

**PAPER – 7: INFORMATION TECHNOLOGY AND STRATEGIC MANAGEMENT**

**SECTION – A: INFORMATION TECHNOLOGY**

**QUESTIONS**

**Multiple Choice Questions**

**Questions No.(s) 1 to 3 are based on Case Scenario**

XYZ is a handbag manufacturing company which was established in year 2010 in India. It had good sales record through its factory outlets as well as online through the mobile app throughout the country. However, sometime before, the management realized that there has been an exponential fall in the sales of its products. To identify the causes of decline in the sales, the top management used a structured approach of ongoing refinement in response to continuous feedback provided by its customers. They created the database of their valuable customers throughout the country and sought their feedback either in physical mode or digital mode through a feedback form and started analyzing each suggestion(s) and comment(s) provided by their customers.

Issues highlighted through Feedback Form were -

- (a) Zips used in handbags were not of good quality.
- (b) Customers wanted the customized product of their own choice.
- (c) The designs of the handbags were obsolete.

Based on the above case scenario, answer the following questions:

1. Through Feedback Form, the top management of XYZ company identified the reasons for the decline in the sales of its handbags. Which of the following information system would have been used to capture and analyze the feedback of the customers?
  - (a) Management Information System
  - (b) Decision Support System
  - (c) Legal Management software
  - (d) Knowledge Management System
2. In purview of above case scenario, what do you think the approach will be followed by the Top management of XYZ company to improve the quality of their products?
  - (a) Total Quality Management
  - (b) Business Process Automation
  - (c) Six Sigma

- (d) Process Management
3. The customers of XYZ company need to register themselves to buy any product through mobile app. To do so, they have to follow certain steps for authentication process. Which of the following control is used to fulfill this purpose?
- (a) Output Control
  - (b) Input Control
  - (c) Database Control
  - (d) Boundary Control
4. Internet users access Google App Engine that allows them to run their web applications on Google's Infrastructure. Which of the following service model of cloud computing does this feature belong to?
- (a) Platform as a Service
  - (b) Network as a Service
  - (c) Communication as a Service
  - (d) Software as a Service
5. Huge volume of data is being exchanged on internet, so the security of networks on internet must be robust. Which of the following is not considered as the key aspect of security in network?
- (a) Confidentiality
  - (b) Threat Identification
  - (c) Message Authentication
  - (d) Message Integrity

### **Descriptive Questions**

#### **Chapter 1: Business Process Management & IT**

6. Business Process Management (BPM) is used to improve products and services through structured approach to performance improvement. Explain the principles on which BPM works.
7. Mr. R is an accountant who has recently joined an organization ABC. His senior has provided him the documents through which he is supposed to build a logical understanding of how the processing of complex tasks takes place in organisation ABC. In the absence of proper documentation, it would have been a herculean task for Mr. R to comprehend the

working or various processes in ABC. Keeping this in mind, comment upon the importance of documentation to Information Systems in an organization.

**Chapter 2: Information Systems and IT Fundamentals**

8. Nowadays, Cloud computing is one of the emerging technologies used by most of the companies, as it provides various benefits depending upon the need of the user through its different types of clouds. Discuss these different types of cloud offered by Cloud Computing.
9. Describe the areas in which risks and controls have been affected by IT within organization.

**Chapter 3: Telecommunication and Networks**

10. Differentiate between Centralized Computing and Decentralized Computing.
11. XYZ Company wishes to open its new branches at different locations within the same city. As the IT head of the company, Mr. A needs to highlight network security related threats in his presentation to top management. What would be the content of presentation of Mr. A?

**Chapter 4: Business Information systems**

12. Describe all the components of Accounting Information System (AIS) that results in statistical reports that can be used internally by management and externally by other interested parties.
13. In an organization, Access controls help to restrict whom and what accesses the information resources. What are the functions of access control that work together to grant access to resources and constrain what a subject can do with them?

**Chapter 5: Business Process Automation through Application Software**

14. ABC is a Software development company which are using certain controls to protect the integrity of their database when application software acts as an interface to interact between the user and the database. Identify the Control and explain its detailed functions.
15. XYZ is a Central university with many colleges affiliated under it. The university and the colleges have huge infrastructure in terms of computers, printers, wi-fi, smart labs etc. However, these resources remain under-utilized most of the time. Therefore, to make use of non-utilized computing power of various computing resources in an effective manner, it was decided by top management of university to share computing power of underutilized resources with needy organizations. Which technology is top management referring to? Describe the characteristics of that technology.

**SUGGESTED ANSWERS/HINTS****Multiple Choice Answers**

1. (a) Management Information System
2. (a) Total Quality Management
3. (d) Boundary Control
4. (a) Platform as a Service
5. (b) Threat Identification

**Descriptive Answers**

6. The Principles of Business Process Management (BPM) are as follows:
  1. BPM's first principle is **processes are assets** that create value for customers. They are to be managed and continuously improved. Because processes are assets, core processes and processes that generate the most value to customers should be carefully managed.
  2. A managed process produces consistent **value to customers** and has the foundation for the process to be improved. Management of processes entails the tasks of measuring, monitoring, controlling, and analyzing business processes. Measuring of business processes provides information regarding these business processes. Process information allows organizations to predict, recognize, and diagnose process deficiencies, and it suggests the direction of future improvements.
  3. The third principle is **continuous improvement** of processes. This is a natural result of process management. Process improvement is facilitated by the availability of process information. The business environment usually dictates that organizations need to improve to stay competitive. Business processes are central to an organization's value creation. It follows that processes should be continuously improved.
7. The reasons why documentation is important to Information Systems are as follows:
  - (a) **Depicting how the system works:** In computerized systems, the processing is electronic and invisible. Therefore, documentation is required to help employees understand how a system works, assist accountants in designing controls for it, demonstrates to managers that it will meet their information needs, and assists auditors in understanding the systems that they test and evaluate.
  - (b) **Training users:** Documentation also includes user guides, manuals, and similar operating instructions that help people learn how an Information System operates.

