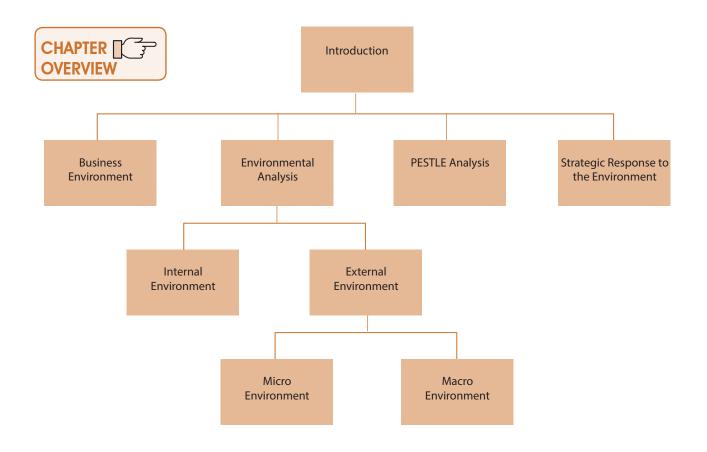




LEARNING OUTCOMES

After studying this chapter, you will be able to:

- Understand the concept of business environment with its characteristics and importance.
- Understand what is environmental analysis and why is it needed.
- Know the environmental factors that influence a business.
- Have a basic knowledge of various types of environment.
- Have an understanding of different micro-economic factors that are affecting business.
- Know the various macro-economic factors and how they are related to business.



2.1 INTRODUCTION

2.2

A business is created to provide products or services to customers. If it can conduct its operations effectively, its owners earn a reasonable return on their investment in the firm. In addition, it creates jobs for employees. Thus, businesses can be beneficial to society in various ways.

A business (or firm) is an enterprise that provides products or services desired by customers. Along with the large, well-known businesses such as the Coca-Cola Company and IBM, there are many thousands small businesses that provide employment opportunities and produce products or services that satisfy customers.

The world keeps changing. It always has and always will. The basic challenge for any company (or, for that matter, for any living thing) is survival. And to survive over the long term, a company must have two capabilities:

- the ability to prosper and
- the ability to change

What is most surprising is the amount of change going on around us! And we notice, at the same time, how some organisations change very little.

Charles Darwin in Darwinism says:

"It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change." "Struggle for existence, survival of the fittest and origin of new species".

Over any time period, say one, five, ten years, in any geographic region thousands upon thousands of new organizations are set up, and within the same time frame many thousands are dissolved, mostly small ones but sometimes very large ones too. An analysis says that approximately, 5,00,00,000 new firms are born every year across the globe or about 1,37,000 per day. And, similar number of firms are close as birth and death rates are about equal, the same number of active firms, say 1,30,000 probably terminate trading each day, worldwide.

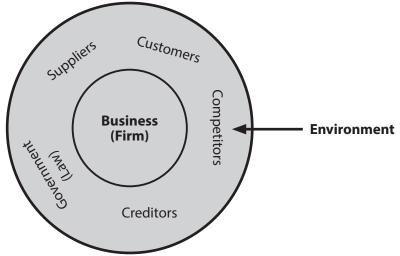
Some organisations go on for a very long time. For instance, the Tata Group established by Dorabji Tata has been flourishing since 1907 whereas few commercial organisations have survived for more than a century. On an average, however, the lifespan of commercial organisations in our country is about 50 years.

Over the years, surviving organisations change their structures as well as the composition of their activities. As they do so they either threaten or create opportunities for others. Whole new industries appear as new technologies are developed, creating niches of new activities for both new and old organisations, while other industries disappear.

Each business organization operates in its unique environment. Environment influence businesses and also gets influenced by it. No business can function free of interacting and influencing forces that are outside its periphery. In the emerging economy the facets of business are rapidly changing as compared to earlier years. The developments in technology and faster communication have lead to evolvement of newer kinds of businesses. The concept of businesses such as online shopping were non-existent in yesteryears. Businesses are conducted through internet and have lead to virtual shrinking of physical boundaries between nations.

(A CONTROL OF AND A CONTROL OF A CONT

Business environment represents all external forces, factors or conditions that exert some degree of impact on the business decisions, strategies and actions taken by the firm. The success of a business is generally dependent on its business environment. A successful business has to identify, appraise, and respond to the various opportunities and threats in its environments. To be successful, the business has to not only recognize different elements of its own environment but also respect/ adapt and manage and influence them. The business must continuously monitor and adapt itself to the environment if it is to survive and prosper.



According to Gluek 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 factors are socioeconomic, technological, suppliers, competitors, and government."

Modern authors include both Internal and external forces that influences business policies and actions as integral elements of business environment.

2.3

2.3 CHARACTERISTICS OF BUSINESS ENVIRONMENT

Business environment exhibits many characteristics. Some of the important – and obvious – characteristics are briefly described here.

| COMPLEX | The environment consists of a number of factors, events, conditions and influences arising from different sources. It is difficult to comprehend at once the factors constituting a given environment. All in all, environment is a complex that is somewhat easier to understand in parts but difficult to grasp in totality | |
|---------|--|---------------------------------------|
| DYNAMIC | The environment is constantly changing in nature. Due to the many and varied influences operating, there is dynamism in the environment causing it to continuously change its shape and character. | from ring tones / caller tunes rather |

| MULTI-FACETED | What shape and character an environment assumes depends on the perception of the observer. A particular change in the environment, or a new development, may be viewed differently by different observers. This is frequently seen when the same development is welcomed as an opportunity by one company while another company perceives it as a threat. | and now LED's giving way to 3D TV's |
|---------------------------|---|---|
| FAR REACHING IMPACT | The environment has a far-reaching impact on organizations. The growth and profitability of an organization depends critically on the environment in which it exists. Any environmental change has an impact on the organization in several different ways | has moved from textile to cement to retail and to financial services as well as telecom due to changing |

2.4 IMPORTANCE OF BUSINESS ENVIRONMENT

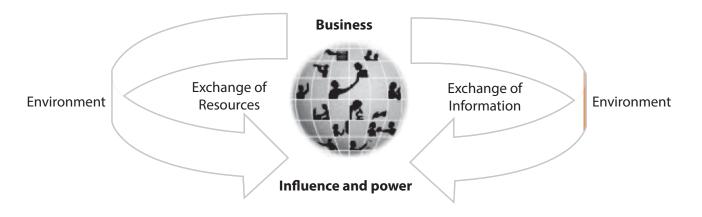
There is a close and continuous interaction between a business and its environment. This interaction helps in strengthening the business firm and using its resources more effectively. It helps the business in the following ways:

- i. **Determining Opportunities and Threats:** The interaction between the business and its environment would bring out opportunities for and threats to the business.
- ii. *Giving Direction for Growth:* The interaction with the environment enables the business to identify the areas for growth and expansion of their activities.
- iii. **Continuous Learning:** The managers are motivated to continuously update their knowledge, understanding and skills to meet the predicted changes in the realm of business.
- iv. **Image Building:** Environmental understanding helps the business organizations in improving their image by showing their sensitivity to the environment in which they operate. For example, in view of the shortage of power, many companies have set up Captive Power Plants (CPPs) in their factories to meet their own requirement of power.
- v. *Meeting Competition:* It helps the firms to analyze the competitors' strategies and formulate their own strategies accordingly.

2.5 RELATIONSHIP BETWEEN ORGANIZATION AND ITS ENVIRONMENT

In relation to the individual corporate enterprise, the external environment offers a range of opportunities, limitations, threats and pressures and thereby influences the structure and functioning of the enterprise.

