostered closely knit global businesses.

Transportation

Technology, apart from bringing innovations in the telecommunications and computers, has also brought in some major developments in the transportation sector, ever since the period of World War II. The most important developments came in the form of introduction of commercial jet aircrafts, super freighters and containerization (system of intermodal freight transport using intermodal (or shipping/ISO) containers of standardized dimensions), which has simplified the transshipment from one mode of transport to another. While the containerization led to reduction in the cost of shipments to longer distances, commercial jet aircrafts helped in the reduction of the travel time for businessmen.

Globalization of Production Processes

A network of strong worldwide communications has become essential to facilitate globalization of production for any multinational firm. Texas Instruments (TI), an US based electronics firm, for example, have approximately 50 plants across 19 countries. A system on satellite-based communicational lows the firm to coordinate and monitor its production systems in all those 50 plants located globally, that include the planning of production processes, accounting and financial planning, marketing of products, facilitation of customer services and human resource management.

Globalization of Markets

The globalization of production and innovations in the transportation sector has facilitated the globalization of markets too. The advent of containerization has led to faster and reliable transshipment of goods within and across national boundaries, thereby leading to creation of global markets. Commercial jet aircrafts have facilitated low-cost movement of people around the world. Low-cost global communication networks, such as the World Wide Web have led to global exposure of goods and services from around the world, through online marketing. Global communications and global media together help in reducing cultural distances among countries and encouraging a convergence of tastes and preferences of consumers worldwide, thereby creating a world market for consumer goods. For instance, one can find a McDonald's restaurant in India, as it is in New York, buy a Sony Walkman in Delhi, as it is in Berlin or grab a Levi's jeans in Paris as it is in US.

Technology Transfer

It is a process that permits the flow of technology from a source to a receiver. Both the source and the recipient of such technological transfers can be an individual, company or a country. The source, in this case, is the owner or holder of the technological knowledge, while the receiver is the beneficiary of such knowledge. With the advancements in the technological environment, the transfer of such technological innovations is spreading rapidly across world markets, especially benefitting the less developed and the emerging economies. The source of such technological knowledge usually happens to be the advanced economies.

Block Chain

Block Chain is a system of recording information that completely prohibits to change, hack or cheat the system. It is essentially a digital ledger of transactions that is duplicated and distributed across the entire network of computer systems in the Block Chain. Block Chain and Block Chain-based distributed ledger technologies are creating a tremendous impact both in the global trade supply chain as well as in the global trade financially. It not only makes the shipment of goods more convenient, but also simplifies the long and tedious process of

obtaining a Letter of Credit (LoC), a payment mechanism that is used in global trade.

Several trade organizations such as the Dubai Chamber of Commerce and Industry have launched an initiative to implement Block Chain technology for addressing world trade issues like high costs and lack of transparency and security. Deloitte, have assisted an Indian private sector bank in redesigning its LoC issuance service, using a Block Chain based solution that reduced the issuance time from 20-30 days to hours. Companies such as Skuchain are by-passing the LoC altogether and is providing real-time tracking of goods and inventory financing that reduces the risks associated with transactions, and allows the trade financiers to provide working capital relief to all the supply chain partners at the lowest cost of capital in that supply chain.

Artificial Intelligence (AI) and Machine Learning (ML)

Artificial Intelligence (AI) refers to the simulation of human intelligence in machines or computer systems that are programmed to think and act like humans. This term is also applied to any machine that functions like a human – mind such as learning and problem – solving. Machine Learning (ML), on the other hand, is a part of Artificial Intelligence (AI). It is a study of computer algorithms that can be improved automatically through everyday experience and with the use of data.

Both AI and ML can be used to optimise trade shipping routes, manage vessel and truck traffic at ports and translate e-commerce search queries from one language to another and respond with the translated inventory. It also works more towards making global trade sustainable, rather than focusing only on efficiency gains and better customer services. An example of this is the launching of Global Fishing Watch by Google in 2016, a real-time tool based on Machine Learning which is used to curb the illegal means of fishing through provision of a global view of commercial fishing activities based on satellite data and ship movements. Governments and other organizations can also use this to track suspicious behaviours and work on developing sustainable policies accordingly.

Trading Services through Digital Platforms

Trading services have now become much more convenient online. With the help of several online digital platforms such as 'Upwork', users can now look for service providers worldwide for a vast range of services, and can be able to find anything from an accountant in US, to a web developer in Japan, or a virtual assistant in India. Certain start-ups have come up with an online learning digital platform, that enables pairing up educators with children across the globe to provide online education on a wide range of courses. An example of such an online digital learning platform is VIPKID which connects American educational instructors with Chinese children for teaching English online. Many online digital platforms have also come up to connect customers with various professional service providers in just few clicks.

3D-Printing Services

3D-Printing (also known as Additive manufacturing) is a process of creating a three dimensional solid object from a digital file. This is done using an additive process in which an object is created with successive layers of material until the object is created. 3D-Printing has the potential to make the production of goods, from food to medical supplies and to great coral reefs, accessible to everyone. In future, it may also lead its way into the businesses, disaster sites, outer space etc.

The significance of 3D- printing on a global business environment is still a debatable topic. Some studies predict that with the mass-adoption of high-speed 3D-printing and lower associated costs, global trade might see a decline by approx. 25 per cent, as 3D- printing involves lesser manpower and reduces the need for importing goods. Others argue on the account of complexities and reality associated with mass-manufacturing using 3D-printing. Regardless of being positive or negative, the impact of 3D-printing seems to have a real impact on global trade, with the efficient and low-priced availability of 3D-printing methods.

Mobile Payment Services

With the advent of M-Pesa, Mobikwik, Google Pay, Phone Pe and other UPI (Unified Payments Interface) methods, mobile payments seem to transform the

lives of people and help in linking more people to global market opportunities. As per the World Bank Global Inclusion Database, mobile money payments were a major drive for financial inclusion during 2011-14, especially in the emerging economies, as the number of people who gained access to bank accounts increased by 20 per cent during the same period. This has made people to participate in global trade in a much easier and faster method, either as consumers or businessmen.

Customer Relationship Management (CRM) Software Services

With the expansion of a business across national borders, one needs to essentially look into the customer services and therefore maintaining healthy customer relationships. However, global expansion of business can really make it difficult to keep a proper track on all client records. This is where the CRM software services come into play. The CRM software helps in creation of a database for all your customer contacts that can easily be accessed by any member of one's team, related to business. This software is very much essential while running businesses on a global scale. It helps to create a database for maintaining the product order histories, concerns raised by consumers, and personal as well as business related information of each individual consumer along with their contact details (phone calls, emails and chats). This information enables a company or a business to track their customer's location, along with the languages that they speak and the local customs that the company may require to be aware of, alongside any applicable trade rules or restrictions.

Cloud Computing Services

Cloud computing refers to an on-demand availability of all computer system resources, especially data storage and computing power, even without direct active management by the user. It is generally used to describe the data centres over the internet. This technology is especially beneficial for companies working on a global front and where employees need to travel quite frequently or work remotely. With the help of Cloud computing, an employee can get access to files and essential information regarding their organization from anywhere and can remain connected to its customers as well as office, on filing of reports, sharing of data or communicating uninterruptedly around the globe.

Logistics Tracking Technology

Logistics is an essential part of doing business, especially during buying and selling goods internationally. Execution, receipt and tracking of shipment require a lot of planning, consideration and careful handling as a wrong shipment can have an adverse impact on time, money and customers. In order to help the companies deal with this task efficiently, an innovative technology in the form of Logistics Management Systems have come up. This system helps in planning of trade routes, monitoring of any trade restrictions or problem areas, if any, and track movements of goods and services. It also helps in modifying disrupted trade routes to get the deliveries back on track. Electronic Shipment Tracking is nowadays evolving to help in meeting business needs. Cost effective Radio Frequency Identification (RFID) devices have evolved to be more affordable and attainable for companies, followed by Bluetooth Beacons which emerged as another alternative option for electronically tracking shipments. The emergence of RFID and Bluetooth Beacons has therefore, helped the businesses in taking advantage of Automatic Identification and Data Capture (AIDC) in their supply chains, making it more reliable to manage and track their shipments.

Translation and Language Learning Software and Services

Language barriers can appear to be a real challenge for a global company, especially when it comes to communicating effectively with its customers or business clients. Web-based translation companies have evolved themselves and are still in the process of upgrading their functions every day. Though they sophisticatedly translate and check the communications, it is still suggested to have a professional translator or a fluent speaker to check the communications and avoid inaccuracies, if any. In order to continue a business with its partner or customer in the long-run, learning of the foreign languages can help reducing expenses or translation costs and can help provide better customer services. In such a case, a plenty of online reputable programmes and software courses can help one learn and improve their foreign language skills.

5.1.3 Impact of Technological Environment on International Business

Every businessman or marketer around the globe is now well aware of how important technology is for the businesses and what are its effects on a business

environment? There are both negative and positive effects of technology for a business.

Initially, the businesses were dependent on a labour force. But with the rise in technology, businesses do not want to lag behind. They have already started implementing newer technologies to flourish worldwide. Here are some of the ways in which the technology affects the global business environment

1. Technology helps in diminishing business security risks by hiring best of security specialists for preventing sudden cyber-attacks and with the use of AI and ML, such threats are being minimized.
2. Technology ensures business growth by enabling almost all business actions to be automated, thereby reducing involvement of human labour. This has helped in increasing the sales, revenue and profit for the businesses and the usage of internet have enabled them to grow online and expand worldwide.
3. Online presence through social media channels is one of the business-oriented targets that the enterprises are trying to fulfil to grow along with the broadening of its client base. Technological tools that help businesses identify their preferred content, optimum time of posting their service contents, automated posting and location-specific targeting to expand their business, are actually helping to establish the business better in the online world. Tools like Google analytics are playing a major role in this.
4. Technology helps in increasing employee productivity for a business through various computer programming and software such as AI, ML, and cloud computing that helps businesses to process more information, sitting anywhere in the world, than manual methods, thereby reducing much of human involvement in such tasks. Organizations are also using fundamental business technologies for employee performance appraisal information in the online framework to supervise the performance of its employees and create measurable goals for their employees to achieve and thereby sustain the business objectives.

5. Business technologies are now allowing companies to outsource certain business functions to other businesses in the national and global business framework. Technical support and customer service are the two most common outsourced functions. Outsourcing therefore helps companies lower their business costs and focus on completing their business functions, which they are best at. With the help of several technological innovations, businesses can also outsource their functions to the least expensive areas possible, including those in foreign countries as well.

5.1.4 Trends in Technological Advancements

Several new technological creations have been developed for the Indian businesses to improve their business performances using more advanced technologies such as Robotic Process Automation (RPA), Artificial Intelligence (AI) and Analytics. The top five trends in technological innovation with respect to Indian firm business environment, during the period 2019-20 are as follows:

1. **Emergence of Hyper-automation** – An infusion of the RPA, AI and Analytics creates a new technology called Hyper-automation which enables optimisation and modernisation of processes. Hyper-automation uses a mix of rising technologies such as Machine Learning, RPA, Intelligent business management software and AI, to take the automation of organizational processes to a higher level. A mix of devices supports this process to function exactly as human workforce, post which the solution can even carry out the decision-making process independently. This process results in increasing rates of productivity, broader access to data and helping decision makers to carry out better decisions for their customer leveraging analytics.

2. **Increase in Artificial Intelligence (AI) Usage** – AI is now blending into the daily routine of human workforce with more reliable and advanced AI engines. High-speed optical fibre internet is now available at every home in India, enabling the data to develop devices that are more human friendly and easily handled. AI will also help in streamlining the non-value-added tasks to be performed, therefore freeing up humans to invest their time in more meaningful and other important business-related

activities. More and more, Indian companies have now started investing in data analytics, AI and ML to train and enrich their workforce with various analytical skills, thereby enabling them to take advantage of advanced technologies. Some of the uses of data analysis include algorithms for analysing fingerprint data systems fingerprint data, finding of errors and giving insights, and also suggesting new data that should be analysed along with.

3. Conversational AI and Natural Language Processing (NLP) – NLP has earned a great popularity through the use of voice search and voice assistants, thereby creating a paradigm shift in AI, in many Indian companies. The NLP helps in increasing visualised dashboards and reports within their Business Intelligence systems. A number of Q&A or chat mediums are being used to gain real-time answers and useful visualizations from data-specific queries. Computational linguistics is still a major area of ongoing research using NLP, considering its ability to improve efficiency and insights, according to which NLP will turn out to be beneficial in the process of optimizing data exploration and improving communications in the upcoming future.

4. Autonomous Things (AT) – One of the most revolutionary innovations in technology in the Indian business environment is the Autonomous Things (AT). AT allows multiple devices to work in collaboration using limited or no human dependency input. It has the ability to surpass process automation to integrate advanced AI for delivering communications and behaviours with more natural interactions with humans and the business environment.

5. Data Storage Technology Innovations – With the increased amount of data, the concept of Software Defined Storage (SDS) system has evolved, which combines the software and hardware from different manufacturers for operating together resulting in an enormous efficient data handling performance, making it more secure and easier to perform.

Alongside, another popular trend in technology has been witnessed through hyper scale data centre construction, which is prevalent in the data centre industry since

2019, allowing Indian business sectors to adopt Data Centre Infrastructure Management (DCIM) solutions, in order to cater the demands of modern business environment. The year 2020 saw an increase in the enterprises who have been designing and implementing smart data centres for operators to integrate proactive sustainability and efficiency measures.