These documentation aids help train users to operate Information systems hardware and software, solve operational problems, and perform their jobs better.

- (c) **Designing new systems:** Documentation helps system designers develop new systems in much the same way that blueprints help architects design building. Well-written documentation and related graphical systems-design methodologies play key roles in reducing system failures and decreasing the time spent correcting emergency errors.
  - (d) **Controlling system development and maintenance costs:** Personal computer applications typically employ prewritten, off-the-shelf software that is relatively reliable and inexpensive. Good documentation helps system designers develop object-oriented software, which is software that contains modular, reusable code that further avoid writing duplicate programs and facilitate changes when programs must be modified later.
  - (e) **Standardizing communications with others:** Documentation aids such as E-R Diagrams, System Flowcharts, and Data Flow Diagrams are more standardized tools, and they are more likely to be interpreted the same way by all parties viewing them. Thus, documentation tools are important because they help describe an existing or proposed system in a common language and help users communicate with one another about these systems.
  - (f) **Auditing Information Systems:** Documentation helps depict audit trails. For example- when investigation and Accounting Information system, the auditors typically focus on internal controls. In such circumstances, documentation helps auditors determine the strengths and weaknesses of a system's controls and therefore the scope and complexity of the audit.
  - (g) **Documenting business processes:** Understanding business processes can lead to better systems and better decision. Documentation helps managers better understand how their businesses operate what controls are involved or missing from critical organizational activities, and how to improve core business activities.
8. The different types of cloud used by organization are as follows:
- **Public Clouds:** The public cloud is made available to the general public or a large industry group. They are administrated by third parties or vendors over the Internet, and services are offered on pay-per-use basis. The key benefits are as follows:
    - (a) It is widely used in the development, deployment and management of enterprise applications, at affordable costs;

(b) It allows organizations to deliver highly scalable and reliable applications rapidly and at more affordable costs.

- **Private Clouds:** This cloud computing environment resides within the boundaries of an organization and is used exclusively for the organization's benefits. These are also called internal clouds. They are built primarily by IT departments within enterprises who seek to optimize utilization of infrastructure resources within the enterprise by provisioning the infrastructure with applications using the concepts of grid and virtualization. The benefit of a Private Cloud is that it enables an enterprise to manage the infrastructure and have more control, but this comes at the cost of IT department creating a secure and scalable cloud.
- **Community Clouds:** This is the sharing of computing infrastructure in between organizations of the same community. For example, all Government organizations within India may share computing infrastructure on the cloud to manage data. The risk is that data may be stored with the data of competitors.
- **Hybrid Clouds:** It is maintained by both internal and external providers. It is a composition of two or more clouds (Private, Community or Public). They have to maintain their unique identity, but are bound together by standardized data and application portability. With a hybrid cloud, organizations might run non-core applications in a public cloud, while maintaining core applications and sensitive data in-house in a private cloud.

9. The impact of IT on Risks within an organization are as follows:

- ◆ Ready access to terminals as computerized Information Systems are highly distributed and leads to ease in perpetration of computer related crimes thereby increasing temptation for abuse.
- ◆ On-line processing of data and validation checks would help the prospective perpetrator in guessing passwords and aid in circumventing controls in inputs to computer.
- ◆ Appropriate controls are not resident within the computer systems to detect or to prevent the accidents. If threats are not anticipated and adequate controls are not designed to mitigate or counter them, system and its resources will be vulnerable.
- ◆ The greatest exposure of all is a failure to recognize risks or potential impacts of those risks. Prudence demands that contingencies are to be anticipated and planning done to handle them.

The major areas in which controls have been affected by IT are as follows:

- ◆ **Realignment of functions:** Data entry and source of transactions may be centralized;

- ◆ **Changes in custody of files and documents:** Ready access to data over telecom links complicate custodial functions of data. Data librarian may become in charge for data;
- ◆ **Transfer of responsibilities:** Single action by user may complete the entire processing cycle of the transaction; and
- ◆ **Decline of accountability:** Traditional functions, responsibilities and boundaries have been eliminated or are obscured by new methods.

10. **Centralized Computing:** Centralized computing is computing done at a central location, using terminals that are attached to a central computer. The computer itself may control all the peripherals directly or they may be attached via a terminal server. It offers greater security over decentralized systems because all the processing is controlled in a central location. In addition, if one terminal breaks down, the user can simply go to another terminal and log in again, and all their files will still be accessible. Depending on the system, they may even be able to resume their session from the point they were at before, as if nothing had happened.

This type of arrangement does have some disadvantages.

- The central computer performs the computing functions and controls the remote terminals. This type of system relies totally on the central computer. Should the central computer crash, the entire system will "go down" (i.e. will be unavailable).
- Central computing relies heavily on the quality of administration and resources provided to its users. Should the central computer be inadequately supported by any means, then the usage will suffer greatly.

**Decentralized Computing:** Decentralized computing is the allocation of resources, both hardware and software, to each individual workstation, or office location. In contrast, centralized computing exists when the majority of functions are carried out, or obtained from a remote centralized location. A collection of decentralized computers systems are components of a larger computer network, held together by local stations of equal importance and capability. These systems are capable of running independently of each other. Decentralized systems enable file sharing and all computers can share peripherals such as printers and scanners as well as modems, allowing all the computers in the network to connect to the internet.

11. Network security threats can be categorized into four broad themes:
- ◆ **Unstructured Threats** - These originate mostly from inexperienced individuals using easily available hacking tools from the Internet. Many tools available to anyone on the Internet can be used to discover weaknesses in a company's network. These

include port-scanning tools, address-sweeping tools, and many others. Most of these kinds of probes are done more out of curiosity than with a malicious intent in mind.

For example, if a company's external web site is hacked; the company's integrity is damaged. Even if the external web site is separate from the internal information that sits behind a protective firewall, the public does not know that. All they know is that if the company's web site is hacked, then it is an unsafe place to conduct business.