2.5



The relationship between the organization and its environment may be discussed in terms of interactions between them in several major areas which are outlined below:

• **Exchange of information:** The organization scans the external environmental variables, their behaviour and changes, generates important information and uses it for its planning, decision-making and control purposes. Much of the organizational structure and functioning is attuned to the external environmental information. Information generation is one way to get over the problems of uncertainty and complexity of the external environment. Information is to be gathered on economic activity and market conditions, technological developments, social and demographic factors political-governmental policies and postures, the activities of other organizations and so on. Both current and projected information is important for the organization.

Apart from gathering information, the organization itself transmits information to several external agencies either voluntarily, inadvertently or legally. Other organizations and individuals may be interested in the organization and its functioning and hence approach the organization for information.

Reality Bite: Any data having commercial importance is information. For Example: change in the government law for new vehicles engine norms is data for a biscuit manufacturer but an information for an Automobile Manufacturer.

Exchange of resources: The organization receives inputs—finance, materials, manpower, equipment etc. from the external environment through contractual and other arrangements. The resources are often categorised as 5 M's Men, Money, Method, Machine, Material. It sustains itself by employing the above inputs for involving or producing output of products and services. The organization interacts with the factor markets for purposes of getting its inputs; it competes sometimes and collaborates sometimes with other organizations in the process of ensuring a consistent supply of inputs.

The organization is dependent on the external environment for disposal of its output of products and services to a wide range of clientele. This is also an interaction process—perceiving the needs of the external environment and catering to them, satisfying the expectations and demands of the clientele groups, such as customers, employees, shareholders, creditors, suppliers, local community, general public and so on.

 Exchange of influence and power: Another area of organizational-environmental interaction is in the exchange of power and influence. The external environment holds considerable power over the organization both by virtue of its being more inclusive as also by virtue of its command over resources,

information and other inputs. It offers a range of opportunities, incentives and rewards on the one hand and a set of constraints, threats and restrictions on the other. In both ways, the organization is conditioned and constrained. The external environment is also in a position to impose its will over the organization and can force it to fall in line.

Sometimes, organisations are also in position to wield considerable power and influence over some of the elements of the external environment by virtue of its command over resources and information. To the extent that the organization is able to hold power over the environment it increases its autonomy and freedom of action. It can dictate terms to the external forces and mould them to its will.

Reality Bite: FMCG company Patanjali endorsed by Baba Ramdev's is now a big player in the industry and is giving a tough competition to the well-established FMCG players like HUL, Godrej, Dabur, P & G etc. Now people prefer ayurvedic products over chemical products. Patanjali's success has taken it to a position where it can influence the market surely.

Patanjali gathers the information from the market, competitors, etc. about the public preferences and demands and then uses it to fulfil them through modification in the existing products or launching new products.

In defining the relationship between the organization and the environment, one has to be clear on the diversity of both these entities. The nature of relationship depends on the size of the organization, its age, the nature of business, the nature of ownership, degree of professionalization of management, etc.

ORGANIZATION'S RESPONSE TO ITS ENVIRONMENT

Organizations must have the capacity to monitor and make sense of their environments if they are to respond appropriately. They must identify and attend to those environmental factors and features that are closely related to goal achievement and performance. Moreover, they must have the internal capacity to develop effective responses.

Three classes of responses are described below:

- 1. **Administrative Response:** The most common organizational responses to the environment are administrative. These include the formation or clarification of the organization's mission; the development of objectives, policies, and budgets; or the creation of scanning units. These responses can be either proactive or reactive and are aimed at defining the organization's purpose and key tasks in relationship to particular environments.
- 2. **Competitive Response:** Competitive ressponses to the environment typically are associated with for-profit firms but can also apply to non-profits and governmental organizations. Such actions seek to enhance the organization's performance by establishing a competitive advantage over its rivals. To sustain competitive advantage, organizations must achieve an external position vis-à-vis their competitors or perform internally in ways that are unique, valuable, and difficult to imitate.
- 3. **Collective Response:** Organizations can cope with problems of environmental dependence and uncertainty through increased coordination with other organizations. Collective responses help control interdependencies among organizations and include such methods as bargaining, contracting, co-opting, and creating joint ventures, federations, strategic alliances, and consortia. Contemporary

2.7

organizations are increasingly turning towards joint ventures and partnerships with other organizations to manage environmental uncertainty and perform tasks that are too costly and complicated for single organizations to perform.

Reality Bite: Pharmaceutical firms are forming strategic alliances to distribute non-competing medications and avoid the high costs of establishing sales organizations; firms from different countries are forming joint ventures to overcome restrictive trade barriers, and high-technology firms are forming research consortia to undertake significant and costly research and development

2.7 ENVIRONMENTAL INFLUENCES ON BUSINESS

"Environment factors or constraint are largely if not totally, external and beyond the control of individual industrial enterprises and their managements. These are essentially the 'givers' within which firms and their managements must operate in a specific country and they vary, often greatly, from country to country."

Barry M. Richman and Melvyn Copen

All living creatures including human beings live within an environment. Apart from the natural environment, environment of humans include family, friends, peers, neighbours and society. It also includes man-made structures such as buildings, furniture, roads and other physical infrastructure.

Just like human beings, business also does not function in an isolated vacuum. Businesses function within a whole gambit of relevant 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.

To be successful business has to not only recognise different elements of the environment but also respect, adapt to or manage and influence them.



The business must continuously monitor and adapt to the environment if it is to survive and prosper.

A successful business has to identify, appraise, and respond to the various opportunities and threats in its environment.

Cadbury Situation

- Complaints received across India of worms in chocolates few years back
- Quality of the product became questionable
- Sales dropped
- Regulatory authority probe ordered





Famous Cadbury Fight back

- In house quality investigation to find out the cause
- Introduction of new improved packaging in record 90 days in the market
- Created a special Visi-cooler along with Voltas to keep chocolates in good and hygienic condition till the last POP (point of purchase) i.e. final consumer

Lessons Learnt

- Respect of the complaints and taking note of the fact that chocolates had worms
- Adapting to change the packaging in a record breaking time
- Managing the crisis at the company properly and keeping employee morale high
- Influenced the market with great come back Ad campaign

Business functions as a part of broader environment. The inputs in the form of human, physical, financial and other related resources are drawn from the environment. Business converts these resources through various processes into outputs of products and/or services. The latter are partly exchanged with the external client groups, say customers. The exchange process brings in some surplus (or profits, reputation, good public image and so on) to the business, which could be stored and used for further development and growth.

Different organizations use different inputs, adopt different processes and produce different outputs. For example, an educational institution produces literate people. A hospital provides health and medical services. Organizations depend on the external environment for the inputs required by them and for disposing of their outputs in a mutually beneficial manner. The input-output exchange activity is a continuous process and calls for an active interaction with the external environment.

2.7.1 Framework to understand the environmental influences

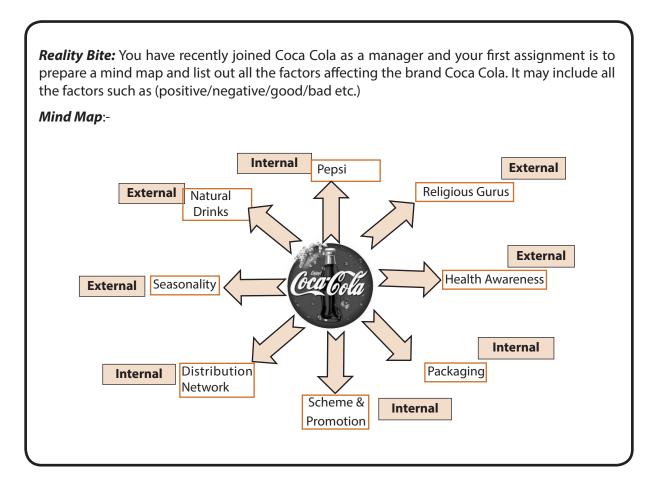
In spite of the problems in understanding business environment, organizations cannot ignore it. We will make an attempt to identify a framework for understanding the environment of organizations. This will

© The Institute of Chartered Accountants of India 51701947 ICAI Business and Commercial Konwledge Full Pdf-nw.pdf 44 / 200

help in identifying key issues, find ways of coping with complexity and also assist in challenging managerial thinking.