5.1.5 Factors of Technological Environment

Innovations and Advancements

Technological innovations like new inventions and discoveries can revolutionize how a business operates. They bring opportunities for improved products, services, and processes. For example, the introduction of smartphones led to new ways of communication and changed how companies interact with customers.

Automation and Efficiency

Automation involves using machines and software to perform tasks previously done by humans. It boosts efficiency, reduces errors, and saves time. For instance, factories now use robots for assembly, leading to faster and more precise production.

Digital Transformation

Businesses are adopting digital tools and platforms to streamline operations and engage with customers. Digitalization enables online sales, data analysis, and personalized marketing. Companies that embrace this trend often have better customer experiences and reach a wider audience.

Data Management and Analytics

The ability to gather, analyze, and utilize data is crucial. It helps in making informed decisions, predicting trends, and understanding customer preferences. For instance, e-commerce platforms track user behavior to recommend products, enhancing sales.

E-commerce and Online Presence

The rise of e-commerce has transformed the way businesses sell products. Having an online presence through websites and social media is essential for reaching a global audience. This impacts sales, brand visibility, and customer engagement.

Cybersecurity and Privacy

As technology advances, so do cyber threats. Protecting sensitive data and ensuring customer privacy is paramount. Companies invest in cybersecurity measures to prevent breaches that could damage their reputation and result in financial losses

5.1.6 Importance of Technological Environment

While the growth of modern industries across the globe, multiplicity of goods and services, their diversity and availability on a large scale are basically attributable to technological changes over the last two centuries, advancement of technology has also played a major role in facilitating structural changes in industry and creating new industries. Technological changes are now regarded as the principal drivers of competition. Technological innovation is the key weapon in achieving a sustainable competitive advantage. To compete successfully, it is necessary to use the most appropriate technology, which may incorporate more features to the product and lead to higher performance, better quality and or lower costs.

Indeed, technology can bring about a transformation of the nature and basis of rivalry among existing competitors in several ways. It may affect competitive advantage if it has a significant role in determining relative cost position or product differentiation. It can change the bargaining power of suppliers and buyers. In many cases, technology can also be an entry barrier. All the competitive forces may thus be affected by technology. However, technological change is not supposed to be important for its own sake. Its importance lies in the competitive advantage it secures and the change in industry structure. Technology Environment

According to Michael Porter, technological change is also a great equalizer, eroding the competitive advantage of even well-entrenched firms and propelling others to the forefront.

Let us examine certain other implications of technological environment impacting business strategy and planning. For all practical purposes, technological environment may have very vital effect on the functional management of business. To cite one example, advances in the technologies of food processing, packaging, preservation and transportation have facilitated product improvements and introduction of new products as well as improved considerably marketability of products. Developments in air cargo transportation have fostered globalisation by enabling quick and safe transportation of perishables and goods subject to quick and changes in fashion/tastes.

Technological advances have also been a very important facilitating factor in the process of globalisation. Global sourcing and Business Process Outsourcing (BPO) have been encouraged not only by liberal government policies but also by technological developments in telecommunication and IT which have provided a strong impetus to globalisation by reducing the natural barriers of distance, time and costs. Advance information technology and IT enabling services Internet, World Wide Web, Cyberspace and information Superhighways are fast changing the way of contacting customers, order receiving and processing, networking and integrating business systems. These developments have also contributed greatly to the retail revolution. Large retail chains are fast replacing small town retailers. The shift is towards systems driven stores in place of retail stores operated by owners. Retailing is about to become a global business.

Let's Sum Up

The technological environment encompasses the dynamic interaction between society and technology, shaping how individuals and organizations operate. Rapid advancements in fields like artificial intelligence, biotechnology, and information technology have revolutionized industries worldwide. These innovations have facilitated unprecedented levels of connectivity, efficiency, and innovation across sectors, from healthcare to manufacturing. However, they also present challenges such as cybersecurity threats and ethical considerations surrounding privacy and data usage. The pace of technological change continues to accelerate, influencing global economies and societal norms while creating both opportunities and

complexities for businesses and individuals alike. Adapting to and harnessing these technologies responsibly is crucial for navigating and shaping the future technological landscape.

Check Your Progress - QUIZ – 1

1. What is the technological environment?

- A) The natural surroundings that affect a business.
- B) The human resources available to a business.
- C) The external factors in technology that impact a business.
- D) The legal regulations that govern a business.

2. Which of the following is NOT a component of the technological environment?

- A) Technological advancements
- B) Research and development activities
- C) Legal regulations
- D) Innovation rates

3. Why is it important for businesses to monitor the technological environment?

- A) To comply with government regulations
- B) To adapt to market trends and remain competitive
- C) To increase employee satisfaction
- D) To reduce production costs

4. Which of the following best describes disruptive technology?

- A) Technology that enhances existing processes
- B) Technology that slightly improves a product
- C) Technology that significantly alters or replaces existing systems
- D) Technology that has no impact on the market

5. Which factor is crucial for a company to successfully integrate new technology?

- A) High employee turnover
- B) Resistance to change
- C) Strong leadership and vision
- D) Ignoring competitor actions

SECTION 5.2 INDUSTRY 4.0 – MEANING AND DEFINITION

Industry 4.0 can be defined as the integration of intelligent digital technologies into manufacturing and industrial processes. It encompasses a set of technologies that include industrial IoT networks, AI, Big Data, robotics, and automation. Industry 4.0 allows for smart manufacturing and the creation of intelligent factories. It aims to enhance productivity, efficiency, and flexibility while enabling more intelligent decision-making and customisation in manufacturing and supply chain operations.

And any definition of Industry 4.0 would also have to include its origin from the term *Fourth Industrial Revolution*. Since the 1800s, we have experienced three industrial revolutions. They were called “revolutions” because the innovation that drove them didn’t just slightly improve productivity and efficiency – it completely revolutionised how goods were produced and how work was done. We are now in the Fourth Industrial Revolution, aka Industry 4.0.

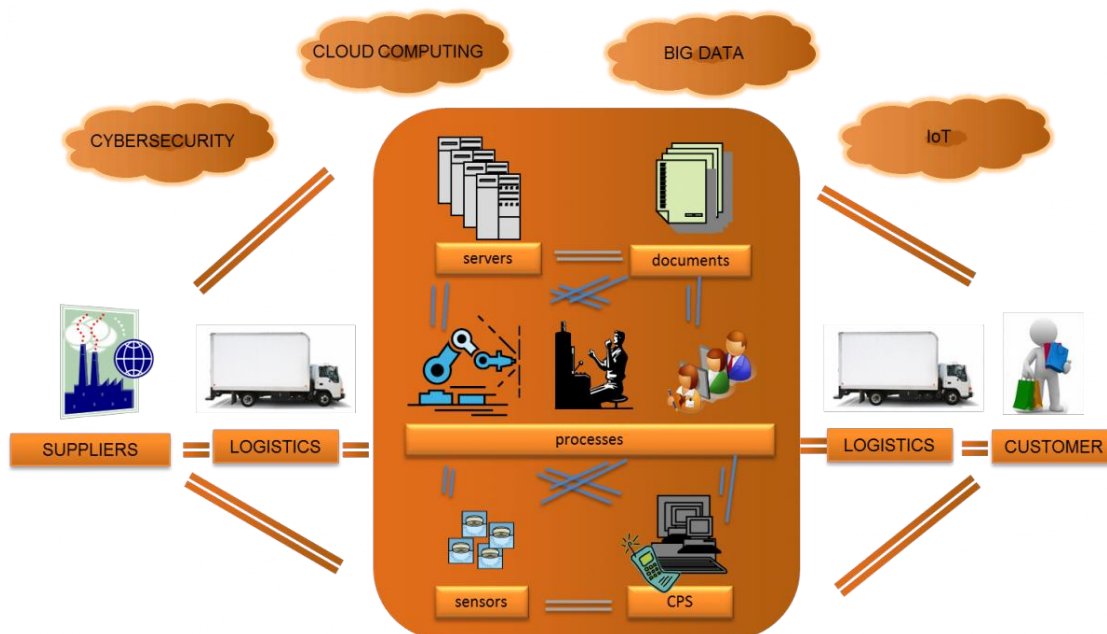
5.2.1 Features of Industry 4.0

“Industry 4.0” is about the fourth industrial revolution introducing the smart factory, where cyber-physical systems (CPS) monitor the manufacturing processes and make decentralized decisions. The term originates from a project in the high-tech strategy of the German government, which promotes the computerization of manufacturing.

The first industrial revolution was based on steam and the first machines that mechanized some of the work. The second one was based on the electricity, the assembly line and the birth of mass production. In the third revolution the main

players were the computers and robots that started to automatize the assembly lines and replace human workers.

This fourth revolution is a new organization and control level that includes all the value chain of a product from the raw materials, to manufacturing, delivery, support, maintenance and final recycling. It is based on the capture and intelligent management in real time of all the data available along the life cycle of products and manufacturing systems. The aim is to achieve a strong customization of product sender the conditions of highly flexibilization mass-production



The key features for a factory or system to be considered Industry 4.0 are:

- Interoperability: where machines, devices, sensors and people are connected and communicated with each another.
- Information transparency: the information systems create a virtual copy of the physical world through sensor data in order to contextualize information.
- Technical assistance: both the ability of the systems to support humans (by aggregating and visualizing information comprehensibly) in making decisions and solving urgent problems on short notice and the ability of cyber physical systems to assist humans with tasks that are too difficult or unsafe for humans.

- Decentralized decision: the ability of cyber-physical systems to make simple decisions on their own and perform their tasks as autonomously as possible.

As with any major change, there are challenges inherent in adopting an Industry 4.0 model such as data security issues, reliability and stability of automatized systems, integrity of the production processes or the lack of experience and manpower to create and implement these systems.

But the benefits of an Industry 4.0 model could outweigh the concerns for many production facilities. The health and safety of human workers could be improved. Industrial processes could be more readily controlled when there is real-time data at every level of the manufacturing process. Computer control, optimization and automation could enhance productivity and produce better quality and personalized products.

The COCOP project is in line with this Industry 4.0 model, focusing on the manufacturing process. Its objective is to enable plant-wide monitoring and control by using the model-based, predictive, coordinating optimization concept in integration with plant's automation systems. The technical objective is to define, design and implement a concept that integrates existing industrial control systems with efficient data management and optimization methods and provides means to monitor and control large industrial production processes. The plant-wide monitoring and control comprehend computationally intensive data analysis and large scale optimization.

5.2.2 Benefits of Industry 4.0

Industrial revolution 4.0 spans an entire lifecycle of a product as well as its supply chain. It involves designs, inventory, sales, quality, scheduling, engineering, field service, and customer service. Everyone wants up-to-date, informed, and relevant views of their business processes and production.

Noted below is a non-exhaustive list stating the key benefits of Industry 4.0 in the modern business model:

- Industry revolution 4.0 could make your business more competitive, typically against disruptors such as Amazon. Companies such as Amazon optimize supply chain and logistics continuously. Hence, you must [invest in a technology](#) or solution that helps you optimize and improve operations. Your business must have the processes and systems to ensure you can provide better services to customers and remain competitive.
- Industry 4.0 technologies also make you attractive and presentable to the youth workforce. Companies investing in modern and innovative Industry revolution 4.0 are better positioned to allure and retain workers. With this, you can have a stronger team with better collaboration.
- Companies investing in these solutions can increase efficiency, enable prescriptive and predictive analysis, and let people like operators, executives, and managers leverage the real-time data and intelligent insights for decision-making while managing their daily responsibilities.
- It empowers businesses to address potential threats and issues before they turn into more significant problems. Real-time data, predictive analytics, automation, and internet-enabled machinery can make your business more proactive in addressing or resolving potential issues with supply chain and maintenance.
- Lastly, you can cut costs, boost profit, and increase growth with Industry 4.0 technologies. It helps you optimize and manage various aspects of the manufacturing process, supply chain, etc. and boost the bottom line and efficiency of the entire operation.

5.2.3 Industry 4.0 Challenges

Anything that comes with a lot of benefits also has a few challenges. Industry 4.0 challenges include incorporating new technology or process into the organization. Besides, there are some other real-time challenges, such as:

Data Security: The first and foremost challenge is to ensure data security. There is a constant threat of cybercrime for many businesses regarding customer data.

Switching to the cloud means moving out of their comfort zone – which makes them vulnerable. Data security is the primary concern of cloud-based technologies and Industrial 4.0 technologies.

Trained Human Resources: To adopt new technology, the frontline executives need training. Investing in new technology like Industry 4.0 doesn't indicate that you should rely on IT management to maintain systems. Instead, you can benefit from the frequent workforce training and constant guidance that the service provider conducts.

Team Support: Having team support is highly crucial when moving to new technology. The new model may be challenging to accept and adopt. You must set clear expectations, state the purpose and the benefits of this investment, and be transparent with the team throughout the implementation.

Leveraging Data: Another Industry 4.0 challenge is to leverage information and data and make informed decisions. You need training, knowledge, and documentation to understand the pattern to use data and improve, change, or grow a business.

5.2.4 Components of industry 4.0

Industry 4.0 is a complicated technical pattern characterized primarily by connection, integration, and industrial digitalization, highlighting the possibilities for integrating all components in a value-adding system. Digital manufacturing technology, network communication technology, computer technology, and automation technology are all included in this approach. Industry 4.0 technology breakthroughs are blurring the lines between the digital and physical worlds by merging human and machine agents, materials, products, production systems, and processes. Industry 4.0 enables rapid technological advancements in a variety of areas; however, the emerging fourth industrial revolution is being shaped largely by the technical integration of Cyber-Physical Systems into manufacturing processes, as well as the use of the Internet of Things and Services in industrial processes . As a result, this section gives a brief overview of each significant technology driver for Industry 4.0. It also is providing information on the basic components of Industry 4.0 or key technologies enablers for Industry 4.0, which consists of 10 components.