- ◆ **Structured Threats** - These originate from individuals who are highly motivated and technically competent and usually understand network systems design and the vulnerabilities of those systems. They can understand as well as create hacking scripts to penetrate those network systems. An individual who presents a structured threat typically targets a specific destination or group. Usually, these hackers are hired by industry competitors, or state-sponsored intelligence organizations.
- ◆ **External Threats** - These originate from individuals or organizations working outside an organization, which does not have authorized access to organization's computer systems or network. They usually work their way into a network from the Internet or dialup access servers.
- ◆ **Internal Threats** - Typically, these threats originate from individuals who have authorized access to the network. These users either have an account on a server or physical access to the network. An internal threat may come from a discontented former or current employee or contractor. It has been seen that majority of security incidents originate from internal threats.

12 The key components of Accounting Information System are as follows:

- **People:** AIS helps various system users that include accountants, consultants, business analysts, managers, chief financial officers and auditors etc. from different departments within a company to work together. With well-designed AIS, everyone within an organization who is authorized to do so can access the same system and get the same information. AIS also simplify getting information to people outside of the organization when necessary.
- **Procedure and Instructions:** These include both manual and automated methods for collecting, storing, retrieving and processing data.
- **Data:** This refers to the information pertinent to the organization's business practices that may include sales orders, customer billing statements, sales analysis reports, purchase requisitions, vendor invoices, check registers, general ledger, inventory data, payroll information, timekeeping, tax information etc. This data can then be used to prepare accounting statements and reports such as accounts receivable aging, depreciation/ amortization schedules, trial balance, profit and loss, and so on.
- **Software:** These are the computer programs that provide quality, reliability and security to the company's financial data that may be stored, retrieved, processed and

analyzed. Managers rely on the information it outputs to make decisions for the company, and they need high-quality information to make sound decisions.

- **Information Technology Infrastructure:** This includes hardware such as personal computers, servers, printers, surge protectors, routers, storage media, and possibly a backup power supply used to operate the system. The hardware selected for AIS must be compatible with the intended software.
  - **Internal Controls:** These are the security measures such as passwords or as complex as biometric identification to protect sensitive data against unauthorized computer access and to limit access to authorized users. Internal controls also protect against computer viruses, hackers and other internal and external threats to network security.
13. The following functions work together to grant access to resources and constrain what a subject can do with them.
- ◆ **Identity Management:** Identity management consists of one or more processes to verify the identity of a subject attempting to access an object. However, it does not provide 100 percent assurance of the subject's identity. Rather, it provides a level of probability of assurance. The level of probability depends on the identity verification processes in place and their general trustworthiness. Identity management has become a separate consideration for access control. However, the three pillars that support authorized access still define the tools and techniques necessary to manage who gets access to what and what they can do when they get there: authentication, authorization, and accountability.
  - ◆ **Authentication:** Identity management and authentication are inseparable. Identity management includes assigning and managing a subject's identity. Authentication is the process of verifying a subject's identity at the point of object access.
  - ◆ **Authorization:** Once a resource or network verifies a subject's identity, the process of determining what objects that subject can access, begins. Authorization identifies what systems, network resources, etc. a subject can access. Related processes also enforce least privilege, need-to-know, and separation of duties. Authorization is further divided into coarse and fine dimensions.
  - ◆ **Accountability:** Each step from identity presentation through authentication and authorization is logged. Further, the object or some external resource logs all activity between the subject and object. The logs are stored for audits, sent to a log management solution, etc. They provide insight into how well the access control process is working: whether or not subjects abuse their access.
14. **Database Controls** under Application Controls are the controls that protect the integrity of their database when application software acts as an interface to interact between the user and the database. The functions of Database Controls are as follows:

- **Sequence Check Transaction and Master Files:** Synchronization and the correct sequence of processing between the master file and transaction file is critical to maintain the integrity of updation, insertion or deletion of records in the master file with respect to the transaction records. If errors in this stage are overlooked, it leads to corruption of the critical data.
- **Ensure all records on files are processed:** While processing the transaction file records mapped to the respective master file the end-of-file of the transaction file with respect to the end-of-file of the master file is to be ensured.
- **Process multiple transactions for a single record in the correct order:** Multiple transactions can occur based on a single master record. For example, dispatch of a product to different distribution centers. The order in which transactions are processed against the product master record must be done based on a sorted transaction codes.

15 The technology referred by top management of XYZ University is **Grid Computing**.

The Characteristics of Grid Computing are as follows:

- **Making use of Underutilized Resources:** In most organizations, there are large amounts of underutilized computing resources. In some organizations, even the server machines can often be relatively idle. Grid computing provides a framework for exploiting these underutilized resources and thus has the possibility of substantially increasing the efficiency of resource usage. Grid computing (more specifically, a data grid) can be used to aggregate this unused storage into a much larger virtual data store, possibly configured to achieve improved performance and reliability over that of any single machine.
- **Resource Balancing:** For applications that are grid-enabled, the grid can offer a resource balancing effect by scheduling grid jobs on machines with low utilization. This feature of grid computing handles occasional peak loads of activity in parts of a larger organization. An unexpected peak can be routed to relatively idle machines in the grid; and if the grid is already fully utilized, the lowest priority work being performed on the grid can be temporarily suspended or even cancelled and performed again later to make room for the higher priority work.
- **Parallel CPU Capacity:** The potential for usage of massive parallel CPU capacity is one of the most common visions and attractive features of a grid. A CPU-intensive grid application can be thought of as many smaller sub-jobs, each executing on a different machine in the grid. To the extent that these sub-jobs do not need to communicate with each other, the more scalable the application becomes. A perfectly scalable application will, for example, finish in one tenth of the time if it uses ten times the number of processors