- **Firstly,** it is useful to take an initial view of the nature of the organizations environment in terms of how uncertain it is. Is it relatively static or does it show signs of change, and in what ways? Is it simple or complex to comprehend? This helps in deciding what focus the rest of the analysis is to take.
- **Secondly,** The next step might be the auditing of environmental influences. Here the aim is to identify which of the many different environmental influences are likely to affect the organization's development or performance. It is useful to identify the influencing factors and relate such influences.
- **The final step** is to focus more towards an explicit consideration of the immediate environment of the organization for example, the competitive arena in which the organization operates.

There should be an attempt to understand why the forces are of strategic significance. It is also required to analyse the organization's competitive position: that is, how it stands in relation to those organizations competing for the same resources, or customers, as itself.



2.8 WHY ENVIRONMENTAL ANALYSIS?

When the company does not react to the demands of the environment by changing its strategy, the result is declining performance of the company in the market

2.8.1 Utility of Environmental Analysis

2.10

From environmental analysis strategists get time to anticipate opportunities and to plan to take optional responses to these opportunities. It also helps strategists to develop an early warning system to prevent threats or to develop strategies which can turn a threat to the firm's advantage.

It is clear that because of the difficulty to assessing the future, not all future events can be anticipated. To the extent that some or most are anticipated by this analysis and diagnosis, managerial decisions are likely to be better. The managers can concentrate on these few instead of having to deal with all the environmental influences.

2.8.2 Purpose of Environmental Analysis

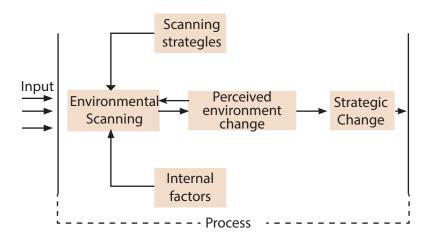
In general, environmental analysis has three basic goals as follows:

- *First,* the analysis should provide an understanding of current and potential changes taking place in the environment. It is important that one must be aware of the existing environment. At the same time one must have a long term perspective about the future too.
- **Second,** environmental analysis should provide inputs for strategic decision making. Mere collection of data is not enough. The information collected must be useful for and used in strategic decision making.
- **Third,** environment analysis should facilitate and foster strategic thinking in organizations-typically a rich source of ideas and understanding of the context within which a firm operates. It should challenge the current wisdom by bringing fresh viewpoints into the organization.

2.9 ENVIRONMENTAL SCANNING

Organizational environment consists of both external and internal factors. Environment must be scanned so as to determine development and forecasts of factors that will influence organizational success.

Environmental scanning can be defined as the process by which organizations monitor their relevant environment to identify opportunities and threats affecting their business for the purpose of taking strategic decisions. It is the process of gathering information regarding company's environment, analysing it and forecasting the impact of all predictable environmental changes. It helps the managers to decide the future path of the organization.

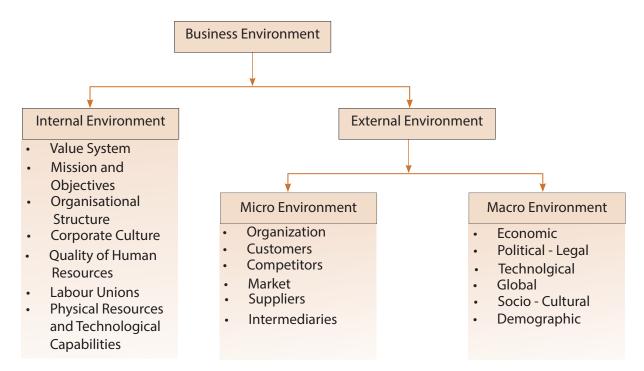


Scanning must identify the threats and opportunities existing in the environment. While strategy formulation, an organization must take advantage of the opportunities and minimize the threats. A threat for one organization may be an opportunity for another.

The factors which need to be considered for environmental scanning are events, trends, issues and expectations of the different interest groups. These factors are explained below:

- **Events** are important and specific occurrences taking place in different environmental sectors. Events are certain happening in the internal or external organisational environment which can be observed and tracked.
- Trends are the general tendencies or the courses of action along which events take place. Trends are
 grouping of similar or related events that tend to move in a given direction, increasing or decreasing in
 strength of frequency of observation; usually suggests a pattern of change in a particular area.
- **Issues** are the current concerns that arise in response to events and trends. Identifying an emerging issue is more difficult. Emerging issues start with a value shift, or a change in how an issue is viewed.
- **Expectations** are the demands made by interested groups in the light of their concern for issues.

2.10 COMPONENTS OF BUSINESS ENVIRONMENT



2.10.1 Internal Environment

Internal environment is composed of multiple elements existing within the organization, including management, current employees and corporate culture. Internal environment is the conditions, people, events and factors within an organization that influence its activities and choices, particularly the behaviour of the employees. Factors that are frequently considered part of the internal environment also include the organization's mission statement, leadership styles and its organizational culture.

2.10.2 External Environment

A business does not operate in a vacuum. It has to act and react to what happens outside the factory and with is the office walls. These factors that happen outside the business are known as external factors or influences. These will affect the internal functions of the business and also the objectives of the business and its strategies.

There are two major types of external environment:

- i. Micro Environment
- ii. Macro Environment

The environment in which an organization exists can, therefore, be described in terms of the opportunities and threats operating in the external environment apart from the strengths and weaknesses existing in the internal environment. The four environmental influences could be described as follows:



 A strength is an inherent capacity which an organization can use to gain strategic advantage over its competitors.

An example of strength is superior research and development skills which can be used for new product development so that the company gains competitive advantage.

A weakness is an inherent limitation or constraint which creates a strategic disadvantage.

An example of a weakness is over dependence on a single product line, which is potentially risky for a company in times of crisis.





• An *opportunity* is a favourable condition in the organization's environment which enables it to consolidate and strengthen its position.

An example of an opportunity is growing demand for the products or services that a company provides

• A *threat* is an unfavourable condition in the organization's environment which creates a risk for, or causes damage to, the organization.

An example of a threat is the emergence of strong new competitors who are likely to offer stiff competition to the existing companies in an industry.



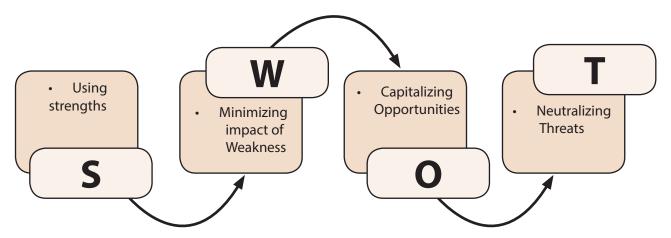
An understanding of the external environment, in terms of the opportunities and threats, and the internal environment, in terms of the strengths and weaknesses, is crucial for the existence, growth and profitability of any organization.

2.10.3 SWOT Analysis

A systematic approach to understanding the environment is the SWOT analysis. Business firms undertake SWOT analysis to understand the external and internal environment. SWOT, which is the acronym for strengths, weaknesses, opportunities and threats.