1. Cyber-physical system (CPS)

Cyber-Physical Systems (CPS) is the combination of computational and physical accesses, which are essential components of Industry 4.0 implementations. They integrate imaging and control capabilities into the relevant systems. The ability of these systems to respond to any input generated is a key feature. They provide rapid control and verification of process feedback in order to generate predicted outputs. Bergera et al. (2016) defined cyber-physical sensor systems as part of cyberspace, special types of embedded systems, based on powerful software systems, enable integration in digital networks, and generate whole new system features. Generally speaking, the evolution of a CPS is characterized by three phases. Identification technologies are included in first-generation CPS. Second-generation CPS is equipped with some sensors and actuators with a limited number of functions. In the third-generation CPS, data is kept and analyzed in addition to setting up the equipment. The CPS has many sensors and actuators and is meant to be network compatible. CPSs offer various features.

The CPS has several sensors and actuators and is meant to operate with a network. CPSs have features including quicker information access, preventative maintenance, pre-defined decision-making, and optimization processes. Also, CPS can boost consumers awareness and consciousness. Conversely, the CPS has certain security issues, which means that further usage will definitely result in increased dangers. It was pointed out that CPS equipment might cause disruptive societal changes since intelligent assistive or autonomous environments can cause mental illnesses, which can lead to bias toward new technology adoption and usage. Cyber-Physical Systems have consisted of two key components: i) A virtual environment built through computer simulation of items and actions in the actual world, and ii) a network of objects and systems interacting with each other over the internet with a designated address.

2. Cloud systems (CS)

The term “cloud” is utilized for applications, for instance, remote services, color management, and performance benchmarking applications. It has taken remarkable attention from the IT community, and its role in other business areas will continue to

grow. Machines, data management, and functionality will continue to transition away from traditional ways and toward cloud-based solutions as technology improves. The cloud enables significantly faster distribution than standalone systems, as well as quick upgrades, current performance models, and other delivery possibilities.

The industry has found a significant shift toward cloud solutions, which will continue to develop and represent a substantial challenge to traditional data storage methods. Cloud technology is the most basic online storage service that gives operational comfort with web-based apps that do not require any installation. Cloud computing refers to the process of storing all applications, programs, and data on a virtual server. It improves efficiency by guaranteeing those input suppliers, employees, and consumers have access to the same information at the same time. Cloud Systems lower costs, simplify infrastructure, expand work areas, safeguards data, and allow for instant access to information.

There are four types of the system, mainly:

i) Public Cloud; ii) Private Cloud; iii) Hybrid Cloud (combination of public and private cloud); 4) Community Cloud (this refers to the co-operation of any service on the cloud with a few companies)

Cloud systems are an excellent source of Big Data (which might be organized or unstructured) management solutions. Because traditional computers may not be capable of managing large amounts of data, using a cloud system to do the necessary analysis, would be much easier and more efficient. As a result, data analysis and cloud systems should be inescapable components of Industry 4.0. The integration of cloud-connected robots into everyday life, as well as their impact, is considerable.

3. Machine to machine (M2M) communication

Machine to machine (M2M), refers to the technology that allows direct communication between devices using any channel, wired or wireless. Machine-to-machine communication can include industrial instrumentation and personal communications. M2M is also considered to be an essential component of Industry

4.0. Machine to machine (M2M) is a technology that allows devices to communicate directly with one another over any channel, wired or wireless. Machine-to-Machine Communication can include industrial instrumentation and personal networks. M2M is also considered to be an essential component of Industry 4.0. The apps are geared toward adding value to the enterprises by introducing alternative revenue streams and reducing operational costs .

Ackermann (2013) clearly states that M2M operations have to enable aspects with different networked organizations including i) Remote Service and Asset Information Management delivering, which provide information federation and lifecycle support. ii) Connected Vehicles, which creates relationships and interactions. iii) Smart Vending, which includes retail, supply chain, and associated sub-elements. The M2M vision has raised a number of issues, including establishing smart settings, smart architecture, and a smart grid with wireless sensors, as well as developing a communication language between machines and humans, as well as between humans in different locations.

4. Internet of things and internet of services

The Internet of Things (IoT) is an emerging concept that combines various technologies and techniques, based on the interaction between physical things and the Internet. The advancement of technology in recent decades has enabled the Internet to be expanded into a new level known as “smart objects,” which is the foundation of an IoT vision, for this, the novel pattern consists in awarding ordinary things with intelligence, permitting them not only to accumulate information and cooperate with their surroundings, but also to be interrelated with other items, communicating information, and conducted a preliminary via the Internet. The growing interest in this field, which is widely regarded as one of the primary drivers of Industry 4.0, has produced the development of a number of visions and definitions for (IoT).

The Internet of Things (IoT) refers to the interconnection of physical devices, cars, buildings, and other entities that are equipped with electronics, software, sensors, actuators, and network connections to gather and share data to create a smart

manufacturing environment, also known as a smart factory. Additionally, the concept of “The Internet of Services (IoS)” takes a similar approach to IoT but applies it to services rather than physical assets. The Internet of Services (IoS) idea will open up new prospects for the service sector by providing a commercial and technological foundation for the construction of business networks between service providers and clients.

The expansion of IoT in industrial contexts and value chains will give several opportunities for users, manufacturers, and businesses, having a significant influence in a variety of industries. The Internet of Things is breaking new ground, with a slew of new applications emerging around three key pillars: i) process optimization; ii) resource optimization, and iii) the building of sophisticated autonomous systems. IoT technology will continue to evolve and spread, allowing objects to become smarter, more dependable, and autonomous, allowing for the supply of higher-value products and services. On the other hand, the effectiveness of Industry 4.0 depends upon existing network infrastructure, the intelligence, and human knowledge embedded into the system.

5. Smart factories or smart manufacturing

Smart factories or Smart manufacturing is a type of manufacturing that aims to improve concept creation, production, and product interactions by moving away from traditional methods toward automated and digitized systems. It aims to take advantage of advanced information and manufacturing technologies in order to operate and produce fully flexible production at the highest speed required.

“Dark factories,” “lights off factories,” and “unmanned factories” are all terms used to describe smart factories, this system is integrated with the small intervention of human beings. The individual is entering into these systems mainly in the problem-solving stages. The concept known as Lights out (dark) or unmanned factories nowadays is an automation and autonomy enhanced methodologies including equipment used in factories that actively operate the production. The most famous characteristic of dark factories is that they do need no human power. In unmanned factories, there is not enough time to enter the plant from the raw material to the exit

from the factory. That is to say that in these factories, production is carried out entirely with robotic system.. It is self-evident that smart factories will have the characteristics and procedures required by the Fourth Industrial Revolution. And these processes, which are of great importance to our future of production. Furthermore, the essential activity for generating a smart factory running under Industry 4.0 is integrating different other components together, such as big data, CPS, cloud, IoT, M2M, etc.

There are many challenges that determine the formation of smart factories, such as the availability of energy and its supply, the efficiency of the labor, and the availability of the technological infrastructure necessary to shift toward smart factories. On the other hand, these factories will have a negative impact on existing employment and increase unemployment rates.

6. Big data and data mining

Big data is being generated continuously by everything in environments. Every digital process and social media exchange produce data. Systems, sensors, and mobile devices transmit those. Big data is arriving from multiple sources at an alarming velocity, volume, and variety. To extract meaningful value from big data, there is a need for optimal processing power, analytics capabilities, in addition to information management skills. An abundance of heterogeneous data abounds in the world around us. Without properly applying data mining technology, it appears impossible to make this atmosphere keenly intelligent. With today's automation, data mining can be supervised, unsupervised, or reinforcement learning. When executed in numerous layers in a hierarchical way, computer-assisted learning becomes more exact. Machine Learning is the process of automatically extracting features through supervised or unsupervised learning in a hierarchical fashion (ML).

7 Intelligent robotics

Every day, new goods and systems emerge as a result of technological advancements. Flying automobiles, holographic television, and hundreds of electrical devices to be implanted into the human body are all possibilities . Humanoid robots will be a part of everyday life in the not-too-distant future. Recent innovations have

brought about skills that empower robots to control their environment. Artificial intelligence will contribute to the development of having robot teams cooperating and collaborating in achieving certain tasks defined for a specific purpose.

Implementing a collaborative robot in a factory will provide several benefits for the company, including i) preventing humans from performing repetitive, non-ergonomic, and dangerous work; ii) producing high-quality products with favorable cost–benefit ratios while also increasing productivity; and iii) increasing competitiveness in comparison to countries with cheap labor. When a robot is used in a productive process, the benefits of the robot utilization are combined with the effort of an operator. There is no teamwork between the man and the robot on the first level. The workplace is totally shared between the man and the robot at the final level.

8. Augmented reality and simulation

Simulation, the data obtained and processed from big data and cloud systems can be used as a feed to a virtual model to evaluate all possible scenarios related to the product design, development, and production. Simulation is used broadly in business models to leverage the available real-time data and simulate the actual working world in a virtual ecosystem. Process testing and optimization through simulation permit people to decrease business changeover, risk, setup time, and enhance quality control for future processes and services, even before the implementation of adjustments in the actual physical world.

Simulation and augmented reality (AR) is a type of enhanced reality in which live direct or indirect views of physical real-world environments are augmented with computer-generated visuals projected on top of them. Industry 4.0 applications rely heavily on this technology. This innovative technology, which is critical to the industrial revolution, was created by combining real operations and simulation industries. These strategies have a lot of advantages, especially when it comes to creating products and manufacturing processes. One of the cutting-edge technologies included in the Industry 4.0 trend is augmented reality, which is particularly useful in producing smart manufacturing functions.

9. Enterprise resource planning (ERP) and business intelligence

Enterprise resource planning (ERP) refers to information systems that are designed to integrate and efficiently employ all of an organization's resources. An ERP software is a system that supports an organization in bringing together processes and data that are executed all over the processes (suppliers, production, stock, sales). ERP systems are able to provide an integrated approach to information use, to start forecasting and extracting information, which can use in various departments. There is a connection between big data and Industry 4.0, Manufacturing Executive Systems (MES), cloud systems, and ERP are integrated. It is critical that all procedures in the design stage as well as the customer journey are compatible with the Industry 4.0 approach. The ERP process is also a vital component in this framework.

The idea of Industry 4.0 necessitates connection and collaboration criteria. End-user feedback is critical, as is providing immediate additional value to all interested parties. In order for personalization to be possible, network systems must be intelligent. A telecom operator may be able to analyze network performance during fluctuations and use preventive scenarios to reduce client dissatisfaction. A well-structured ERP system can enable these characteristic features. ERP systems can help with Industry 4.0 implementations, especially as a result of the following advantages: i) Real-time data may be evaluated and allow for early detection; ii) ERP systems can provide sales and purchasing transparency; iii) ERP data may be used by mobile applications to communicate; iv) Optimum resource utilization may be achieved under varying job descriptions; v) Clients may be able to track their orders online and receive the necessary information quickly.

10. Smart virtual product development system (SVPD)

The Smart Virtual Product Development (SVPD) system is a product development decision support technology that saves, uses, and shares the experiential knowledge of previous decisional events in the form of SOEs. It was created to address the requirement for digital knowledge captured in smart manufacturing product design, production planning, and inspection planning. As a result, product quality and development time will be improved, as required by Industry 4.0 concepts

5.2.5 Industry 4.0 characteristics

The core progress from traditional manufacturing toward Industry 4.0 concluded into four key features and characteristics : (1) vertical networking of smart manufacture schemes; (2) horizontal integration through a new generation of global value chain networks; (3) through-life engineering across the entire value chain; and (4) the impact of exponential technologies.

1. Vertical networking of smart production

Industry 4.0's first main characteristic is the vertical networking of smart manufacturing systems. Vertical integration in Industry 4.0 establishes a connection between the many levels of the industry, from the manufacturing floor up, via production monitoring, control, and supervision, quality management, operations, product management, processing, and so on. This interconnectedness across all corporate levels provides for a fluid, transparent data flow, allowing for data-driven strategic and tactical choices. Hence, the main objective behind vertical networking is to utilize Cyber-Physical Production Systems (CPPSs), to enable industries to quickly respond to unexpected order changes resulting from demand fluctuations, equipment failure or stock shortage. Vertical networking improves an organization's capacity to adequately adapt to changes in market requirements and benefit from new possibilities.

Furthermore, it makes it easier to link resources to goods and find supplies and parts at any time. Similarly, processing data, anomalies, and defects from various processing stages of the manufacturing line are automatically captured and registered, allowing for quick responses to order changes, quality variations, and even machinery breakdowns. As a consequence, waste is decreased, and resource efficiency, notably in terms of material usage, energy consumption, and human resources is improved

.2. Horizontal integration through a new generation of global value chain networks

In the Industry 4.0 concept, horizontal integration refers to the network of diverse processes, companies, and services that make up a product's global value chain. This can be viewed at the production level as a total consolidation of all associated manufacturing processes. Vertical integration, on the other hand, refers to a high level of coordination between production and top management layers such as quality management, product management, and production control.