- **Virtual resources and virtual organizations for collaboration:** Another capability enabled by grid computing is to provide an environment for collaboration among a wider audience. The users of the grid can be organized dynamically into a number of virtual organizations, each with different policy requirements. These virtual organizations can share their resources such as data, specialized devices, software, services, licenses, and so on, collectively as a larger grid. These resources are virtualized to give them a more uniform interoperability among heterogeneous grid participants. The participants and users of the grid can be members of several real and virtual organizations. The grid can help in enforcing security rules among them and implement policies, which can resolve priorities for both resources and users.
- **Access to additional resources:** In addition to CPU and storage resources, a grid can provide access to other resources as well. For example, if a user needs to increase their total bandwidth to the Internet to implement a data mining search engine, the work can be split among grid machines that have independent connections to the Internet. In this way, total searching capability is multiplied, since each machine has a separate connection to the Internet. Some machines may have expensive licensed software installed that users require. Users' jobs can be sent to such machines, more fully exploiting the software licenses. Some machines on the grid may have special devices. All of these will make the grid look like a large system with a collection of resources beyond what would be available on just one conventional machine.
- **Reliability:** High-end conventional computing systems use expensive hardware to increase reliability. The machines also use duplicate processors in such a way that when they fail, one can be replaced without turning the other off. Power supplies and cooling systems are duplicated. The systems are operated on special power sources that can start generators if utility power is interrupted. All of this builds a reliable system, but at a great cost, due to the duplication of expensive components.
- **Management:** The goal to virtualize the resources on the grid and more uniformly handle heterogeneous systems create new opportunities to better manage a larger, more distributed IT infrastructure. The grid offers management of priorities among different projects. Aggregating utilization data over a larger set of projects can enhance an organization's ability to project future upgrade needs. When maintenance is required, grid work can be rerouted to other machines without crippling the projects involved.

## SECTION – B: STRATEGIC MANAGEMENT

### Multiple Choice Questions

1. In the questions given below select the best answer out of options (A), (B), (C), or (D):
- (a) Consider following statements?
- i. Opportunity helps an organisation to consolidate and strengthen its position.
  - ii. Stiff competition is opportunity.
  - iii. Growing demand for the product is opportunity.
- Which of the above statements are true?
- A. i. and ii.
  - B. ii. and iii.
  - C. i. and iii.
  - D. i., ii. and iii
- (b) If there is increase in number of units buying products from a single supplier, then –
- A. Bargaining power of supplier will reduce.
  - B. There will be no change in bargaining for the supplier.
  - C. Bargaining power of buyer company will increase.
  - D. Bargaining power of buyer company will reduce.
- (c) Strategic management leads organisations to become \_\_\_\_\_ in shaping future.
- A. Mechanical
  - B. Proactive
  - C. Sensitive
  - D. Uncertain
- (d) Goals are \_\_\_\_\_ attributes that are expressed in specific terms.
- A. close-ended
  - B. control
  - C. profitable
  - D. useful

- (e) Key success factors:
- A. Are ignored by a profitable business
  - B. Are insignificant force
  - C. Change over time
  - D. Remain same within an industry.
- (f) Efficiency curve explains the efficiency \_\_\_\_\_ gained by workers through \_\_\_\_\_ work
- A. Improvement, random
  - B. Increase, efficient
  - C. Increase, repetitive
  - D. Increase, variable
- (g) Stability strategy is adopted when:
- i. It is less risky and found to be comfortable
  - ii. The environment faced is highly volatile.
  - iii. Expansion is perceived as being threatening.
- Which of the above statements are true?
- A. i. and ii.
  - B. ii. and iii.
  - C. i. and iii.
  - D. i., ii. and iii
- (h) Two unrelated businesses joining together to form a new undertaking is a case of:
- A. Co-generic merger:
  - B. Conglomerate merger:
  - C. Horizontal merger:
  - D. Horizontal Diversification
- (i) A market-coverage strategy that involves going after a large share of one or few sub-markets is:
- A. Augmented Marketing
  - B. Concentrated Marketing
  - C. Direct Marketing

- D. Place Marketing
- (j) Technological improvements that affect company products, \_\_\_\_\_ product life cycle.
- A. economises
  - B. improves
  - C. increase
  - D. shorten
- (k) Network structure involves virtual \_\_\_\_\_ of in house business functions
- A. concentration
  - B. differentiation
  - C. elimination
  - D. expansion
- (l) Value Chain connects:
- A. All the activities within an organisation
  - B. An organisation with competitors
  - C. Finance function with other functional areas of business
  - D. Internal and external activities from suppliers to buyers of product
- (m) Benchmarking:
- A. involves copying best practices in industry
  - B. involves learning and adapting best practices in industry
  - C. is a process of one time improvement
  - D. is a solution to all organisational problems
- (n) V in DMADV (acronym for steps in implementing six sigma for designing new products) represents:
- A. Variety
  - B. Value
  - C. Verify
  - D. Virtual
2. Distinguish between the following
- (a) Economic environment and Socio-cultural environment.

- (b) Divestment strategy and Liquidation strategy.
  - (c) Concentric diversification and conglomerate diversification.
  - (d) Transformational and transactional leadership
3. Write short note on:
- (a) Socio-cultural environment
  - (b) Premise control
  - (c) Environmental Scanning
  - (d) Market Development
  - (e) Key success factors
  - (f) Strategic surveillance

#### **Chapter 1-Business Environment**

- 4. "Porter's five forces model systematically diagnoses the significant competitive pressures in a market". Discuss.
- 5. Explain how organisation may respond to environmental changes.

#### **Chapter 2-Business Policy and Strategic Management**

- 6. What do you understand by strategic management? Discuss its framework.
- 7. What tips can you offer to write a 'right' Mission Statements?

#### **Chapter 3-Strategic Analysis**

- 8. Discuss stop light strategy model.
- 9. Discuss various issues in analysis of competition in an industry?

#### **Chapter 4-Strategic Planning**

- 10. What are different strategic bases on which an existing firm can diversify?
- 11. Devise an ideal work plan for implementing a turnaround strategy in an organization?

#### **Chapter 5-Formulation of Functional Strategy**

- 12. What is meant by Functional strategies? In term of level where will you put them? Are functional strategies really important for business?
- 13. What are the objectives that must be kept in mind while designing a pricing strategy of a new product?

#### **Chapter 6-Strategic Implementation and Control**

- 14. An important part of strategic management process is implementation of strategy. Discuss the relationship of soundness of strategy formulation with the quality of implementation.