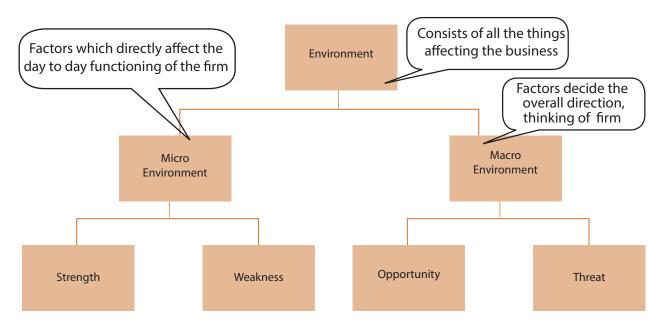
Through such an analysis, the strengths and weaknesses existing within an organization can be matched with the opportunities and threats operating in the environment so that an effective strategy can be formulated.

An effective organizational strategy, therefore, is one that capitalises on the opportunities through the use of strengths and neutralises the threats by minimizing the impact of weaknesses.



The process of strategy formulation starts with, and critically depends on, the appraisal of the external and internal environment of an organization. We will learn more about SWOT analysis in the second chapter of strategic Management at Intermediate level.

2.11 MICRO AND MACRO ENVIRONMENT



51701947_ICAI_Business and Commercial Konwledge_Full Pdf-nw.pdf___49 / 200

The environment of business can be broadly categorised into two: micro-environment and macro-environment.

Micro-environment is related to small area or immediate periphery of an organization. Micro-environment influences an organization regularly and directly. Within the micro or the immediate environment in which a firm operates we need to address the following issues:

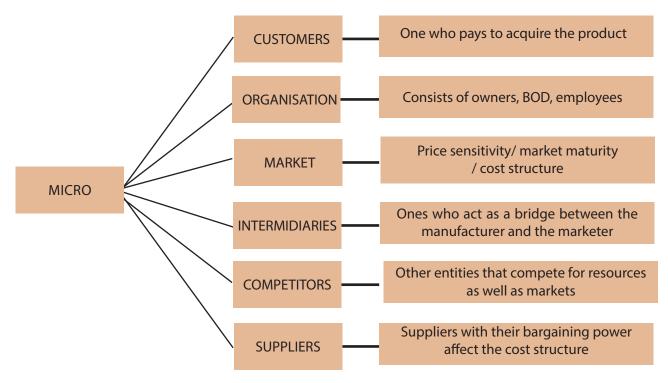
- The employees of the firm, their characteristics and how they are organised.
- The customer base on which the firm relies for business.
- The ways in which the firm can raise its finance.

2.14

- Who are the firm suppliers and how are the links between the two being developed?
- The local community within which the firm operates.
- The direct competition and how they perform.

This last point might act as a convenient linking point as we move towards the macro issues influencing the way a firm reacts in the market place.

Micro environment: consist of suppliers, consumers, marketing intermediaries, etc. These are specific to the said business or firm and affects it's working on short term basis.

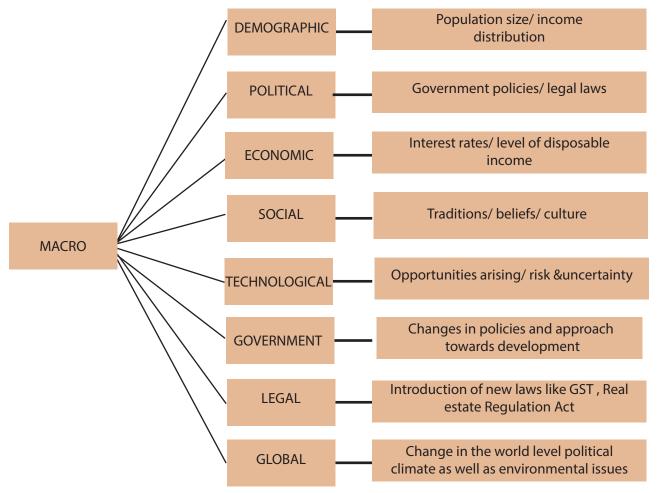


Macro environment has broader dimensions. It mainly consists of economic, technological, political, legal and socio-cultural. The issues concerning an organization are:

- What are its threats in the competitive world in which it operates and why?
- Which areas of technology might pose a threat to its current product range and why?
- The bargaining power of suppliers and customers.

The classification of the relevant environment into components or sectors helps an organization to cope with its complexity, comprehend the different influences operating, and relating the environmental changes to its strategic management process. The business environment can be divided into two major components:

Macro Environment: consists of demographics and economic conditions, socio-cultural factors, political and legal systems, technological developments and global trends, etc. These constitute the general environment, which affects the working of all the firms.



2.12 ELEMENTS OF MICRO ENVIRONMENT

This is also known as the task environment and affects business and marketing in the daily operating level. When the changes in the macro environment affect business in the long run, the micro environmental changes are noticed immediately. Organizations have to closely analyse and monitor all the elements of micro environment in order to stay competitive.

2.12.1 Consumers/Customers

According to Peter Drucker the aim of business is to create and retain customer. Customers are the people who pay money to acquire an organization's products. The products may be both in form of goods or services. The organizations cannot survive without customers. Customers may or may not be a consumer. Consumer is the one who ultimately consumes or uses the product or service.

A father may buy a product as a customer for his daughter who will be a consumer. A consumer occupies the central position in the marketing environment. The marketer has to closely monitor and analyze changes in consumer tastes and preferences and their buying habits.

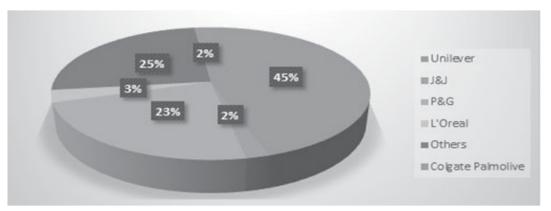
- Who are the customers/consumers?
- What benefits are they looking for?
- What are their buying patterns?

2.12.2 Competitors

Competitors are the other business entities that compete for resources as well as markets. Competition shapes business. A study of the competitive scenario is essential for the marketer, particularly threats from competition. Following are a few of major questions that may be addressed for analyzing competitions:

- Who are the competitors?
- What are their business objectives and strategies?
- Who are the most aggressive and powerful competitors?

Competition may be direct or indirect. Direct competition is between organizations, which are in same business activity. *For example*, in Indian shampoo sachet market, there are so many competitors who are competing to increase for their market share. At the same time, competition can also be indirect. *For example*, competition between a holiday resort and a car manufacturing company for available a discretionary income of affluent customers is indirect competition.



India Shampoo Sachet Market Share Split

2.12.3 Organization

Individuals occupying different positions or working in different capacities in organizations consist of individuals coming from outside. They have different and varied interests. In micro environment analysis, nothing is important as self-analysis by the organization itself. Understanding its own strengths and capabilities in a particular business, i.e., understanding a business in depth should be the goal of firm's internal analysis. The objectives, goals and resource availabilities of a firm occupy a critical position in the micro environment.

"We have met the enemy and he is us" - Pogo.

An organization has several non-specific elements of the organization's surroundings that may affect its activities. These consist of specific organizations or groups that are likely to influence an organization. These are:

- **Owners:** They are individuals, shareholders, groups, or organizations who have a major stake in the organization. They have a vested interest in the well-being of the company.
- **Board of Directors:** Board of directors are found in companies formed under the Companies Act, 1956. The board of directors is elected by the shareholders and is charged with overseeing the general management of the organization to ensure that it is being run in a way that best serves the shareholders' interests.
- **Employees:** Employees are the people who actually do the work in an organization. They are the major force within an organization. It is important for an organization that employees embrace the same values and goals as the organization. However, they differ in beliefs, education, attitudes, and capabilities. When managers and employees work toward different goals everyone suffers.