The horizontal integration in an Industry 4.0 enterprise occurs at different levels: production floor, multiple production facilities, and entire value chain. Each connected machine or production unit becomes a node with well-defined properties within the production network. These nodes continuously communicate their status to respond autonomously to dynamic production requirements cost-effectively and reduce system downtime through predictive maintenance . If an enterprise owns several production sites, the horizontal integration enables to share inventory levels and unexpected delays, and possibly redistribute work among owned facilities to respond to market demand fluctuations rapidly or increase the efficiency and speed of the production process. However, the most critical and global horizontal integration remains the integration across the entire value chain.

Industry 4.0 offers a highly automated and transparent collaboration across the complete value chain, using CPPSs, from the inbound assembly, packaging, storing, production, quality control, marketing, and sales, to outbound distribution, logistics, and retail services. The horizontal integration across all these activities creates a transparent value chain that is updated in real-time. Hence, this feature provides a high level of flexibility to respond more rapidly to changing market demands, shortcomings, and problems, facilitates the optimization of the production process, increases its efficiency, and reduces the generated waste. Additionally, the fact that any part or product's history is logged and can be accessed at any time ensures constant traceability, also known as "product memory".

3. Through-life engineering across the entire value chain

Among the characteristics of the Fourth Industrial Revolution is also the impact of the ten components of the 4th Industrial Revolution "ten types of innovation," Efficient

management of innovation, and finally, Efficient life cycle management. These are shown below.

The “ten types of innovation” (Components of Industry 4.0). Industry 4.0 will enable integrated and cross-disciplinary engineering throughout the value chain, as well as throughout product and customer life cycles. Industry 4.0 applications are intended to ensure the traditional domain of product innovation. Innovation is not limited, innovation has traditionally been related mainly to product offerings, but it also has significant potential in areas such as company structures, processes, networks, and profit models, as well as customer-facing functions.

Efficient management of innovation. The digital transformation to industry 4.0 will make it possible to improve further the efficiency of innovation management in all the Components of Industry 4.0. Interactive and designed curricula make individualized learning achievable, thereby, speeding up strategic implementation and organizational development. Industry 4.0 solutions in project portfolio management make it easier to track not only the return on investment (ROI) in innovation, but also to identify risks by utilizing global comparative project data for monitoring and remediation. Information technology can be utilized to speed up R&D in the field of product development.

Efficient life cycle management. The digital transformation industry 4.0 will allow essential data for life cycle management to be provided at any time and from any location. These data will include not just information and reports, but also the outcomes of big data processing, which will be used to develop appropriate early indicators using artificial intelligence (AI). AI will employ global cross-checking to determine the plausibility of developing suitable bases for data-driven decision-making. It will allow businesses to better understand and address the needs of their customers, as well as customize product cycles.

4. The impact of exponential technologies

Exponential technologies solutions. Corporate venture capital firms have a strong chance of profiting from disruptive innovation and exponential technology by

investing in new trends early on. Corporate venture capital Investing in start-ups allows businesses to participate in the development of new products and services while also ensuring their long-term competitiveness. This type of investment allows for early and convenient access to new technologies. Companies must be given more leeway to “see around the next corner.” Only then can a new business region be formed, which will eventually become the company’s new heart. Companies’ survival may be jeopardized if such possibilities are neglected.

The learning organization. If companies are to fully use the promise of exponential technologies in making the digital transformation to industry 4.0, they must change into learning organizations. Exponential technology adoption and integration must be slow but continuous. Learning is essential for long-term organizational development. It is time to make a change that is not so counterproductive. New ideas, processes, and business sectors are most successful when they begin as a learning niche and eventually migrate to the center of the organization, establishing themselves as a new leading segment.

5.2.6 Basic applications of Industry 4.0

Industry 4.0, also known as the Fourth Industrial Revolution, is characterized by the integration of digital technologies into manufacturing and industrial processes. Some basic applications of Industry 4.0 include:

- 1. Internet of Things (IoT):** Connecting machines, devices, and sensors to gather data and enable real-time monitoring and control of industrial processes.
- 2. Big Data Analytics:** Analyzing large volumes of data generated by sensors and machines to identify patterns, optimize processes, and make data-driven decisions.
- 3. Artificial Intelligence (AI):** Implementing AI algorithms for predictive maintenance, quality control, and process optimization, leading to increased efficiency and reduced downtime.

4. Robotics and Automation: Using robots and automated systems for tasks such as assembly, packaging, and material handling to improve speed, accuracy, and consistency.

5. Additive Manufacturing (3D Printing): Utilizing 3D printing technology for rapid prototyping, customized production, and on-demand manufacturing.

6. Augmented Reality (AR) and Virtual Reality (VR): Integrating AR and VR technologies for training, maintenance, and remote assistance, improving worker productivity and reducing errors.

7. Cybersecurity: Implementing robust cybersecurity measures to protect connected systems and data from cyber threats and attacks.

8. Cloud Computing: Leveraging cloud-based platforms and services for data storage, processing, and collaboration, enabling access to resources and information from anywhere.

9. Digital Twin: Creating virtual replicas of physical assets, processes, or systems to simulate, monitor, and optimize performance in real time.

10. Supply Chain Optimization: Using advanced analytics and digital technologies to improve supply chain visibility, agility, and responsiveness, reducing lead times and costs.

These applications of Industry 4.0 are transforming traditional manufacturing and industrial practices, leading to increased productivity, agility, and competitiveness in the global market.

5.2.7 Uses of Industry 4.0

Industry 4.0, also known as the Fourth Industrial Revolution, integrates advanced technologies such as the Internet of Things (IoT), artificial intelligence (AI), machine

learning, robotics, and big data analytics to create smart, efficient, and autonomous production environments. The key uses of Industry 4.0 span across various sectors and functions:

1. Smart Manufacturing

- Automation and Robotics: Advanced robots and automated systems perform complex tasks with high precision and efficiency.
- Predictive Maintenance: IoT sensors monitor equipment health in real-time, predicting and preventing failures before they occur.
- Digital Twins: Virtual replicas of physical assets allow for simulation and optimization of manufacturing processes.

2. Supply Chain and Logistics

- Real-time Tracking: IoT devices provide real-time data on the location and status of goods in transit.
- Supply Chain Optimization: AI and machine learning analyze data to optimize inventory levels, reduce waste, and improve delivery times.
- Warehouse Automation: Automated storage and retrieval systems enhance efficiency and accuracy in warehouse operations.

3. Product Design and Development

- Rapid Prototyping: 3D printing and additive manufacturing enable fast and cost-effective creation of prototypes.
- Collaborative Design: Cloud-based platforms allow for collaborative design and development processes across different locations.
- Customization: Advanced manufacturing techniques enable mass customization of products to meet specific customer needs.

4. Quality Control and Assurance

- Automated Inspection: Machine vision and AI systems perform high-speed, accurate quality inspections.
- Data Analytics: Big data analytics identify trends and root causes of defects, leading to continuous improvement.
- Traceability: Blockchain technology ensures traceability of products through the entire production and supply chain.

5. Energy Management

- Smart Grids: Integration of renewable energy sources and smart grid technology optimizes energy distribution and consumption.
- Energy Efficiency: IoT sensors and analytics identify opportunities for reducing energy consumption and improving efficiency.
- Sustainability: Monitoring and reducing the environmental impact of manufacturing processes through better resource management.

6. Workforce and Collaboration

- Augmented Reality (AR): AR assists workers with complex assembly tasks, maintenance, and training.
- Remote Monitoring: Supervisors and experts can monitor and assist with production processes remotely.
- Skill Development: Advanced training programs using virtual reality (VR) and simulation technologies enhance worker skills.

7. Customer Experience

- Enhanced Product Features: IoT-enabled products provide better user experiences through connectivity and smart features.
- Feedback Loops: Real-time data from products in use helps companies improve future designs and services.
- After-Sales Services: Predictive maintenance and IoT capabilities offer proactive and personalized after-sales services.

8. Data Management and Security

- Big Data Analytics: Collection and analysis of vast amounts of data for informed decision-making.
- Cybersecurity: Advanced security measures protect data and systems from cyber threats.
- Data Integration: Seamless integration of data from various sources for comprehensive analysis and insights.

9. Healthcare

- Smart Medical Devices: IoT-enabled medical devices provide real-time patient monitoring and data collection.
- Telemedicine: Remote consultation and diagnostics using advanced communication technologies.

- Personalized Medicine: AI and big data analytics enable personalized treatment plans based on individual patient data.

10. Construction and Real Estate

- Smart Buildings: IoT sensors and automation systems improve energy efficiency, security, and comfort in buildings.
- BIM (Building Information Modeling): Digital representation of physical and functional characteristics of buildings for better planning and management.
- Construction Automation: Use of robotics and advanced machinery for safer and more efficient construction processes.

Let's Sum Up

Industry 4.0, often referred to as the fourth industrial revolution, represents the integration of digital technologies into manufacturing and industrial processes to create smart, interconnected systems. It builds upon automation and data exchange in manufacturing technologies, using cyber-physical systems, the Internet of Things (IoT), cloud computing, and artificial intelligence (AI). This transformation enables machines, devices, and humans to communicate and collaborate effectively through the Industrial Internet of Things (IIoT), leading to increased automation, efficiency, and productivity. Industry 4.0 facilitates the creation of smart factories where production systems are self-monitoring, self-optimizing, and capable of making decisions autonomously. This paradigm shift not only revolutionizes traditional manufacturing processes but also drives innovation across sectors, promising to redefine business models and enhance competitiveness in the global economy.

Check Your Progress - QUIZ – 1

1. What is Industry 4.0?

- A) The first industrial revolution
- B) The fourth industrial revolution focused on automation and data exchange
- C) A new marketing strategy
- D) A type of manufacturing process

2. Which technology is NOT typically associated with Industry 4.0?

- A) Internet of Things (IoT)
- B) Artificial Intelligence (AI)
- C) Cloud Computing
- D) Steam Engine

3. One of the main goals of Industry 4.0 is to achieve:

- A) Higher manual labor
- B) Increased operational efficiency and flexibility
- C) Reduced use of technology in manufacturing
- D) Less connectivity among devices

4. Cyber-Physical Systems (CPS) in Industry 4.0 refer to:

- A) Physical machines without any digital integration
- B) Systems where physical and software components are deeply intertwined
- C) Purely software-based applications
- D) Traditional manual manufacturing systems

5. Which of the following is a key component of Industry 4.0?

- A) Mass production with minimal customization
- B) Integration of digital and physical systems
- C) Disconnected and isolated processes
- D) Manual data entry

SECTION 5.3 WHAT IS BLOCKCHAIN TECHNOLOGY?

Blockchain technology is an advanced database mechanism that allows transparent information sharing within a business network. A blockchain database stores data in blocks that are linked together in a chain. The data is chronologically consistent because you cannot delete or modify the chain without consensus from the network. As a result, you can use blockchain technology to create an unalterable or immutable ledger for tracking orders, payments, accounts, and other transactions.

The system has built-in mechanisms that prevent unauthorized transaction entries and create consistency in the shared view of these transactions.

5.3.1 Why is blockchain important?

Traditional database technologies present several challenges for recording financial transactions. For instance, consider the sale of a property. Once the money is exchanged, ownership of the property is transferred to the buyer. Individually, both the buyer and the seller can record the monetary transactions, but neither source can be trusted. The seller can easily claim they have not received the money even though they have, and the buyer can equally argue that they have paid the money even if they haven't.

To avoid potential legal issues, a trusted third party has to supervise and validate transactions. The presence of this central authority not only complicates the transaction but also creates a single point of vulnerability. If the central database was compromised, both parties could suffer.

Blockchain mitigates such issues by creating a decentralized, tamper-proof system to record transactions. In the property transaction scenario, blockchain creates one ledger each for the buyer and the seller. All transactions must be approved by both parties and are automatically updated in both of their ledgers in real time. Any corruption in historical transactions will corrupt the entire ledger. These properties of blockchain technology have led to its use in various sectors, including the creation of digital currency like Bitcoin.

5.3. 2 How do different industries use blockchain?

Blockchain is an emerging technology that is being adopted in innovative manner by various industries. We describe some use cases in different industries in the following subsections:

Energy

Energy companies use blockchain technology to create peer-to-peer energy trading platforms and streamline access to renewable energy. For example, consider these uses:

- Blockchain-based energy companies have created a trading platform for the sale of electricity between individuals. Homeowners with solar panels use this platform to sell their excess solar energy to neighbors. The process is largely automated: smart meters create transactions, and blockchain records them.
- With blockchain-based crowd funding initiatives, users can sponsor and own solar panels in communities that lack energy access. Sponsors might also receive rent for these communities once the solar panels are constructed.

Finance

Traditional financial systems, like banks and stock exchanges, use blockchain services to manage online payments, accounts, and market trading. For example, Singapore Exchange Limited, an investment holding company that provides financial trading services throughout Asia, uses blockchain technology to build a more efficient interbank payment account. By adopting blockchain, they solved several challenges, including batch processing and manual reconciliation of several thousand financial transactions.

Media and entertainment

Companies in media and entertainment use blockchain systems to manage copyright data. Copyright verification is critical for the fair compensation of artists. It takes multiple transactions to record the sale or transfer of copyright content. Sony Music Entertainment Japan uses blockchain services to make digital rights management more efficient. They have successfully used blockchain strategy to improve productivity and reduce costs in copyright processing.

Retail

Retail companies use blockchain to track the movement of goods between suppliers and buyers. For example, Amazon retail has filed a patent for a distributed ledger technology system that will use blockchain technology to verify that all goods sold on the platform are authentic. Amazon sellers can map their global supply chains by allowing participants such as manufacturers, couriers, distributors, end users, and

secondary users to add events to the ledger after registering with a certificate authority.