15. Define corporate culture. Also elucidate the statement “Culture is a strength that can also be a weakness”.

**Chapter 7-Reaching Strategic Edge**

16. Compare the Traditional Management Practices with Total Quality Management (TQM).
17. “Many organisations are adopting six sigma tools for improvement”. Discuss how six sigma helps business organizations.

**SUGGESTED ANSWER**

**1. Multiple Choice Questions**

- |         |         |         |
|---------|---------|---------|
| (a) (C) | (f) (C) | (k) (C) |
| (b) (D) | (g) (C) | (l) (D) |
| (c) (B) | (h) (B) | (m) (B) |
| (d) (A) | (i) (B) | (n) (C) |
| (e) (C) | (j) (D) |         |

2. (a) The 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 which influence the supply of inputs to the enterprise, their costs, quality, availability and reliability of supplies.

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. Strategists must scan, monitor, forecast, and assess a number of key economic factors for both domestic and key international markets.

Socio-Cultural Environment influences almost all enterprises in a similar manner. It primarily affects strategic management process within the organization in the areas of mission & objectives setting and decisions related to products & markets.

Socio-cultural environment is a complex combination of factors such as social traditions, values and beliefs, changing lifestyle patterns & materialism, level and standards of literacy and education, awareness & consciousness of rights and work ethics of members of society, the ethical standards and state of society, the extent of social stratification, conflict and cohesiveness, social concerns such as corruption, environmental pollution etc.

- (b) **Divestment Strategy:** Divestment strategy involves the sale or liquidation of a portion of business, or a major division, profit centre or SBU. Divestment is usually a part of rehabilitation or restructuring plan and is adopted when a turnaround has been attempted but has proved to be unsuccessful. The option of a turnaround may even be ignored if it is obvious that divestment is the only answer.

**Liquidation Strategy:** Liquidation as a form of retrenchment strategy is considered as the most extreme and unattractive. It involves closing down a firm and selling its assets. It is considered as the last resort because it leads to serious consequences such as loss of employment for workers and other employees, termination of opportunities a firm could pursue, and the stigma of failure.

- (c) Concentric diversification occurs when a firm adds related products or markets. On the other hand conglomerate diversification occurs when a firm diversifies into areas that are unrelated to its current line of business.

In concentric diversification, the new business is linked to the existing businesses through process, technology or marketing. In conglomerate diversification, no such linkages exist; the new business/product is disjointed from the existing businesses/products.

The most common reasons for pursuing a concentric diversification are that opportunities in a firm's existing line of business are available. However, common reasons for pursuing a conglomerate growth strategy is that opportunities in a firm's current line of business are limited or opportunities outside are highly lucrative.

- (d) **Transformational leadership style** use charisma and enthusiasm to inspire people to exert them for the good of the organization. Transformational leadership style may be appropriate in turbulent environments, in industries at the very start or end of their life-cycles, in poorly performing organizations when there is a need to inspire a company to embrace major changes. Transformational leaders offer excitement, vision, intellectual stimulation and personal satisfaction. They inspire involvement in a mission, giving followers a 'dream' or 'vision' of a higher calling so as to elicit more dramatic changes in organizational performance. Such a leadership motivates followers to do more than originally affected to do by stretching their abilities and increasing their self-confidence, and also promote innovation throughout the organization.

Whereas, **transactional leadership style** focus more on designing systems and controlling the organization's activities and are more likely to be associated with improving the current situation. Transactional leaders try to build on the existing culture and enhance current practices. Transactional leadership style uses the authority of its office to exchange rewards, such as pay and status. They prefer a more formalized approach to motivation, setting clear goals with explicit rewards or penalties for achievement or non-achievement.

Transactional leadership style may be appropriate in settled environment, in growing or mature industries, and in organizations that are performing well. The style is better suited in persuading people to work efficiently and run operations smoothly.

3. (a) Socio-cultural environment consist of factors related to human relationships and the impact of social attitudes and cultural values which has bearing on the business 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 businesses to change these core values, which becomes a determinant of its functioning.
- (b) A strategy is formed on the basis of certain assumptions or premises about the complex and turbulent organizational environment. Over a period of time these premises may not remain valid. Premise control is a tool for systematic and continuous monitoring of the environment to verify the validity and accuracy of the premises on which the strategy has been built. It primarily involves monitoring two types of factors:
- (i) Environmental factors such as economic (inflation, liquidity, interest rates), technological, social, legal and regulatory factors.
  - (ii) Industry factors such as competitors, suppliers, substitutes.

It is neither feasible nor desirable to control all types of premises in the same manner. Different premises may require different amount of control. Thus, managers are required to select those premises that are likely to change and would severely impact the functioning of the organization and its strategy.