2.12.4 Market

The market is larger than customers. The market is to be studied in terms of its actual and potential size, its growth prospect and also its attractiveness. The marketer should study the trends and development and the key success factors of the market he is operating. Important issues are :

- Cost structure of the market.
- The price sensitivity of the market.
- Technological structure of the market.
- The existing distribution system of the market.
- Is the market mature?

2.12.5 Suppliers

Suppliers form an important component of the micro environment. They provide raw materials, equipment, services and so on. Large companies rely on hundreds of suppliers to maintain their production. Suppliers with their own bargaining power affect the cost structure of the industry. They constitute a major force, which shapes competition in the industry. Also organizations have to take a major decision on "outsourcing" or "in-house" production depending on this supplier environments.

Reality Bite: Whenever you purchase a packet of biscuit and take a closer look at the pack, you will realise that, the company selling the biscuit and the company actually making the biscuit is actually different, for example, if you take a look at the image below of the biscuit packet. You will see the difference. Here, Parle is marketing the biscuit and others are making on its behalf. This is called outsourcing.



2.12.6 Intermediaries

2.18

Intermediaries exert a considerable influence on the business organizations. They can also be considered as the major determining force in the business. In many cases the consumers are not aware of the manufacturer of the products they buy. They buy product from the local retailers, big departmental stores or online stores that are increasingly becoming popular.

(2.13 ELEMENTS OF MACRO ENVIRONMENT

Macro environment is that part of external environment which is largely external to the enterprise and thus beyond the direct influence and control of the organization, but which exerts powerful influence over its functioning.

The external environment of the enterprise consists of individuals, groups, agencies, organizations, events, conditions and forces with which the organization comes into frequent contact in the course of its functioning. It establishes interacting and interdependent relations, conducts transactions, designs and administers appropriate strategies and policies to cope with fluctuations therein and otherwise negotiates its way into the future.

2.13.1 Demographic Environment

The term demographics denotes characteristics of population in a area, district, country or in the world. It includes factors such as race, age, income, educational attainment, asset ownership, home ownership, employment status and location. Data with respect to these factors within a demographic variable, and across households, are of interest, to businessmen in addition to economists. Marketers and other social scientists often group populations into categories based on demographic variables.

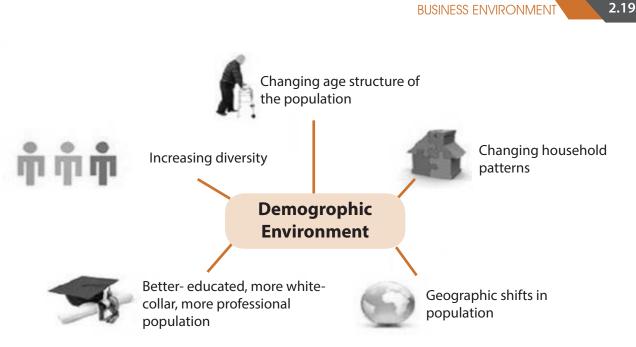


Figure: Demographic Environment

Some of the demographic factors have great impact on the business. Factors such as general age profile, sex ratio, education, growth rate affect the business with different magnitude. India has relatively younger population as compared to some other countries. China on the other hand is having an aging population. Many multinationals are interested in India considering its population size. With having approximately sixteen percent of the world's population, the country holds huge potential for overseas companies.

Business Organizations need to study different demographic factors. Particularly, they need to address following issues:

- What demographic trends will affect the market size of the industry?
- What demographic trends represent opportunities or threats?

The business, as such, is concerned with a population's size, age structure, geographic distribution, ethnic make-up, and distribution of income. While each of the major elements of discussed below, the challenge for strategists is to determine what the changes, that have been identified in the demographic characteristics or elements of a population, imply for the future strategic competitiveness of the company. We will briefly discuss a few factors that are of interest to a business.

- (i) **Population Size:** While population size itself, large or small, may be important to companies that require a "critical mass" of potential customers, changes in the specific make-up of a population's size may have even more critical implications. Many foreign companies find India lucrative on account of its size. Among the most important changes in a population's size are:
- Changes in a nation's birth rate and/or family size;
- Increases or declines in the total population;
- Effects of rapid population growth on natural resources or food supplies.

Changes in a nation's population growth rate and life expectancy can have important implications for companies.

2.20

- (ii) **Geographic Distribution:** Population shifts from one region of a nation to another or from nonmetropolitan to metropolitan areas may have an impact on a company's strategic competitiveness. Issues that should be considered include:
- The attractiveness of a company's location may be influenced by governmental support.
- Companies may have to consider relocation if population shifts have a significant impact on the availability of qualified workforce.
- The concepts of working-at-home and commuting electronically on the information highway have also started in India. These may imply changes in recruiting and managing the workforce.
- (iii) *Ethnic Mix:* This reflects the changes in the ethnic make-up of a population and has implications both for a company's potential customers and for the workforce. Issues that should be addressed include:



- What do changes in the ethnic mix of the population imply for product and service design and delivery?
- Will new products and services be demanded or can existing ones be modified?
- Are the managers prepared to manage a more culturally diverse workforce?
- How can the company position itself to take advantage of increased workforce heterogeneity?

Reality Bite: Shampoo companies sell their product in bottles in residential area/ malls while the same product is sold in sachets in hostel/ rural areas. This is done because in hostels or rural areas the pocket money/disposable income is less as compared to residential areas where people prefer buying in large quantity.

(iv) Income Distribution: Changes in income distribution are important because changes in the levels of individual and group purchasing power and discretionary income often result in changes in spending (consumption) and savings patterns. Tracking, forecasting, and assessing changes in income patterns may identify new opportunities for companies

2.13.2 Economic Environment

Economic environment refers to the nature and direction of the economy in which a company competes or may compete. It includes general economic situation in the region and the nation, conditions in resource markets (men, money, material, machine, method) which influence the supply of inputs to the enterprise, their costs, quality, availability and reliability of supplies.

2.21

Economic environment determines the strength and size of the market. The purchasing power in an economy depends on current income, prices, savings, circulation of money, debt and credit availability. Income distribution pattern determines the marketing possibilities. The important point to consider is to find out the effect of economic prospect and inflation on the operations of the firms.

Factors that Affect the Economic Environment

1. Economic Systems

- (i) **Capitalism:** A capitalist economy is an economy where the laws of demand and supply operate freely. The capitalist system is one which is characterized by private ownership of the means of production, individual decision-making, and the use of market mechanisms to carry out the decision of individual participants and facilitate the flow of goods and services in market.
- (ii) **Socialism:** Socialism is generally understood as an economic system where the means of production are either owned or controlled by the state and where the resources allocation, investment pattern, consumption, income distribution, etc. are directed and regulated by the state.
- (iii) Mixed economy: Mixed economy is the outcome of compromise between two diametrically opposing schools of thought. In a mixed economy, private, public and joint sectors and the like all have some say in the major decisions that influence the functioning of the economy. These are followed by the four important economic roles played by the government in a mixed economy viz. regularity role, promotional role, entrepreneurial role and planning role.

2. Economic Conditions or Factors

The economic conditions of a nation refer to a set of economic factors that have great influence on business organizations and their operations. These include gross domestic product, per capita income, markets for goods and services, availability of capital, foreign exchange reserve, growth of foreign trade, strength of capital market, interest rates, disposable income, unemployment, inflation, etc.