5.3.3 What are the features of blockchain technology?

Blockchain technology has the following main features:

Decentralization

Decentralization in blockchain refers to transferring control and decision making from a centralized entity (individual, organization, or group) to a distributed network. Decentralized blockchain networks use transparency to reduce the need for trust among participants. These networks also deter participants from exerting authority or control over one another in ways that degrade the functionality of the network.

Immutability

Immutability means something cannot be changed or altered. No participant can tamper with a transaction once someone has recorded it to the shared ledger. If a transaction record includes an error, you must add a new transaction to reverse the mistake, and both transactions are visible to the network.

Consensus

A blockchain system establishes rules about participant consent for recording transactions. You can record new transactions only when the majority of participants in the network give their consent.

5.3.4 What are the key components of blockchain technology?

Blockchain architecture has the following main components:

A distributed ledger

A distributed ledger is the shared database in the blockchain network that stores the transactions, such as a shared file that everyone in the team can edit. In most shared text editors, anyone with editing rights can delete the entire file. However,

distributed ledger technologies have strict rules about who can edit and how to edit. You cannot delete entries once they have been recorded.

Smart contracts

Companies use smart contracts to self-manage business contracts without the need for an assisting third party. They are programs stored on the blockchain system that run automatically when predetermined conditions are met. They run if-then checks so that transactions can be completed confidently. For example, a logistics company can have a smart contract that automatically makes payment once goods have arrived at the port.

Public key cryptography

Public key cryptography is a security feature to uniquely identify participants in the blockchain network. This mechanism generates two sets of keys for network members. One key is a public key that is common to everyone in the network. The other is a private key that is unique to every member. The private and public keys work together to unlock the data in the ledger.

For example, John and Jill are two members of the network. John records a transaction that is encrypted with his private key. Jill can decrypt it with her public key. This way, Jill is confident that John made the transaction. Jill's public key wouldn't have worked if John's private key had been tampered with.

Let's Sum Up

Blockchain technology is a decentralized and distributed digital ledger that records transactions across a network of computers. Each transaction is stored in a block, which is linked to the previous one, forming a chain of blocks hence the name blockchain. This structure ensures transparency, security, and immutability of data as each block is cryptographically secured and verified by network participants through consensus protocols. Blockchain eliminates the need for intermediaries in transactions, reducing costs and increasing efficiency.

Check Your Progress - QUIZ – 1

1. What is blockchain technology primarily known for?

- A. Secure and transparent transactions
- B. Unlimited storage capacity
- C. Real-time data processing
- D. Offline data synchronization

2. Which consensus mechanism is commonly used in blockchain networks like Bitcoin and Ethereum?

- A. Proof of Authority (PoA)
- B. Proof of Stake (PoS)
- C. Proof of Work (PoW)
- D. Delegated Proof of Stake (DPoS)

3. What does a 'block' in a blockchain refer to?

- A. A set of private keys
- B. A cryptographic hash function
- C. A record of transactions
- D. A mining pool

4. Which feature distinguishes blockchain from traditional databases?

- A. Centralized control
- B. Speed of transaction processing
- C. Immutability of records
- D. Limited storage capacity

5. What role does a 'miner' play in blockchain technology?

- A. Verifying and adding transactions to the blockchain
- B. Creating new cryptocurrencies
- C. Designing smart contracts

D. Managing private keys

SECTION 5.4 ARTIFICIAL INTELLIGENCE

Definition

Artificial intelligence, commonly known as AI, is a branch of computer science focused on creating systems capable of performing tasks that normally require human intelligence. The artificial intelligence definition involves the development of algorithms and models that enable machines to learn from data, recognize patterns, and make decisions. This field encompasses various subfields, including machine learning, where systems improve their performance through experience, and natural language processing, which allows machines to understand and generate human language.

5.4.1 Applications and Uses of Artificial Intelligence :

Artificial Intelligence has many practical applications across various industries and domains, including:

1. **Healthcare:** AI is used for medical diagnosis, drug discovery, and predictive analysis of diseases.
2. **Finance:** AI helps in credit scoring, fraud detection, and financial forecasting.
3. **Retail:** AI is used for product recommendations, price optimization, and supply chain management.
4. **Manufacturing:** AI helps in quality control, predictive maintenance, and production optimization.
5. **Transportation:** AI is used for autonomous vehicles, traffic prediction, and route optimization.
6. **Customer service:** AI-powered chatbots are used for customer support, answering frequently asked questions, and handling simple requests.
7. **Security:** AI is used for facial recognition, intrusion detection, and cybersecurity threat analysis.
8. **Marketing:** AI is used for targeted advertising, customer segmentation, and sentiment analysis.
9. **Education:** AI is used for personalized learning, adaptive testing, and intelligent tutoring systems.

This is not an exhaustive list, and AI has many more potential applications in various domains and industries.

5.4.2 Need for Artificial Intelligence

1. To create expert systems that exhibit intelligent behavior with the capability to learn, demonstrate, explain, and advise its users.
2. Helping machines find solutions to complex problems like humans do and applying them as algorithms in a computer-friendly manner.
3. **Improved efficiency:** Artificial intelligence can automate tasks and processes that are time-consuming and require a lot of human effort. This can help improve efficiency and productivity, allowing humans to focus on more creative and high-level tasks.
4. **Better decision-making:** Artificial intelligence can analyze large amounts of data and provide insights that can aid in decision-making. This can be especially useful in domains like finance, healthcare, and logistics, where decisions can have significant impacts on outcomes.
5. **Enhanced accuracy:** Artificial intelligence algorithms can process data quickly and accurately, reducing the risk of errors that can occur in manual processes. This can improve the reliability and quality of results.
6. **Personalization:** Artificial intelligence can be used to personalize experiences for users, tailoring recommendations, and interactions based on individual preferences and behaviors. This can improve customer satisfaction and loyalty.
7. **Exploration of new frontiers:** Artificial intelligence can be used to explore new frontiers and discover new knowledge that is difficult or impossible for humans to access. This can lead to new breakthroughs in fields like astronomy, genetics, and drug discovery.

5.4.5 Approaches of AI

There are a total of four approaches of AI and that are as follows:

- **Acting humanly (The Turing Test approach):** This approach was designed by Alan Turing. The ideology behind this approach is that a computer passes the test if a human interrogator, after asking some written questions, cannot identify whether the written responses come from a human or from a computer.

- **Thinking humanly (The cognitive modeling approach):** The idea behind this approach is to determine whether the computer thinks like a human.
- **Thinking rationally (The “laws of thought” approach):** The idea behind this approach is to determine whether the computer thinks rationally i.e. with logical reasoning.
- **Acting rationally (The rational agent approach):** The idea behind this approach is to determine whether the computer acts rationally i.e. with logical reasoning.
- **Machine Learning approach:** This approach involves training machines to learn from data and improve performance on specific tasks over time. It is widely used in areas such as image and speech recognition, natural language processing, and recommender systems.
- **Evolutionary approach:** This approach is inspired by the process of natural selection in biology. It involves generating and testing a large number of variations of a solution to a problem, and then selecting and combining the most successful variations to create a new generation of solutions.
- **Neural Networks approach:** This approach involves building artificial neural networks that are modeled after the structure and function of the human brain. Neural networks can be used for tasks such as pattern recognition, prediction, and decision-making.
- **Fuzzy logic approach:** This approach involves reasoning with uncertain and imprecise information, which is common in real-world situations. Fuzzy logic can be used to model and control complex systems in areas such as robotics, automotive control, and industrial automation.
- **Hybrid approach:** This approach combines multiple AI techniques to solve complex problems. For example, a hybrid approach might use machine learning to analyze data and identify patterns, and then use logical reasoning to make decisions based on those patterns.

5.4.6 Forms of AI:

1. **Narrow AI (Weak AI):** This form of AI is designed and trained for specific tasks or domains, such as speech recognition, image classification, or recommendation systems. Narrow AI excels within defined parameters but lacks general human-like intelligence.

2. **General AI (Strong AI):** General AI aims to exhibit human-like intelligence and cognitive abilities across a wide range of tasks. This form of AI is hypothetical and remains a long-term goal of AI research.
3. **Machine Learning:** Machine learning is a subset of AI that focuses on enabling machines to learn from data and improve their performance without being explicitly programmed. It includes techniques like supervised learning, unsupervised learning, and reinforcement learning.
4. **Natural Language Processing (NLP):** NLP enables machines to understand, interpret, and generate human language. Applications range from chatbots and translation services to sentiment analysis and text summarization.
5. **Computer Vision:** Computer vision enables machines to interpret and understand visual information from the world. It is used in image and video recognition, object detection, autonomous vehicles, and medical image analysis.
6. **Robotics:** Robotics combines AI with mechanical engineering to create machines (robots) that can perform physical tasks autonomously or semi-autonomously. Applications include industrial automation, healthcare assistance, and exploration in hazardous environments.
7. **Expert Systems:** Expert systems are AI systems designed to emulate the decision-making ability of a human expert in a specific domain. They use knowledge bases and inference engines to provide advice or solve problems within their area of expertise.

5.4.7 Drawbacks of Artificial Intelligence :

1. **Bias and unfairness:** AI systems can perpetuate and amplify existing biases in data and decision-making.
2. **Lack of transparency and accountability:** Complex AI systems can be difficult to understand and interpret, making it challenging to determine how decisions are being made.
3. **Job displacement:** AI has the potential to automate many jobs, leading to job loss and a need for reskilling.

4. **Security and privacy risks:** AI systems can be vulnerable to hacking and other security threats, and may also pose privacy risks by collecting and using personal data.
5. **Ethical concerns:** AI raises important ethical questions about the use of technology for decision-making, including issues related to autonomy, accountability, and human dignity.

5.4.8 Technologies Based on Artificial Intelligence:

1. **Machine Learning:** A subfield of AI that uses algorithms to enable systems to learn from data and make predictions or decisions without being explicitly programmed.
2. **Natural Language Processing (NLP):** A branch of AI that focuses on enabling computers to understand, interpret, and generate human language.
3. **Computer Vision:** A field of AI that deals with the processing and analysis of visual information using computer algorithms.
4. **Robotics:** AI-powered robots and automation systems that can perform tasks in manufacturing, healthcare, retail, and other industries.
5. **Neural Networks:** A type of machine learning algorithm modeled after the structure and function of the human brain.
6. **Expert Systems:** AI systems that mimic the decision-making ability of a human expert in a specific field.
7. **Chatbots:** AI-powered virtual assistants that can interact with users through text-based or voice-based interfaces.

Let's Sum Up

Artificial Intelligence (AI) encompasses the development of computer systems capable of performing tasks that typically require human intelligence, such as learning from experience, reasoning, and problem-solving. It includes a range of techniques from machine learning, where algorithms parse data, learn from it, and make informed decisions, to natural language processing, enabling computers to understand and generate human language. AI has found applications across various sectors, revolutionizing industries like healthcare, finance, and transportation with capabilities such as medical diagnostics, fraud detection, and autonomous driving. Ethical concerns about AI's impact on jobs, privacy, and

biases in algorithmic decision-making continue to be topics of debate as AI technologies advance rapidly.

Check Your Progress - QUIZ – 1

1. What is Artificial Intelligence (AI)?

- A) A branch of computer science focused on creating machines capable of performing tasks that require human intelligence
- B) A system for managing databases
- C) A type of hardware used in manufacturing
- D) A programming language

2. Which of the following is a common application of AI in businesses?

- A) Manual bookkeeping
- B) Automated customer service chatbots
- C) Traditional marketing campaigns
- D) Paper-based filing systems

3. How does AI improve decision-making in businesses?

- A) By eliminating the need for data analysis
- B) By providing data-driven insights and predictions
- C) By reducing the use of technology
- D) By limiting access to information

4. Which AI technology is often used for recognizing patterns and making recommendations?

- A) Blockchain
- B) Machine Learning
- C) Virtual Reality
- D) Cloud Computing

5. What is a benefit of using AI for customer relationship management (CRM)?

- A) Increased manual data entry

- B) Automated analysis of customer interactions and preferences
- C) Reduced use of customer data
- D) Limited communication with customers

SECTION 5.5 AUGMENTED REALITY (AR) - MEANING

Augmented reality (AR) is an enhanced version of the real world, achieved through the use of computer-generated digital information. These include visual, sound, and other sensory elements. AR uses computer hardware and software, such as apps, consoles, screens, or projections, to combine digital information with the real-world environment.

5.5.1 Understanding Augmented Reality (AR)

Augmented reality continues to be developed and become more pervasive among a wide range of applications. Since its beginnings, marketers and technology firms have had to battle the perception that augmented reality is little more than a marketing tool. However, there is evidence that consumers may derive tangible benefits from this technology—but the field is still young, and research is relegated to small populations, making it difficult to discern trends or correlations.

Some experts have long speculated that wearable devices could be a breakthrough for augmented reality. Smartphones and tablets show a tiny portion of the user's landscape, but smart eyewear, for example, may provide a more complete link between real and virtual realms if it develops enough to become mainstream.

5.5.2 Uses of AR

Retail. Consumers can use a store's online app to see how products, such as furniture, will look in their own homes before buying.

Entertainment and gaming. AR can be used to overlay a video game in the real world or enable users to animate their faces in different and creative ways on social media.

Navigation. A user can overlay a route to their destination over a live view of a road. AR used for navigation can also display information about local businesses in the user's immediate surroundings.

Tools and measurement. Mobile devices can use AR to measure different 3D points in the user's environment.

Art and architecture. AR can help artists visualize or work on a project.

Military. Data can be displayed on a vehicle's windshield, indicating destination directions, distances, weather and road conditions.