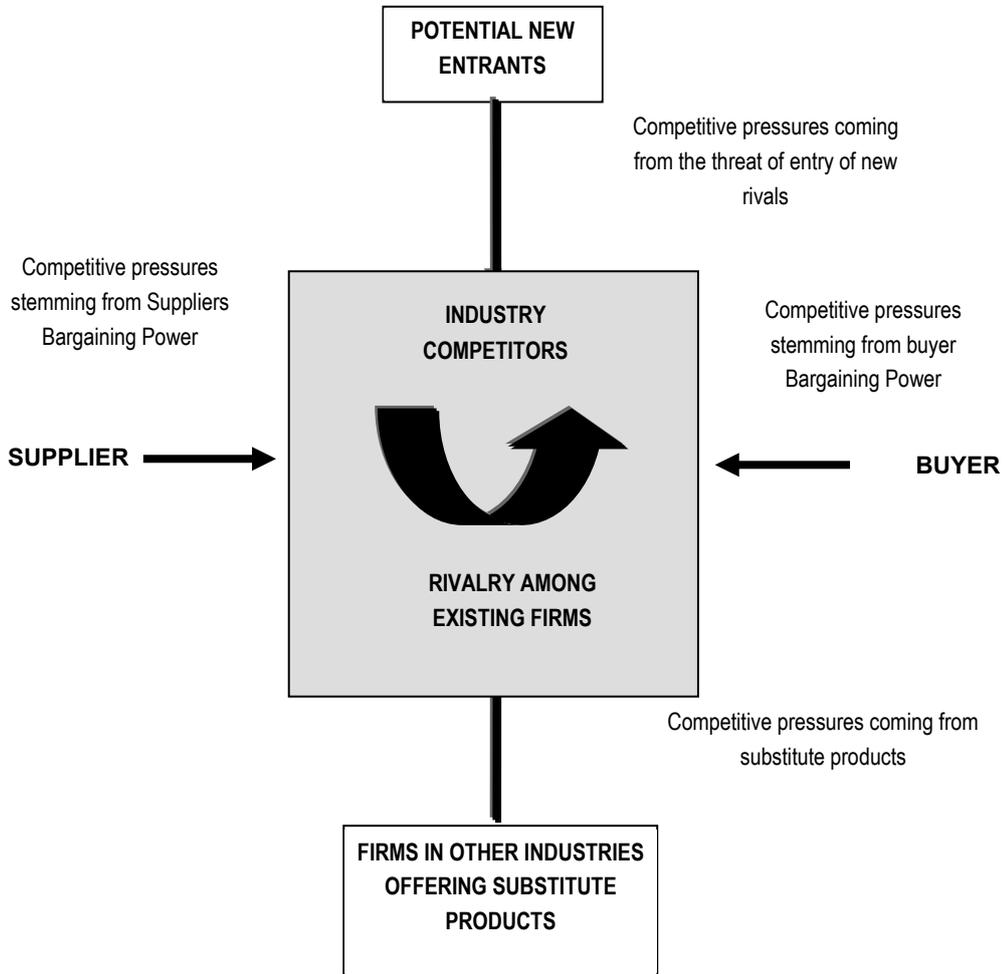
- (c) Environmental scanning is the process of gathering information regarding company's environment, analysing it and forecasting the impact of all predictable environmental changes. Successful marketing depends largely on how a company can synchronise its marketing programmes with its environmental changes.
- (d) Market development refers to a growth strategy where the business seeks to sell its existing products into new markets. It is a strategy for company growth by identifying and developing new markets for current company products. This strategy may be achieved through new geographical markets, new product dimensions or packaging, new distribution channels or different pricing policies to attract different customers or create new market segments.
- (e) An industry's Key Success Factors (KSFs) are those things that most affect industry members' ability to prosper in the marketplace - the particular strategy elements, product attributes, resources, competencies, competitive capabilities, and business outcomes that spell the difference between profit and loss and, ultimately, between competitive success or failure.
- (f) **Strategic surveillance:** Contrary to the premise control, the strategic surveillance is unfocussed. It involves general monitoring of various sources of information to

uncover unanticipated information having a bearing on the organizational strategy. It involves casual environmental browsing. Reading financial and other newspapers, business magazines, meetings, conferences, discussions at clubs or parties and so on can help in strategic surveillance.

Strategic surveillance may be loose form of strategic control, but is capable of uncovering information relevant to the strategy.

4. Five forces model of Michael Porter is a powerful and widely used tool for systematically diagnosing the significant competitive pressures in the market and assessing their strength and importance. The model holds that the state of competition in an industry is a composite of competitive pressures operating in five areas of the over all market. These five forces are:
  1. **Threat of new entrants:** New entrants are a powerful source of competition. The new capacity and product range they bring in throw up new competitive pressures. The bigger the new entrant, the more severe the competitive effect. New entrants also place a limit on prices and affect the profitability of existing players.
  2. **Bargaining power of customers:** This is another force that influences the competitive condition of the industry. This force will become heavier depending on the possibilities of the buyers forming groups or cartels. The bargaining power of the buyers influences not only the prices that the producer can charge but also influences in many cases, costs and investments of the producer because powerful buyers usually bargain for better services which involve costs and investment on the part of the producer.
  3. **Bargaining power of suppliers:** Quite often suppliers, too, exercise considerable bargaining power. The more specialised the offering from the supplier, greater is his clout. And, if the suppliers are also limited in number they stand a still better chance to exhibit their bargaining power. The bargaining power of suppliers determines the cost of raw materials and other inputs of the industry and, therefore, industry attractiveness and profitability.
  4. **Rivalry among current players:** The rivalry among existing players is quite obvious. This is what is normally understood as competition. For any player, the competitors influence strategic decisions at different strategic levels. The impact is evident more at functional level in the prices being changed, advertising, and pressures on costs, product and so on.
  8. **Threats from substitutes:** Substitute products are a latent source of competition in an industry. In many cases they become a major constituent of competition. Substitute products offering a price advantage and/or performance improvement to the consumer can drastically alter the competitive character of an industry. And they can bring it about all of a sudden. For example, coir suffered at the hands of synthetic

fibre. Wherever substantial investment in R&D is taking place, threats from substitute products can be expected.



5. The business organization and its many environments have innumerable interrelationship 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 opportunity and thought 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.

- (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.
  - (iii) **Dynamic response:** At a still higher sophisticated 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'. They generate a contingent set of alternative courses of action to be picked up in tune with the changing environment.
6. The term strategic management refers to the managerial process of forming a strategic vision, setting objectives, crafting a strategy, implementing and executing the strategy, and then initiating whatever corrective adjustments in the vision, objectives, strategy, and execution are deemed appropriate.