3. Economic Policies

All business activities and operations are directly influenced by the economic policies framed by the government from time to time. Some of the important economic policies are:

- (i) **Industrial policy:** The Industrial policy of the government covers all those principles, policies, rules, regulations and procedures, which direct and control the industrial enterprises of the country and shape the pattern of industrial development.
- (ii) Fiscal policy: It includes government policy in respect of public expenditure, taxation and public debt.
- (iii) **Monetary policy:** It includes all those activities and interventions that aim at smooth supply of credit to the business and a boost to trade and industry.
- (iv) Foreign investment policy: This policy aims at regulating the inflow of foreign investment in various sectors for speeding up industrial development and take advantage of the modern technology.
- (v) Export–Import policy (Exim policy): It aims at increasing exports and bridge the gap between expert and import. Through this policy, the government announces various duties/levies. The focus now-a-days lies on removing barriers and controls and lowering the custom duties.

2.13.3 Political-Legal Environment

This is partly general to all similar enterprises and partly specific to an individual enterprise. It includes such factors as the general state of political development, the degree of politicization of business and economic issues, the level of political morality, the law and order situation, political stability, the political ideology and practices of the ruling party, the purposefulness and efficiency of governmental agencies, the extent and nature of governmental intervention in the economy and the industry, Government policies (fiscal, monetary, industrial, labour and export-import policies), specific legal enactments and framework in which the enterprise has to function and the degree of effectiveness with which they are implemented, public attitude towards business in general and the enterprise in particular and so on. There are three important elements in political-legal environment.

(i) **Government:** Business is highly guided and controlled by government policies. Hence the type of government running a country is a powerful influence on business: A business has to consider the changes in the regulatory framework and their impact on the business. Taxes and duties are other critical area that may be levied and affect the business.

For Example: The Indian government is promoting manufacturing sector through campaigns like Make in India.

(ii) Legal: Businesses prefer to operate in a country where there is a sound legal system. However, in any country businesses must have a good working knowledge of the major laws protecting consumers, competitions and organizations. Businesses must understand the relevant laws relating to companies, competition, intellectual property, foreign exchange, labour and so on.

For Example: New GST law will influence most of the businesses.

(iii) **Political:** Political pressure groups influence and limit organizations. Apart from sporadic movements against certain products, service and organizations, politics has deeply seeped into unions. Also, special interest groups and political action committees put pressure on business organizations to pay more attention to consumers' rights, minority rights, and so on.

2.13.4 Socio-Cultural Environment

This is too a general factor which influences almost all enterprises in a similar manner. It represents a complex of factors such as social traditions, values and beliefs, level and standards of literacy and education, the ethical standards and state of society, the extent of social stratification, conflict and cohesiveness and so forth.

Socio-cultural environment consists of factors related to human relationships and the impact of social attitudes and cultural values which has bearing on the operations of the organization. The beliefs, values and norms of a society determine how individuals and organizations should be interrelated. The core beliefs of a particular society tend to be persistent. It is difficult for a business to change these core values, which becomes a determinant of its functioning.



Some of the important factors and influences operating in the socio-cultural environment are:

- Social concerns, such as the role of business in society, environmental pollution, corruption, use of mass media, and consumerism.
- Social attitudes and values, such as expectations of society from business, social customs, beliefs, rituals and practices, changing lifestyle patterns, and materialism.
- Family structure and changes in it, attitude towards and within the family, and family values.
- Role of women in society, position of children and adolescents in family and society.
- Educational levels, awareness and consciousness of rights, and work ethics of members of society.

The social environment primarily affects the strategic management process within the organization in the areas of mission and objective setting, and decisions related to products and markets.

Reality Bite: The sale pattern in different parts of our country is different. For example, Diwali has a big impact in north, west and central India whereas in eastern India , major sales time is Durga pooja and in south the regional festivals dominate the maximum sales.

2.13.5 Technological Environment

The most important factor, which is controlling and changing people's life, is technology. Man could realise the dream of walking on the moon, traveling in spaceships, and giving to the other side of the globe within a few hours.

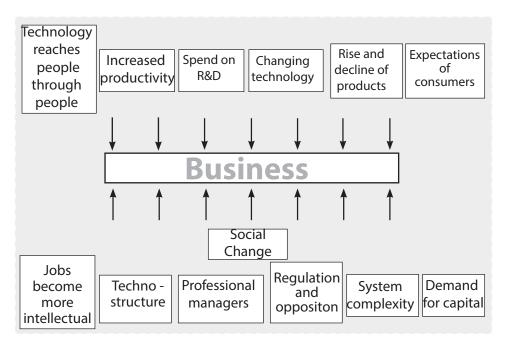


Figure: Interface between Business & Technology

Technology has changed the way people communicate with the advent of Internet and telecommunication system. Technology has changed the ways of how business operates now. This is leading to many new

business opportunities as well as making obsolete many existing systems. The following factors are to be considered for the technological environment:

• The pull of technological change.

2.24

- Opportunities arising out of technological innovation.
- Risk and uncertainty of technological development.
- Role of R&D in a country and government's R&D budget.

Technology can act as both opportunity and threat to a business. It can act as opportunity as business can take advantage of adopting technological innovations to their strategic advantage. However, at the same time technology can act as threat if organisations are not able to adapt it to their advantage. For example, an innovative and modern production system can act as threat if the business is not able to change its production system. New entrants can always use availability of technological improvements in products or production methods that can be a threat to a business.

The technology and business are highly interrelated and interdependent. The fruits of technological research and development are available to society through business only and this also improves the quality of life of the society. Hence, technology is patronized by business. Then again technology also drives business and makes a total change on how it is carried out.

Using technology many organisations are able to reduce paperwork, schedule payments more efficiently, able to coordinate inventories efficiently and effectively. This helps to flatten companies, and shrink time and distance, thus capturing a competitive advantage for the company. Because the technological aspects are so important, some of the key questions that can be asked in assessing the technological environment are given below:

- What are the technologies {both production and information technologies} used by the company?
- Which technologies are utilised in the company's business, products, or their parts?
- How critical is each technology to each of these products and businesses?
- Which external technologies might become critical and why? Will they remain available outside the company?
- What has been the investment in the product and in the process side of these technologies? For the company and for its competitors? Design? Production? Implementation and service?
- Which technological investments should be curtailed or eliminated?
- What additional technologies will be required in order to achieve business objectives?
- What are the implications of the technology on business portfolios.

2.13.6 Global Environment

Today's competitive landscape requires that companies must analyse global environment as it is also rapidly changing. The concept of global village has changed how individuals and organizations relate to each other.

Further, new migratory habits of the workforce as well as increased offshore operations are changing the dynamics of business operation. Among the global environmental factors that should be assessed are:

• Potential positive and negative impact of significant international events such as a sport meet or a terrorist attack.

- Identification of both important emerging global markets and global markets that are changing. This
 includes shifts in the newly industrialised countries in Asia that may imply the opening of new markets
 for products or increased competition from emerging globally competitive companies.
- Differences between cultural and institutional attributes of individual global markets.

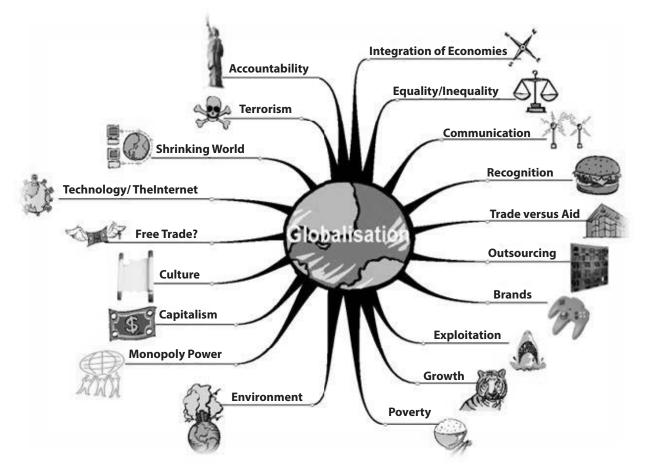


Figure: Impact of technology tree image

Due to economic reforms, the Indian firms are also out to see beyond the physical boundaries of the country. They are acquiring businesses in different countries. The need to think and act from global perspective is universal. For a long time, businesses everywhere believed that home markets were adequate and safe. They never felt the need to explore the overseas markets in a big way. "If they could pick up some extra sales through exporting, these businesses were more than satisfied. The scenario is different now. The companies are increasingly interested in globalising.