Archaeology. AR aids archaeological research by helping archeologists reconstruct sites. 3D models help museum visitors and future archeologists experience an excavation site as if they were there.

5.5.3 Future of AR technology

AR technology is growing steadily as the popularity and familiarization of apps and games like Pokemon Go or retail store AR apps increase.

Apple continues to develop and update its open source mobile augmented reality development tool set, ARKit. Companies, including Target and Ikea, use ARKit in their flagship AR shopping apps for iPhone and iPad. ARKit 6, for example, enables the rendering of AR in high dynamic range 4K and improves image and video capture. It also provides a Depth API, which uses per-pixel depth information to help a device's camera understand the size and shape of an object. It includes scene geometry that creates a topological map of a space along with other features.

ARCore, Google's platform for building AR experiences on Android and iOS, continues to evolve and improve. For example, ARCore uses a geospatial API that sources data from Google Earth 3D models and Street View image data from Google Maps. Similar to ARKit's Depth API, ARCore has improved its Depth API, optimizing it for longer-range depth sensing.

Improved AR, VR and mixed-reality headsets are also being released. For example, Meta improved its Quest 2 headset with Meta Quest 3, which was released in October 2023. This new headset is slimmer, lighter and more ergonomic than Quest 2.

In February 2024, Apple released Apple Vision Pro, bringing more competition to the AR and VR headset market. Vision Pro is targeted at early adopters and developers at a much higher price point than Quest 3. Meta Platforms is pursuing a wider audience at a \$499 price point, while Apple is pricing Vision Pro at about \$3,499. It's expected that Apple will produce a non-Pro variant of its headset at a more affordable price in the future. Developers of Apple Vision Pro will have to work with the visionOS software development kit. However, they can still use familiar Apple tools, such as ARKit, SwiftUI or RealityKit to build apps.

Other potential future advancements for AR include the following:

- More powerful and lighter devices.
- The use of artificial intelligence for face and room scanning, object detection and labeling, as well as for text recognition.
- The expansion of 5G networks that could make it easier to support cloud-based AR experiences by providing AR applications with higher data speeds and lower latency.

Let's Sum Up

Augmented Reality (AR) blends digital elements with the real world, enhancing the user's perception of their environment. Unlike virtual reality, which creates entirely immersive experiences, AR overlays computer-generated content onto the user's view of the physical world. This is typically achieved through devices like smartphones, AR glasses, or headsets equipped with cameras and sensors. AR applications range from gaming and entertainment to practical uses in fields such as education, healthcare, and manufacturing. For instance, AR can provide real-time information overlays, interactive guides, or simulations that aid in training and maintenance tasks. As AR technology evolves, it continues to expand its potential in transforming how people interact with digital information and the physical world around them, offering new avenues for innovation and user engagement.

Check Your Progress - QUIZ – 1

1. What is Augmented Reality (AR)?

- A) A technology that creates a completely virtual environment
- B) A technology that overlays digital information onto the real world
- C) A type of artificial intelligence
- D) A method for enhancing audio quality

2. Which device is commonly used to experience AR?

- A) Smartphone or tablet
- B) Traditional desktop computer
- C) Basic mobile phone
- D) Radio

3. Which of the following is an example of an AR application?

- A) Microsoft Word
- B) Pokemon Go
- C) Adobe Photoshop
- D) Google Docs

4. How can AR be used in retail?

- A) To manage inventory manually
- B) To provide customers with virtual try-ons of products
- C) To decrease customer interaction
- D) To eliminate the need for online shopping

5. What is one benefit of AR in education?

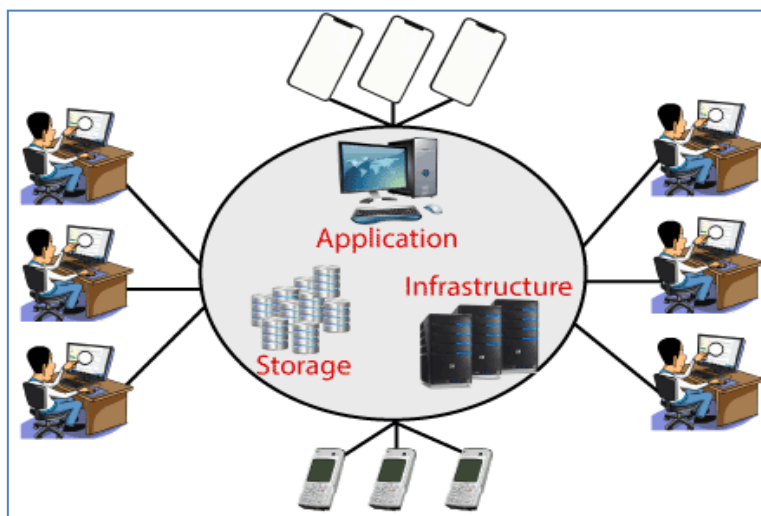
- A) Reduced need for teachers
- B) Enhanced interactive learning experiences
- C) Increased textbook usage

D) Less student engagement

SECTION 5.6 CLOUD COMPUTING

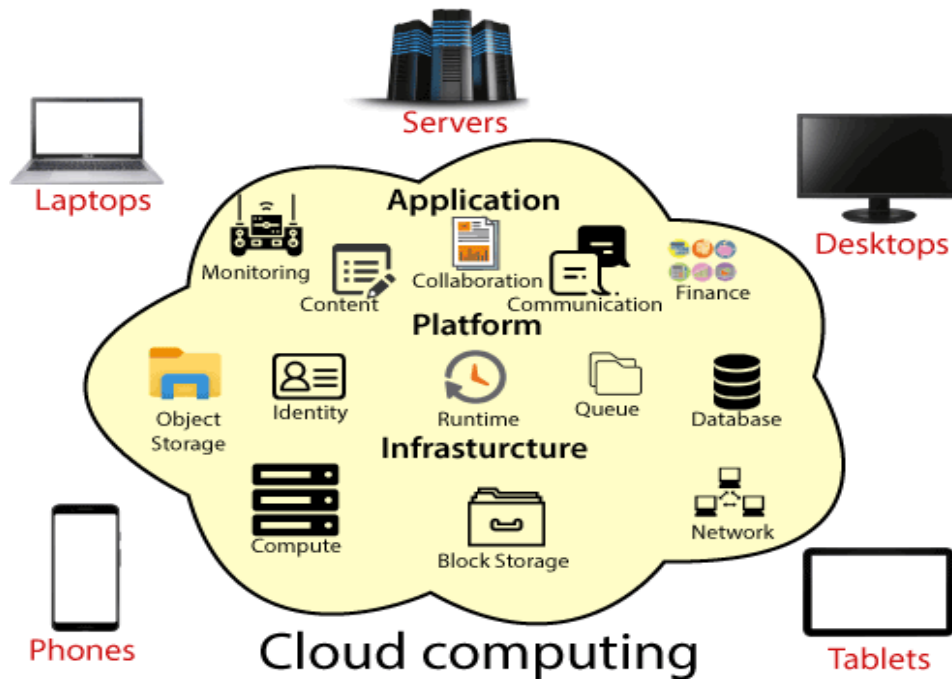
Meaning

Cloud Computing is the delivery of computing services such as servers, storage, databases, networking, software, analytics, intelligence, and more, over the Cloud (Internet).



Cloud Computing provides an alternative to the on-premises datacentre. With an on-premises datacentre, we have to manage everything, such as purchasing and installing hardware, virtualization, installing the operating system, and any other required applications, setting up the network, configuring the firewall, and setting up storage for data. After doing all the set-up, we become responsible for maintaining it through its entire lifecycle.

But if we choose Cloud Computing, a cloud vendor is responsible for the hardware purchase and maintenance. They also provide a wide variety of software and platform as a service. We can take any required services on rent. The cloud computing services will be charged based on usage.

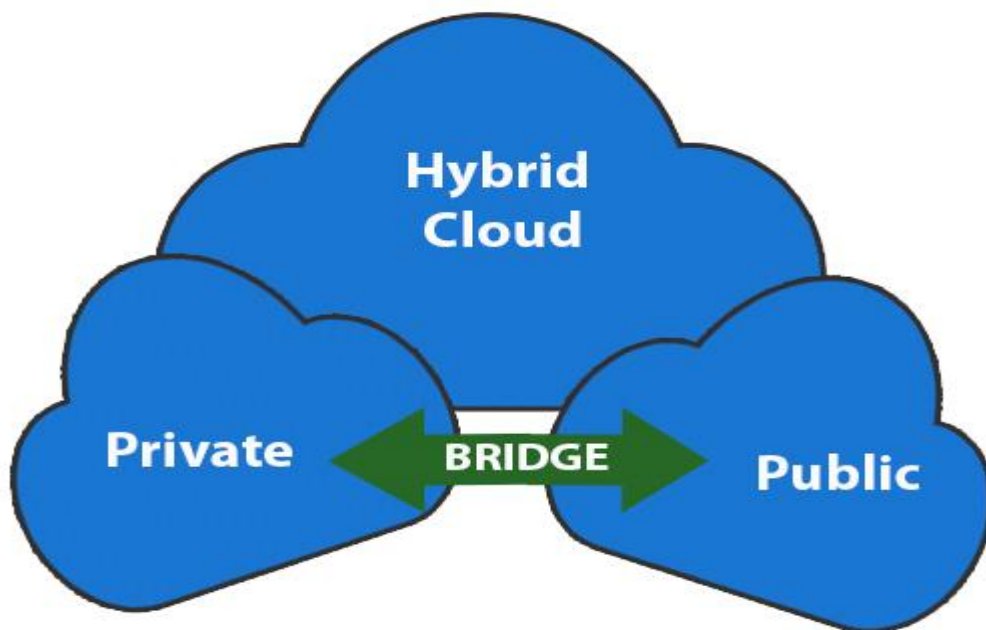


The cloud environment provides an easily accessible online portal that makes handy for the user to manage the compute, storage, network, and application resources. Some cloud service providers are in the following figure.

5.6.1 Advantages of cloud computing

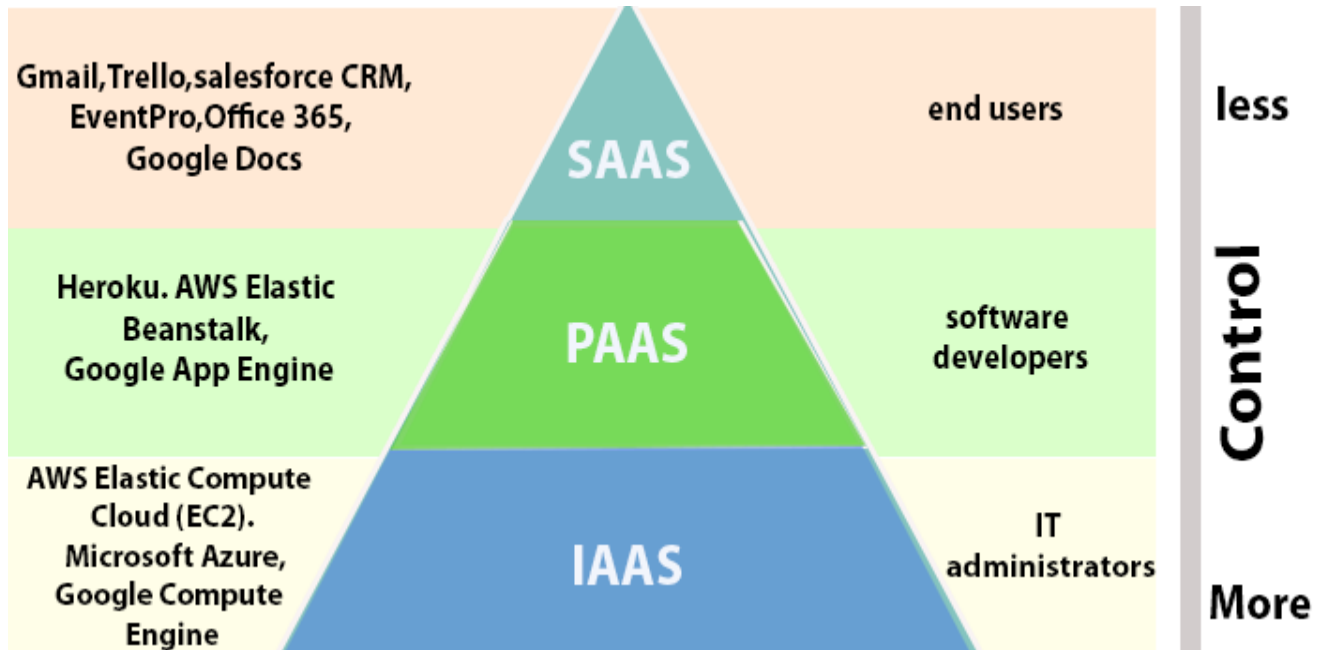
- **Cost:** It reduces the huge capital costs of buying hardware and software.
- **Speed:** Resources can be accessed in minutes, typically within a few clicks.
- **Scalability:** We can increase or decrease the requirement of resources according to the business requirements.
- **Productivity:** While using cloud computing, we put less operational effort. We do not need to apply patching, as well as no need to maintain hardware and software. So, in this way, the IT team can be more productive and focus on achieving business goals.
- **Reliability:** Backup and recovery of data are less expensive and very fast for business continuity.
- **Security:** Many cloud vendors offer a broad set of policies, technologies, and controls that strengthen our data security.