The basic framework of strategic process can be described in a sequence of five stages as follows:

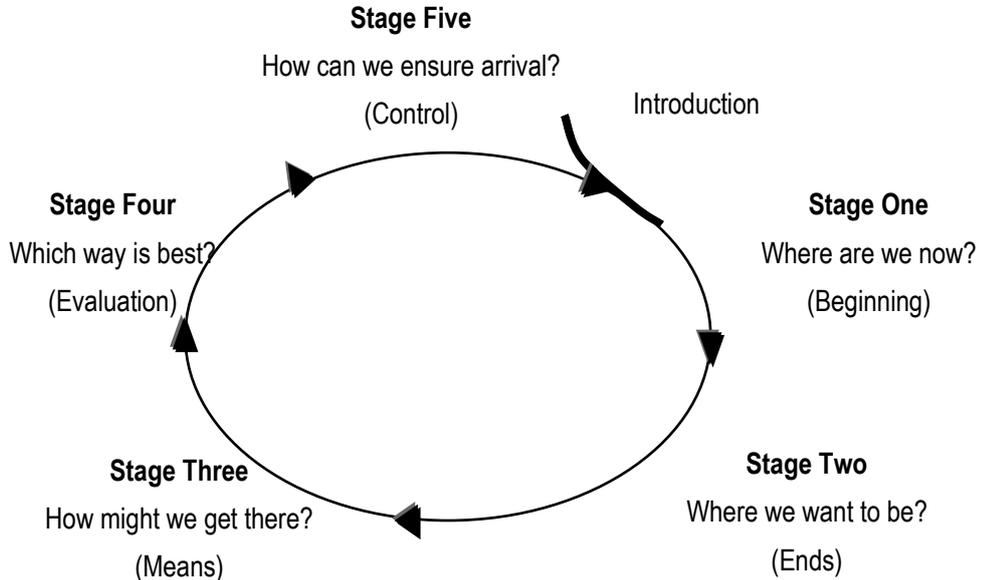
**Stage one** - Where are we now? (Beginning): This is the starting point of strategic planning and consists of doing a situational analysis of the firm in the environmental context.

**Stage two** - Where we want to be? (Ends): This is a process of goal setting for the organization after it has finalised its vision and mission.

**Stage three** - How might we get there? (Means): Here the organization deals with the various strategic alternatives it has.

**Stage four** - Which way is best? (Evaluation): Out of all the alternatives generated in the earlier stage the organization selects the best suitable alternative in line with its SWOT analysis.

**Stage five** - How can we ensure arrival? (Control): This is a implementation and control stage of a suitable strategy. Here again the organization continuously does situational analysis and repeats the stages again.



**Figure - Framework of strategic management**

7. Mission statements broadly describe an organizations present capabilities, customer focus, activities, and business makeup. Following points are useful while writing mission of a company:
  - Good mission statements are highly personalized – unique to the organization for which they are developed.
  - One of the roles of a mission statement is to give the organization its own special identity, business emphasis and path for development.
  - A company’s business is defined by what needs it is trying to satisfy, customer groups it is targeting, technologies and competencies it uses and the activities it performs.
  - Technology, competencies and activities are important in defining a company’s business because they indicate the boundaries on its operation.
  - The mission should not be to make profit.
  
8. The model has been used by General Electric Company (developed by GE with the assistance of the consulting firm McKinsey & Company) known as “Stop-Light” Strategy Model. This model is also known as Business Planning Matrix, GE Nine-Cell Matrix and GE Model. The strategic planning approach in this model has been inspired from traffic control lights. The lights that are used at crossings to manage traffic are: green for go, amber or yellow for caution, and red for stop. This model uses two factors while taking strategic decisions: Business Strength and Market Attractiveness. The vertical axis

indicates market attractiveness and the horizontal axis shows the business strength in the industry. The market attractiveness is measured by a number of factors like:

- Size of the market.
- Market growth rate.
- Industry profitability.
- Competitive intensity.
- Availability of Technology.
- Pricing trends.
- Overall risk of returns in the industry.
- Opportunity for differentiation of products and services.
- Demand variability.
- Segmentation.
- Distribution structure (e.g. retail, direct, wholesale) etc.

Business strength is measured by considering the typical drivers like:

- Market share.
- Market share growth rate.
- Profit margin.
- Distribution efficiency.
- Brand image.
- Ability to compete on price and quality.
- Customer loyalty.
- Production capacity.
- Technological capability.
- Relative cost position.
- Management caliber, etc.

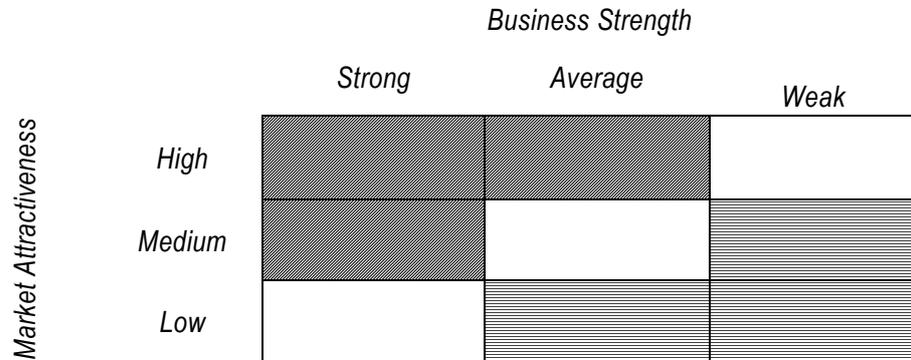
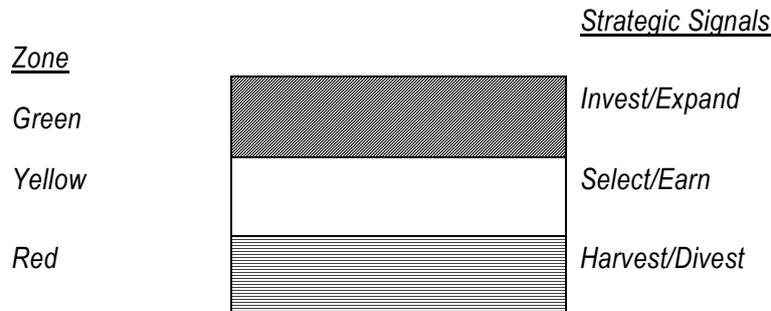


Figure : The GE Portfolio Matrix



If a product falls in the green section, the business is at advantageous position. To reap the benefits, the strategic decision can be to expand, to invest and grow. If a product is in the amber or yellow zone, it needs caution and managerial discretion is called for making the strategic choices. If a product is in the red zone, it will eventually lead to losses that would make things difficult for organisations. In such cases, the appropriate strategy should be retrenchment, divestment or liquidation.