(2.14 PESTLE ANALYSIS

The term PESTLE is used to describe a framework for analysis of macro environmental factors. PESTLE analysis involves identifying the **political**, **economic**, **socio-cultural**, **technological**, **legal and environmental** influences on an organization and providing a way of scanning the environmental influences that have affected or are likely to affect an organization or its policy. 'PESTLE analysis is an increasingly used and

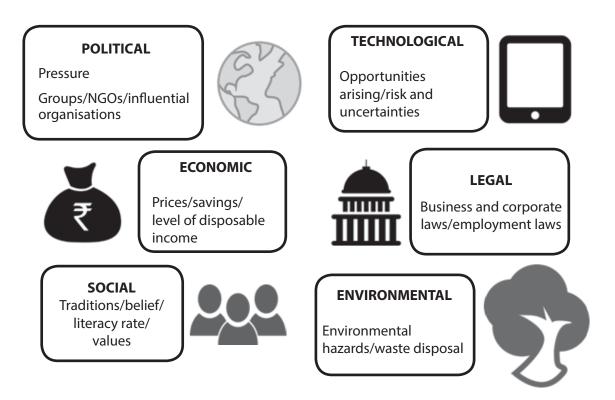
recognized term, replacing the traditional framework for monitoring environment known as PEST analysis. PESTLE is an acronym for:

• P-political,

2.26

- E- economic
- S- socio-cultural
- T- technological
- L- legal
- E- environmental

The PESTLE analysis is simple to understand and quick to implement. The advantage of this tool is that it encourages management into proactive and structured thinking in its decision making.



The Key Factors

- **Political** factors are how and to what extent the government intervenes in the economy and the activities of business firms. Political factors may also influence goods and services which the government wants to provide or be provided and those that the government does not want to be provided. Furthermore, governments have great influence on the health, education and infrastructure of a nation.
- **Economic** factors have major impacts on how businesses operate and take decisions. For example, interest rates affect a firm's cost of capital and therefore to what extent a business grows and expands. Exchange rates affect the costs of exporting goods and the supply and price of imported goods in an

economy. The money supply, inflation, credit flow, per capita income, growth rates have a bearing on the business decisions.

- Social factors affect the demand for a company's products and how that company operates.
- **Technological** factors can determine barriers to entry, minimum efficient production level and influence outsourcing decisions. Furthermore, technological shifts can affect costs, quality, and lead to innovation.
- Legal factors affect how a company operates, its costs, and the demand for its products.
- **Environmental** factors affect industries such as tourism, farming, and insurance. Growing awareness to climate change is affecting how companies operate and the products they offer--it is both creating new markets and diminishing or destroying existing ones.

On the basis of these, it should be possible to identify a number of key environmental influences, which are in effect, the drivers of change. These are the factors that require to be considered in the matrix. Then transpose the final items that have been identified from your list to a PESTLE matrix as shown below:

| Political | Economic |
|---|---|
| Political stability | Economy situation and trends |
| Political principles and ideologies | Market and trade cycles |
| Current and future taxation policy | Specific industry factors |
| Regulatory bodies and processes | Customer/end-user drivers |
| Government policies | Interest and exchange rates |
| Government term and change | Inflation and unemployment |
| Thrust areas of political leaders. | Strength of consumer spending |
| Social | Technological |
| Lifestyle trends | Replacement technology/solutions |
| Demographics | Maturity of technology |
| Consumer attitudes and opinions | Manufacturing maturity and capacity |
| Brand, company, technology image | Innovation potential |
| Consumer buying patterns | Technology access, licensing, patents |
| Ethnic/religious factors | Intellectual property rights and copyrights |
| Media views and perception | |
| Legal | Environmental |
| Business and Corporate Laws | Ecological/environmental issues |
| Employment Law | Environmental hazards |
| Competition Law | Environmental legislation |
| Health & Safety Law | Energy consumption |
| International Treaty and Law | Waste disposal |
| Regional Legislation | |

The PESTLE Matrix

2.15 STRATEGIC RESPONSE TO THE ENVIRONMENT

The business organization and its many environments have innumerous interrelationships that at times, it becomes difficult to determine exactly where the organization ends and where its environment begins. It is also difficult to determine exactly what business should do in response to a particular situation in the environment. Strategically, the businesses should make efforts to exploit the opportunities and overcome the threats.

In this context following approaches may be noted:

- (i) **Least resistance:** Some businesses just manage to survive by way of coping with their changing external environments. They are simple goal-maintaining units. They are very passive in their behaviour and are solely guided by the signals of the external environment. They are not ambitious but are content with taking simple paths of least resistance in their goal-seeking and resource transforming behaviour. *Example: BSNL*
- (ii) Proceed with caution: At the next level, are the businesses that take an intelligent interest to adapt with the changing external environment. They seek to monitor the changes in that environment, analyse their impact on their own goals and activities and translate their assessment in terms of specific strategies for survival, stability and strength. They regard that the pervasive complexity and turbulence of the external environmental elements as 'given' within the framework of which they have to function as adaptive-organic sub-systems. This is an admittedly sophisticated strategy than to wait for changes to occur and then take corrective-adaptive action. Example: Airtel
- (iii) Dynamic response: At a still higher level, are those businesses that regard the external environmental forces as partially manageable and controllable by their actions. Their feedback systems are highly dynamic and powerful. They not merely recognise and ward off threats; they convert threats into opportunities. They are highly conscious and confident of their own strengths and the weaknesses of their external environmental 'adversaries'. Example: Vodafone

SUMMARY

We began this chapter by understanding the concept of business. A business is society's organ of economic expansion, growth and change. A business for our purpose can be any activity consisting of purchase, sale, manufacture, processing, and/or marketing of products and/or services. This chapter explains the three basic goals of environmental analysis and business environment with its characteristics such as complexity, dynamism, multi-faceted nature and far reaching impact. The relationship between organization and its environment is also discussed in terms of interactions between them in several major areas.

The environment in which an organization exists could be broadly divided into two categories - external and internal environment. The external environment is further classified into two categories micro and macro environment. Micro environment relates to those forces that fall within immediate small periphery of an organization. It consists of customers, competitors, organization, market, suppliers, intermediaries, etc. Macro environment is at a distance and has broader dimensions. It consists of demographic, economic, political-legal, socio-cultural, technological and global environment, etc. We studied PESTLE analysis which is used to analyze the external environment. The approaches of strategic response to the environment which may be followed by the business have also been discussed in this chapter.