5.6.2 Types of Cloud Computing



- **Public Cloud:** The cloud resources that are owned and operated by a third-party cloud service provider are termed as public clouds. It delivers computing resources such as servers, software, and storage over the internet
- **Private Cloud:** The cloud computing resources that are exclusively used inside a single business or organization are termed as a private cloud. A private cloud may physically be located on the company's on-site datacentre or hosted by a third-party service provider.
- **Hybrid Cloud:** It is the combination of public and private clouds, which is bounded together by technology that allows data applications to be shared between them. Hybrid cloud provides flexibility and more deployment options to the business.

5.6.3 Types of Cloud Services



1. **Infrastructure as a Service (IaaS):** In IaaS, we can rent IT infrastructures like servers and virtual machines (VMs), storage, networks, operating systems from a cloud service vendor. We can create VM running Windows or Linux and install anything we want on it. Using IaaS, we don't need to care about the hardware or virtualization software, but other than that, we do have to manage everything else. Using IaaS, we get maximum flexibility, but still, we need to put more effort into maintenance.
2. **Platform as a Service (PaaS):** This service provides an on-demand environment for developing, testing, delivering, and managing software applications. The developer is responsible for the application, and the PaaS vendor provides the ability to deploy and run it. Using PaaS, the flexibility gets reduced, but the management of the environment is taken care of by the cloud vendors.
3. **Software as a Service (SaaS):** It provides a centrally hosted and managed software services to the end-users. It delivers software over the internet, on-demand, and typically on a subscription basis. E.g., Microsoft One Drive, Dropbox, WordPress, Office 365, and Amazon Kindle. SaaS is used to minimize the operational cost to the maximum extent.

Let's Sum Up

Cloud computing refers to the delivery of computing services—such as storage, processing power, and software—over the internet ("the cloud") rather than on local servers or personal devices. It enables organizations and individuals to access and utilize resources on-demand, scaling up or down as needed without the burden of managing physical infrastructure. Cloud computing providers offer a range of services, including Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS), catering to diverse needs from simple data storage to complex application development and deployment. Benefits of cloud computing include cost savings, increased scalability and flexibility, improved collaboration, and enhanced security through centralized data management and backup. As businesses increasingly rely on digital transformation, cloud computing plays a pivotal role in enabling innovation, agility, and efficiency across various industries worldwide.

Check Your Progress - QUIZ - 1

1. What is cloud computing?

- A) A type of local storage solution
- B) Delivery of computing services over the internet
- C) A hardware upgrade for computers
- D) A traditional method of data storage

2. Which of the following is NOT a cloud service model?

- A) Infrastructure as a Service (IaaS)
- B) Platform as a Service (PaaS)
- C) Software as a Service (SaaS)
- D) Hardware as a Service (HaaS)

3. Which type of cloud deployment model is dedicated to a single organization?

- A) Public cloud

- B) Private cloud
- C) Hybrid cloud
- D) Community cloud

4. What is a key benefit of using cloud computing?

- A) Increased need for physical hardware
- B) Scalability and flexibility
- C) Higher manual intervention
- D) Local data storage only

5. Which of the following is an example of Software as a Service (SaaS)?

- A) Amazon Web Services (AWS)
- B) Microsoft Azure
- C) Google Docs
- D) VMware vSphere

SECTION 5.7 INTERNET OF THINGS (IOT) - MEANING

Internet of Things (IoT) is the networking of physical objects that contain electronics embedded within their architecture in order to communicate and sense interactions amongst each other or with respect to the external environment. In the upcoming years, IoT-based technology will offer advanced levels of services and practically change the way people lead their daily lives. Advancements in medicine, power, gene therapies, agriculture, smart cities, and smart homes are just a few of the categorical examples where IoT is strongly established.

5.7.1 Characteristics of IoT

- Massively scalable and efficient
- IP-based addressing will no longer be suitable in the upcoming future.
- An abundance of physical objects is present that do not use IP, so IoT is made possible.

- Devices typically consume less power. When not in use, they should be automatically programmed to sleep.
- A device that is connected to another device right now may not be connected in another instant of time.
- Intermittent connectivity – IoT devices aren't always connected. In order to save bandwidth and battery consumption, devices will be powered off periodically when not in use. Otherwise, connections might turn unreliable and thus prove to be inefficient.

5.7.2 Modern Applications of IOT

- Smart Grids and energy saving
- Smart cities
- Smart homes/Home automation
- Healthcare
- Earthquake detection
- Radiation detection/hazardous gas detection
- Smartphone detection
- Water flow monitoring
- Traffic monitoring
- Wearables
- Smart door lock protection system
- Robots and Drones
- Healthcare and Hospitals, Telemedicine applications
- Security
- Biochip Transponders (For animals in farms)
- Heart monitoring implants (Example Pacemaker, ECG real time tracking)
- Agriculture
- Industry

5.7.3 Advantages of IoT

- Improved efficiency and automation of tasks.
- Increased convenience and accessibility of information.
- Better monitoring and control of devices and systems.
- Greater ability to gather and analyze data.
- Improved decision-making.

- Cost savings.

5.7.4 Disadvantages of IoT

- Security concerns and potential for hacking or data breaches.
- Privacy issues related to the collection and use of personal data.
- Dependence on technology and potential for system failures.
- Limited standardization and interoperability among devices.
- Complexity and increased maintenance requirements.
- High initial investment costs.
- Limited battery life on some devices.
- Concerns about job displacement due to automation.
- Limited regulation and legal framework for IoT, which can lead to confusion and uncertainty.

Let's Sum Up

The Internet of Things (IoT) refers to the network of interconnected devices embedded with sensors, software, and other technologies that enable them to collect and exchange data over the internet. These devices can range from everyday objects like home appliances and wearable devices to industrial machines and vehicles. IoT facilitates seamless communication and data sharing between devices, enabling remote monitoring, control, and automation of processes. Key components of IoT include sensors to gather data, connectivity through networks like Wi-Fi or cellular, and cloud computing for data storage and analysis. Applications of IoT span numerous sectors, including smart homes, healthcare, agriculture, transportation, and manufacturing, where it enhances efficiency, productivity, and decision-making.

Check Your Progress - QUIZ - 1

1. What does IoT stand for?

- A) Internet of Technology
- B) Internet of Things
- C) Internet of Tools
- D) Internet of Transactions

2. What is the Internet of Things (IoT)?

- A) A network of physical objects embedded with sensors, software, and other technologies to connect and exchange data
- B) A type of software used for data analysis
- C) A virtual network for cloud computing
- D) A system for managing websites

3. Which of the following is a common application of IoT?

- A) Manual data entry
- B) Smart home devices like thermostats and lights
- C) Traditional desktop computing
- D) Basic mobile phones

4. How does IoT benefit the manufacturing industry?

- A) By reducing automation
- B) Through predictive maintenance and real-time monitoring of equipment
- C) By increasing manual labor requirements
- D) By limiting the use of technology in production

5. Which of the following best describes a "smart city"?

- A) A city with no digital infrastructure
- B) An urban area that uses IoT sensors and technology to manage resources and services efficiently
- C) A city that relies solely on traditional infrastructure
- D) A city with no internet connectivity

SECTION 5.8 INDUSTRIAL INTERNET OF THINGS (IIOT)

Meaning

The term Industrial Internet of Things (IIoT) refers to the application of Internet of Things (IoT) technology in industrial settings. It involves the interconnection and communication between physical devices (such as industrial sensors and actuators),

machinery, and systems used in various industries. IIOT enables the collection, analysis, and exchange of data with the purpose of optimizing industrial processes, increasing efficiency, and improving decision-making.

5.8.1 IIOT Implementation

The IIoT implementation process includes the deployment of sensors and other IIoT devices across industrial environments. These devices collect data related to various parameters, such as:

- Temperature
- Pressure
- Humidity
- Vibration

The collected data is then transmitted from the IO-Link Wireless Device to the IO-Link Wireless Master. From there, it moves to the PLC via OPC UA and other Industrial Ethernet protocols (such as Ethernet/IP, PROFINET, or EtherCAT), and via MQTT or OPC UA to cloud-based and on-premise applications. There, it's stored and analyzed.

The configuration of the IO-Link Wireless system and the MQTT publishing is done via a designated IO-Link Wireless Software. As many machines use sensors and components manufactured by various vendors, it's critical for the data-collecting ability to be vendor-agnostic, as in the case of IO-Link Wireless.

In the cloud, advanced analytics and machine learning algorithms are employed to process and interpret the collected data. These algorithms can identify patterns, detect anomalies, and generate actionable insights. The analyzed data is then presented to stakeholders in a meaningful way, often through dashboards or reports, enabling them to make data-driven decisions and optimize operations.

Additional machine optimization platforms may be integrated into the system to ensure maximum efficiency.

Advanced IIoT systems also leverage edge computing, where some data processing occurs at the device or Gateway level itself. This approach reduces latency and

allows for faster decision-making in time-critical applications. Edge computing is particularly useful in situations where a rapid response is required. This includes manufacturing processes and predictive maintenance scenarios.

5.8.2 Uses of IIoT Technology

Numerous industries are embracing IIoT technology to enhance their operations and gain a competitive edge. They realize data harvesting and analyzing enables generating beneficial insights and yielding better outcomes. Some of the prominent sectors utilizing IIoT include:

- Manufacturing and Industrial Automation
- Consumer Packaged Goods
- Automotive, Pharmaceuticals
- Metalworks
- Logistics & Transportation
- Energy & Utilities
- Healthcare, and Retail

Utilizing the many benefits offered by the Industrial Internet of Things enables these to achieve higher efficiency, reduce costs, and improve product quality. Wireless industrial control & monitoring assures that these are done in the utmost efficient way.

By harnessing the power of IIoT, different industries can streamline operations, improve customer satisfaction, and stay competitive in an increasingly digital landscape.

Industrial Internet of Things Examples

Here are a few examples of how the industrial internet of things is being utilized in various sectors:

IIoT in Manufacturing

IIoT manufacturing enables manufacturers to monitor and optimize their production lines in real time. By collecting data from wirelessly connected IIoT sensors placed _____

on equipment, manufacturers can identify bottlenecks and predict maintenance needs. They can also optimize production schedules to increase efficiency and reduce downtime, as well as perform supply chain optimization, and inventory management. In some cases, this data complements the one also being received and analyzed on the HMI (human-machine interface) and the one being sent directly from the PLC.

Energy and Utilities

IIoT is transforming the energy sector by enabling smart grids, smart meters, and intelligent monitoring systems. This technology allows utilities to:

- Monitor energy consumption
- Detect faults
- Remotely control devices

This leads to better energy management and improved grid reliability. Here the crucial ability to withstand harsh conditions comes into play once more because IIoT devices have to withstand various extreme physical conditions.

Logistics and Transportation

IIoT is revolutionizing the transportation and logistics industry by providing real-time and enhanced visibility and control over the shipping and handling of goods.

With IIoT devices wirelessly integrated into vehicles, containers, and warehouses, logistics companies can:

- Track shipments
- Optimize routes
- Streamline operations

This helps enhance efficiency and reduce costs. The fact that all moving and stationary actors in these processes communicate lets these operations function with high efficiency.

IIoT in Healthcare

Both IIoT (Industrial Internet of Things) and IoT (Internet of Things) are transforming healthcare delivery by enabling remote patient monitoring, smart hospital infrastructure, and wearable health devices.

With wireless IIoT, healthcare providers can gather real-time patient data, monitor vital signs, and remotely track patients conditions, leading to improved healthcare outcomes and reduced hospital readmissions.

Industrial Internet of Things in the Retail Industry

The use of IIoT in the retail industry has altered the way businesses operate and connect with their customers. With IIoT, retailers can now gather real-time data from various sources such as wireless sensors, and RFID tags, enabling them to optimize their operations, enhance customer experiences, and drive greater efficiency.

Retailers can track inventory levels accurately, monitor product performance, and automate renewal processes, ensuring that products are always available on shelves. Additionally, IIoT enables personalized marketing and customer engagement through smart shelves and interactive displays. It allows delivering targeted promotions and recommendations based on individual preferences.

Automotive

IO-Link Wireless-based IIoT empowers the automotive industry by enabling unprecedented connectivity and data exchange between machines, infrastructure, and production facilities throughout the production process.

Through the integration of smart sensors, real-time data analytics, and wireless communication protocols, IIoT has enhanced the vehicle manufacturing process extensively. In the automotive manufacturing process, IIoT enables seamless coordination between robots, assembly lines, and logistics systems. This optimizes production schedules and reduces downtime.

Consumer Packaged Goods

The Consumer Packaged Goods (CPG) industry has gained the most from IIoT, as IO-Link Wireless is reshaping the way products are manufactured and distributed.

Integrating smart sensors via wireless connectivity, IIoT has enabled real-time monitoring and data collection throughout the supply chain. Manufacturers can now

track inventory levels, monitor equipment performance, and optimize production processes to ensure seamless operations.

Pharmaceuticals

In sterile environment production and manufacturing, such as in pharmaceuticals, IO-Link Wireless brings about significant advancements. It helps optimize drug manufacturing, supply chain management, and more.

Over the past years, we have witnessed an emergence of pharmaceutical industry growth with the industrial IoT approach. There, wirelessly connected 2-way-smart sensors allow creating the cable-free sterile environment and real-time monitoring & control required in the manufacturing processes.

Pharmaceutical companies can track critical parameters such as temperature, humidity, and pressure, preventing deviations and minimizing the risk of product spoilage. Moreover, IIoT enhances supply chain visibility, enabling real-time tracking of drugs during all levels of the packaging process. This helps manufacture and pack drugs with optimal efficacy.

Metalworks

The metalworks industry is also being transformed and revolutionized by IO-Link Wireless connectivity and the IIoT applications deriving from it. The way metal products are manufactured, monitored, and maintained is now changing drastically. IO-Link Wireless sensors and devices are used in hard-to-reach places, in extremely challenging conditions, allowing precision, control, and optimization during production and processing.

This raises both the quality and speed of the product, while reducing the danger to human life as it replaces a human operator with wireless sensors. As in the other use cases, the predictive maintenance is a game-changer in metalworks, allowing for smart manufacturing and predefined shutdowns for repair and maintenance – sensors monitor the health of equipment and machinery, detecting potential issues before they lead to costly breakdowns.

Additionally, wireless-based IloT enhances workplace safety by providing real-time monitoring of environmental conditions and alerting workers to potential hazards.

Let's Sum Up

The Industrial Internet of Things (IIoT) represents the application of IoT technologies within industrial sectors, integrating physical machinery with networked sensors and software to collect, analyze, and exchange data. IIoT enables enhanced monitoring, predictive maintenance, and optimization of industrial processes, leading to improved efficiency, productivity, and cost savings. Key components include sensors for data collection, industrial automation systems, and cloud-based platforms for data storage and analytics. Industries such as manufacturing, energy, transportation, and healthcare benefit from IIoT by enabling real-time insights into operations, remote management capabilities, and the ability to leverage big data for informed decision-making.

Check Your Progress - QUIZ – 1

1. What does IloT stand for?

- A) Integrated Internet of Things
- B) Industrial Internet of Things
- C) Intelligent Internet of Things
- D) Internal Internet of Things

2. What is the Industrial Internet of Things (IIoT)?

- A) A network of consumer devices connected to the internet
- B) A network of industrial devices embedded with sensors, software, and other technologies to connect and exchange data
- C) A system for managing social media
- D) A technology used exclusively for home automation

3. Which of the following is a common application of IloT?

- A) Personal fitness trackers
- B) Predictive maintenance in manufacturing

- C) Streaming music services
- D) Online shopping platforms

4. How does IIoT benefit the manufacturing industry?

- A) By increasing the need for manual inspections
- B) By enabling real-time monitoring and predictive maintenance of machinery
- C) By reducing the use of automation
- D) By limiting data collection from machines

5. What role do sensors play in IIoT?

- A) They process data into actionable insights
- B) They collect and transmit data from industrial equipment and environments
- C) They reduce the need for wireless communication
- D) They eliminate the need for network connectivity

SECTION 5.9 BIG DATA ANALYTICS - MEANING

Big Data analytics is a process used to extract meaningful insights, such as hidden patterns, unknown correlations, market trends, and customer preferences. Big Data analytics provides various advantages—it can be used for better decision making, preventing fraudulent activities, among other things.

5.9.1 Why is big data analytics important?

In today's world, Big Data analytics is fueling everything we do online—in every industry.

Take the music streaming platform Spotify for example. The company has nearly 96 million users that generate a tremendous amount of data every day. Through this information, the cloud-based platform automatically generates suggested songs—through a smart recommendation engine—based on likes, shares, search history, and more. What enables this is the techniques, tools, and frameworks that are a result of Big Data analytics.

If you are a Spotify user, then you must have come across the top recommendation section, which is based on your likes, past history, and other things. Utilizing a recommendation engine that leverages data filtering tools that collect data and then filter it using algorithms works. This is what Spotify does.

5.9.2 Uses and Examples of Big Data Analytics

There are many different ways that Big Data analytics can be used in order to improve businesses and organizations. Here are some examples:

- Using analytics to understand customer behavior in order to optimize the customer experience
- Predicting future trends in order to make better business decisions
- Improving marketing campaigns by understanding what works and what doesn't
- Increasing operational efficiency by understanding where bottlenecks are and how to fix them
- Detecting fraud and other forms of misuse sooner

These are just a few examples — the possibilities are really endless when it comes to Big Data analytics. It all depends on how you want to use it in order to improve your business.

Let's Sum Up

Big Data Analytics involves the process of examining large and varied datasets to uncover hidden patterns, correlations, and other insights. It utilizes advanced techniques and technologies to process vast amounts of structured and unstructured data collected from various sources such as sensors, social media, and business transactions. The goal is to extract valuable information that can inform decision-making, optimize processes, and drive strategic initiatives across industries. Key components include data mining, machine learning algorithms, and predictive analytics, which enable organizations to gain a deeper understanding of customer behavior, market trends, and operational performance. Big Data Analytics facilitates

real-time analysis, enabling businesses to respond swiftly to changing conditions and gain a competitive edge.

Check Your Progress - QUIZ – 1

1. What is Big Data Analytics?

- A) Analysis of small, structured data sets
- B) The process of examining large and varied data sets to uncover hidden patterns, unknown correlations, and other useful information
- C) A method for managing data storage
- D) A type of software for word processing

2. Which of the following is a characteristic of big data?

- A) Volume, Velocity, Variety
- B) Veracity, Visibility, Value
- C) Variability, Volatility, Value
- D) Volume, Variety, Verifiability

3. What is the primary benefit of using Big Data Analytics in businesses?

- A) Reduced data collection
- B) Enhanced decision-making through data-driven insights
- C) Increased manual data processing
- D) Decreased use of analytics tools

4. Which of the following is a common tool used in Big Data Analytics?

- A) Microsoft Word
- B) Hadoop
- C) Adobe Photoshop
- D) QuickBooks

5. How does Big Data Analytics improve customer service?

- A) By reducing customer interaction

- B) Through personalized experiences and proactive service
- C) By limiting customer data collection
- D) By increasing wait times

5.10 Case Study

SWOT ANALYSIS OF APPLE INC

SWOT analysis is basically an analysis of company or organisation's strengths, weaknesses, opportunities and threats. Here is a case study of Apple Inc. on SWOT analysis.

Apple had launched its new phone iPhone 7 in an event. It has also expanded its business boundary by launching Apple watch, and Bluetooth headphones, also known as AirPods.

Apple's Strengths

iPhones have created a unique brand identity for themselves. People are willingly ready to spend lakhs in the name of iPhone. The logo of Apple is a symbol of status these days. Moreover, Apple's product design is artistic, yet simple, rich and royal and creative too. Apple has customer faith and its brand value has worldwide recognition. Its brand value is so high that most of the Apple's products are often pre-ordered worldwide. Moreover, Apple utilises its image to sell a way of life of imagination, extravagance and smoothness. This is how it advertises its items: Not as a straightforward contraption, yet as a route into its designed and planned world. This is why, its revenues and, subsequently, its profit margin are too high in products like Mac Laptop, iPhone, iPad, etc.

Apple's Weaknesses

One of the greatest weaknesses of Apple is its high prices of products. Although its prices are high, but it restricts its buyers from upper middle class to high class. Usually, a PC can be bought for \$200. On the contrary, Apple's Mac laptop costs around \$1100-\$1200+. If offered at a sale price, the sales reduce the price of the product by only \$50-\$100. Only the students are able to get the

laptops at discounted prices. If we take globally, then there are a number of lower-class people who couldn't afford to buy Apple products. Apple ignores this class of customers. We can say that this is a great weakness of Apple Inc.

Apple's Opportunities

Apple has witnessed a potential advantage in teaming up with various solid and existing brands identified with its commercial centre. With its new AirPods, it has collaborated with Beats earphones to present the new remote Beats X close by its iPhone 7. Moreover, Nintendo is bringing another amusement, Mario Run, to iPhone — consolidating the Apple name with the notable diversion face of Nintendo. This is another incredible brand which could get gigantic numbers from its numerous fans all over the world.

Apple's present advancement can be derided, criticised or cheered. In any case, the business openings from working together with other expansive brands over the world will profit the Apple brand monstrously, insofar as it keeps on building up these business connections.

Apple's Threats

Ever since Apple Inc has entered in the market, its biggest threat is innovation. It keeps on producing the same kind of products. The regular customer might lose interest after some time. While Apple's structure is smooth and short-sighted, that is actually what makes it simple to imitate. Worldwide stores sell counterfeit renditions of iPhones and iPod contacts which, outwardly, look about indistinguishable. Furthermore, numerous individuals fall for the tricks of 'overly cheap Apple items' sold on the web. Another threat to Apple products is competition. Companies like Samsung have captured the market with the launch of the concept of androids in the market. Apple has heightened its competition by not providing earphones in its new model, iPhone 7. Moreover, android companies are providing the same facilities at much cheaper rates.

QUESTIONS

1. How did Apple expand its business boundaries?

(Hint: iPhone 7, Bluetooth headphone, watches, etc.)

2. What were the threats to Apple Inc?

(Hint: Innovation, competition, etc.)

5.11 Summary

The technological environment refers to the dynamic landscape shaped by advancements, innovations, and the adoption of technologies within society and across industries. It encompasses a wide range of factors including technological infrastructure, digital connectivity, innovation trends, and regulatory frameworks governing technology use. Key elements include rapid technological change driven by developments in areas such as artificial intelligence, cloud computing, and the Internet of Things, which are reshaping how businesses operate and interact with customers. The technological environment fosters innovation and competitiveness, offering opportunities for organizations to streamline operations, enhance productivity, and create new products and services. However, it also presents challenges such as cybersecurity threats, ethical concerns related to data privacy, and the need for continuous adaptation to keep pace with technological advancements. As organizations navigate this complex environment, strategic management of technology becomes critical to harnessing its full potential while managing risks and leveraging opportunities for sustainable growth and competitive advantage.

5.12 Glossary

Technological Environment: The overall context shaped by technological advancements, innovations, and their impact on society and industries.

Digital Transformation: The integration of digital technologies across all aspects of business operations, fundamentally changing how organizations operate and deliver value to customers.

Artificial Intelligence (AI): The simulation of human intelligence processes by machines, including learning, reasoning, and problem-solving.

Internet of Things (IoT): The network of physical devices embedded with sensors, software, and connectivity to enable data collection and exchange over the internet.

Big Data: Large and complex datasets that require advanced techniques and technologies to analyze and derive meaningful insights.

Cloud Computing: The delivery of computing services—such as storage, processing power, and software—over the internet, offering scalability, flexibility, and cost-efficiency.

Cybersecurity: Measures and technologies designed to protect networks, devices, and data from unauthorized access, cyberattacks, and other security threats.

Digital Connectivity: The ability of devices, systems, and individuals to connect and communicate digitally, enabling data exchange and collaboration.

Blockchain: A decentralized and distributed digital ledger technology used to record transactions across multiple computers securely and transparently.

Augmented Reality (AR): Technology that overlays digital information or virtual objects onto the real world, enhancing user experiences in various applications.

5.13 Answers for check your Progress

Sections	S.No	Answers
Section 1	1	C) The external factors in technology that impact a business.
	2	C) Legal regulations
	3	B) To adapt to market trends and remain competitive
	4	C) Technology that significantly alters or replaces existing systems
	5	C) Strong leadership and vision
Section 2	1	B) The fourth industrial revolution focused on automation and data exchange
	2	D) Steam Engine
	3	B) Increased operational efficiency and flexibility
	4	B) Systems where physical and software components are deeply intertwined
	5	B) Integration of digital and physical systems
Section 3	1	A. Secure and transparent transactions
	2	C. Proof of Work (PoW)
	3	C. A record of transactions
	4	C. Immutability of records
	5	A. Verifying and adding transactions to the blockchain
Section 4	1	A) A branch of computer science focused on creating machines capable of performing tasks that require human intelligence
	2	B) Automated customer service chatbots
	3	B) By providing data-driven insights and predictions
	4	B) Machine Learning
	5	B) Automated analysis of customer interactions and preferences
Section 5	1	B) A technology that overlays digital information onto the real world
	2	A) Smartphone or tablet
	3	B) Pokemon Go
	4	B) To provide customers with virtual try-ons of products
	5	B) Enhanced interactive learning experiences
Section 6	1	B) Delivery of computing services over the internet
	2	D) Hardware as a Service (HaaS)
	3	B) Private cloud
	4	B) Scalability and flexibility
	5	C) Google Docs
Section 7	1	B) Internet of Things
	2	A) A network of physical objects embedded with sensors, software, and other technologies to connect and exchange data
	3	B) Smart home devices like thermostats and lights

	4	B) Through predictive maintenance and real-time monitoring of equipment
	5	B) An urban area that uses IoT sensors and technology to manage resources and services efficiently
Section 8	1	B) Industrial Internet of Things
	2	B) A network of industrial devices embedded with sensors, software, and other technologies to connect and exchange data
	3	B) Predictive maintenance in manufacturing
	4	B) By enabling real-time monitoring and predictive maintenance of machinery
	5	B) They collect and transmit data from industrial equipment and environments
Section 9	1	B) The process of examining large and varied data sets to uncover hidden patterns, unknown correlations, and other useful information
	2	A) Volume, Velocity, Variety
	3	B) Enhanced decision-making through data-driven insights
	4	B) Hadoop
	5	B) Through personalized experiences and proactive service

5.14 Suggested Reading

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5.15 Open Source E-Content Links

Sl.no	Topic	E-Content Link	QR Code
10	Technology environment	https://www.youtube.com/watch?v=4DbNB4UoH-4	
11	Industry 4.0	https://www.youtube.com/watch?v=o_nP6-Cy8X0	
12	Block chain	https://www.youtube.com/watch?v=yubzJw0uiE4	
13	AI, AR, Cloud	https://www.youtube.com/watch?v=dv9q7Ema40k https://www.youtube.com/watch?v=1BMO7YkwR6Y	
14	IOT, IIOT	https://www.youtube.com/watch?v=6mBO2vqLv38	

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