TEST YOUR KNOWLEDGE

Multiple Choice Questions

- 1. Organisations depend upon which environment for Input:
 - a) Technological Environment
 - b) Social-Economic Environment
 - c) External Environment
 - d) Legal Environment
- 2. Environmental Analysis helps in:
 - a) Providing input for strategic decision making
 - b) Turning threat's to firms advantage
 - c) Anticipate opportunities and to take optimal responses
 - d) All of the above
- 3. Trends relate to:
 - a) Happening of events in internal Environment
 - b) Grouping of similar or related events
 - c) Demands made by Interested group
 - d) None of the above

- 4. Which of the following exhibit characteristic of Business Environment?
 - I) Environment is static
 - II) Environment is dynamic
 - III) Environment is complex and multi-faceted
 - IV) It has short term reach

Options

- a) Point I & III
- b) Point I, II & III
- c) Point II & IV
- d) Point II & III
- 5. A threat is
 - a) An unfavourable condition in organisation environment which creates risk or damage to the environment
 - b) An inherent limitation or constraint
 - c) An unfavourable condition in organisation environment which consolidates its strength
 - d) None of the above
- 6. Who occupies the central position in the marketing environment?
 - a) Consumer
 - b) Customer
 - c) Organisation
 - d) All of the above
- 7. The price sensitivity of the market is an important factor of which element of Micro environment:
 - a) Suppliers
 - b) Market
 - c) Intermediaries
 - d) Customer
- 8. ______ with their own bargaining power affect the cost structure of the industry.
 - a) Intermediaries
 - b) Suppliers
 - c) Consumer
 - d) Government

2.31

- 9. Which of the following is not a factor of Demographic Environment?
 - a) Ethnic Mix
 - b) Legal
 - c) Population size
 - d) Geographic Distribution
- 10. Business and technology are:
 - a) Interrelated
 - b) Interdependent
 - c) Interrelated & Interdependent
 - d) None of the above

11. Environment which is close to business and affect its capacity to work is known as ______ environment:

- a) Micro
- b) Macro
- c) Internal
- d) External
- 12. Study of human population is called as ______ environment.
 - a) Political
 - b) Demographic
 - c) Global
 - d) Economic
- 13. What is the single word that can best describe today's business?
 - a) Technology
 - b) Persistence
 - c) Profit making
 - d) Change
- 14. Competition is beneficial to the competing firms besides benefiting the _____?
 - a) Intermediaries
 - b) Customers
 - c) Producers
 - d) Financiers

- 15. ______ is the process by which organizations monitor their relevant environment to identify opportunities and threats affecting their business for the purpose of taking strategic decisions.
 - a) Forecasting
 - b) Assessment
 - c) Scanning
 - d) None of the above
- 16. The following statement relates to which strategic response approach to the environment:

They seek to monitor the changes in that environment, analyse their impact on their own goals and activities and translate their assessment in terms of specific strategies for survival, stability and strength.

- a. Proceed with caution
- b. Least resistance
- c. Dynamic response
- d. Static Response
- 17. Which of the following is not a part of the economic environment?
 - a) Market and trade cycles
 - b) Consumer buying patterns
 - c) Strength of consumer spending
 - d) Interest and exchange rates
- 18. What is the kind of response that businesses should make efforts to exploit the opportunity and thought the threats:
 - a) Strategic Responses
 - b) Least resistance
 - c) Diversify
 - d) Simplify
- 19. Which of the following is not a characteristic least resistance strategic response:
 - a) Simple goal maintaining
 - b) Passive approach
 - c) Dynamic
 - d) All of the above
- 20. Perceiving the needs of the external environment and catering to them, satisfying the expectations and demands of the clientele groups is :
 - a) Reciprocal agreement
 - b) Interdependent process

- c) Management process
- d) Interaction process
- 21. Process of strategy formulation starts with:
 - a) Appraisal of external and internal environment of the of an organisation
 - b) Performance analysis
 - c) Choice of strategy
 - d) None of the above
- 22. _____ response not merely recognise and ward off threats but also covert threat into opportunities:
 - a) Aggressive
 - b) Dynamic
 - c) Static
 - d) Passive
- 23. The businesses should continuously _____ and _____ to the environment if it is to service and prosper.
 - a) Identify, appraise
 - b) Monitor, adapt
 - c) Identify, monitor
 - d) Monitor, appraise

24. Through SWOT analysis :

- a) Strengths and weakness existing within the environment can be matched with opportunities and threats in the organisation.
- b) Strengths and weakness existing outside the organisation can be matched with opportunities and threats with the internal environment.
- c) Strengths and weakness existing outside the organisation can be matched with opportunities and threats with the external environment.
- d) Strengths and weakness existing within an organisation can be matched with opportunities and threats in the environment.
- 25. Relationship between organisation and environment can be described through:
 - a) Exchange of information
 - b) Exchange of resources
 - c) Exchange of influence and power
 - d) All of the above

- 26. According to Peter Drucker aim of the business is to _____ and _____
 - a) Create and retain customer
 - b) Retain customer and create profits
 - c) Create and retain consumer
 - d) Retain consumer and maximise wealth
- 27. The non-specific elements of the organisations surroundings that may affect its activities are;
 - a) Customers, suppliers and employees
 - b) Suppliers, owners, employees
 - c) Owners, Board of Directors and Employees
 - d) Customers, Intermediaries, Suppliers.
- 28. The ______ environment refers to the nature and direction of the economy in which a company competes or may compete.
 - a) Socio-cultural
 - b) Internal
 - c) Micro
 - d) Economic
- 29. Which of the following statement is not a factor influencing socio-cultural environment:
 - a) Family structure and changes in it, attitude towards and within the family, and family values.
 - b) Educational levels, awareness and consciousness of rights, and work ethics of members of society.
 - c) Opportunities arising out of technological innovation.
 - d) Role of women in society, position of children and adolescents in family and society.
- 30. Analyzing process of change in the business environment involves conceptualising its as:
 - a) Complex
 - b) Static
 - c) Dynamic
 - d) Diverse
- 31. The performance of business in the private sector is measured by:
 - a) Profitability
 - b) Customer Satisfaction
 - c) Number of employees
 - d) The salary of BOD

51701947_ICAI_Business and Commercial Konwledge_Full Pdf-nw.pdf___70 / 200

- 2.35
- 32. In the PEST framework for environmental analysis what does the letter E stand for?
 - a) Ecological
 - b) Economic
 - c) Ethical
 - d) Educational
- 33. All are elements of micro environment except:
 - (a) Consumer.
 - (b) Suppliers.
 - (c) Competitors.
 - (d) Society.
- 34. All are elements of macro environment except:
 - (a) Society.
 - (b) Government.
 - (c) Competitors.
 - (d) Technology.
- 35. Select the correct statement out of the following:
 - (a) Environmental factors are totally beyond the control of a single industrial enterprise.
 - (b) Environmental factors are largely beyond the control of a single industrial enterprise.
 - (c) Environmental factors are totally within the control of a single industrial enterprise.
 - (d) None of the above.
- **36**. In response to the changes in the environment organizations in general should:
 - (a) Understand the impact of changes on the strategy and make appropriate modifications.
 - (b) Make efforts that changes are reverted back so that organizations can function smoothly.
 - (c) Ignore the changes.
 - (d) None of the above.
- 37. Read the following three statements:
 - (i) The environment is constantly changing in nature.
 - (ii) Various environmental constituents exist in isolation and do not interact with each other.
 - (iii) The environment has a far reaching impact on organizations.

From the combinations given below select an alternative that represents statements that are true:

- (a) (i) and (ii).
- (b) (ii) and (iii)

- (c) (i) and (iii)
- (d) (i), (ii) and (iii)

38. Which environmental factors regulate the values and beliefs, traditions and customs of society?

- (a) Political-legal factors
- (b) Technological factors
- (c) Economic factors
- (d) Socio-cultural factors

39. The term PESTLE analysis is used to describe a framework for analyzing:

- (a) Macro Environment
- (b) Micro Environment
- (c) Both Macro and Micro Environment
- (d) None of above

Answer Keys

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|----|----|----|----|----|----|----|----|----|----|
| c | d | b | d | а | а | b | b | b | с |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| а | b | d | b | с | а | b | а | с | d |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| а | b | b | d | d | а | с | c | d | а |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | |
| b | b | d | c | b | а | c | d | a | |