9. Industry and competitive analysis can be done using a set of concepts and techniques to get a clear fix on key industry traits, the intensity of competition, the drivers of industry change, the market positions and strategies of rival companies, the keys to competitive success, and the industry's profit outlook. It provides a way of thinking strategically about any industry's overall situation and drawing conclusions about whether the industry represents an attractive investment for company funds. The analysis entails examining a company's business in the context of a much wider environment. Industry and competitive analysis aims at developing insight in several issues. Analysing these issues build understanding of a firm's surrounding environment and, collectively, form the basis for matching its strategy to changing industry conditions and competitive realities. The issues are given below:

- Dominant economic features of the industry.

- Nature and strength of competition.
- Triggers of change.
- Identifying the companies that are in the strongest/weakest positions.
- Likely strategic moves of rivals.
- Key factors for competitive success.
- Prospects and financial attractiveness of industry.

**10. Diversification Strategy:** Diversification endeavours can be related or unrelated to existing businesses of the firm. Based on the nature and extent of their relationship to existing businesses, diversification endeavours have been classified into four broad categories:

- (i) Vertically integrated diversification
- (ii) Horizontally integrated diversification
- (iii) Concentric diversification
- (iv) Conglomerate diversification

**In vertically integrated diversification**, firms opt to engage in businesses that are related to the existing business of the firm. The firm remains vertically within the same process. Sequence It moves forward or backward in the chain and enters specific product/process steps with the intention of making them into new businesses for the firm. The characteristic feature of vertically integrated diversification is that here, the firm does not jump outside the vertically linked product-process chain.

**Horizontal Integrated Diversification:** Through the acquisition of one or more similar business operating at the same stage of the production-marketing chain that is going into complementary products, by-products or taking over competitors' products.

**Concentric Diversification:** Concentric diversification too amounts to related diversification. In concentric diversification, the new business is linked to the existing businesses through process, technology or marketing. The new product is a spin-off from the existing facilities and products/processes. This means that in concentric diversification too, there are benefits of synergy with the current operations. However, concentric diversification differs from vertically integrated diversification in the nature of the linkage the new product has with the existing ones. The new product is only connected in a loop-like manner at one or more points in the firm's existing process/technology/product chain.

**Conglomerate Diversification:** In conglomerate diversification, no such linkages exist; the new businesses/ products are disjointed from the existing businesses/products in every way; it is a totally unrelated diversification. In process/technology/function, there is no connection between the new products and the existing ones. Conglomerate diversification has no common thread at all with the firm's present position.

11. Action plan for turnaround strategy, an organization can implement:

- **Stage One – Assessment of current problems:** The first step is to assess the current problems and get to the root causes and the extent of damage the problem has caused. Once the problems are identified, the resources should be focused toward those areas essential to efficiently work on correcting and repairing any immediate issues.
- **Stage Two – Analyze the situation and develop a strategic plan:** Before you make any major changes; determine the chances of the business's survival. Identify appropriate strategies and develop a preliminary action plan. For this one should look for the viable core businesses, adequate bridge financing and available organizational resources. Analyze the strengths and weaknesses in the areas of competitive position. Once major problems and opportunities are identified, develop a strategic plan with specific goals and detailed functional actions.
- **Stage Three – Implementing an emergency action plan:** If the organization is in a critical stage, an appropriate action plan must be developed to stop the bleeding and enable the organization to survive. The plan typically includes human resource, financial, marketing and operations actions to restructure debts, improve working capital, reduce costs, improve budgeting practices, prune product lines and accelerate high potential products. A positive operating cash flow must be established as quickly as possible and enough funds to implement the turnaround strategies must be raised.
- **Stage Four – Restructuring the business:** The financial state of the organization's core business is particularly important. Prepare cash forecasts, analyze assets and debts, review profits and analyze other key financial functions to position the organization for rapid improvement.

During the turnaround, the "product mix" may be changed, requiring the organization to do some repositioning. Core products neglected over time may require immediate attention to remain competitive. Organisations may also withdraw from some markets, close some facilities or discontinue some products.

The 'people mix' is another important ingredient in the organization's competitive effectiveness. Reward and compensation systems that encourage dedication and creativity encourage employees to think profits and return on investments.

- **Stage Five – Returning to normal:** In the final stage of turnaround strategy process, the organization should begin to show signs of profitability, return on investments and enhancing economic value-added. Emphasis is placed on a number of strategic

efforts such as carefully adding new products and improving customer service, creating alliances with other organizations, increasing the market share, etc.

12. Once higher level corporate and business strategies are developed, management need to formulate and implement strategies for functional areas such as marketing, financial, production and Human Resource. For effective implementation, strategists have to provide direction to functional managers regarding the plans and policies to be adopted. In fact, the effectiveness of strategic management depends critically on the manner in which strategies are implemented. Strategy of one functional area can not be looked at in isolation, because it is the extent to which all the functional tasks are interwoven that determines the effectiveness of the major strategy.

For each functional area, first the major sub areas are identified and then for each of these sub functional areas, contents of functional strategies, important factors, and their importance in the process of strategy implementation are identified.

In terms of the levels of strategy formulation, functional strategies operate below the SBU or business-level strategies. Within functional strategies there might be several sub-functional areas. Functional strategies are made within the higher level strategies and guidelines therein that are set at higher levels of an organisation. Functional managers need guidance from the business strategy in order to make decisions. Operational plans tell the functional managers what has to be done while policies state how the plans are to be implemented.

Major strategies need to be translated to lower levels to give holistic strategic direction to an organisation. Functional strategies provide details to business strategy & govern as to how key activities of the business will be managed. Functional strategies play two important roles. Firstly, they provide support to the overall business strategy. Secondly, they spell out as to how functional managers will work so as to ensure better performance in their respective functional areas. The reasons why functional strategies are really important and needed for business can be given as follows:

The development of functional strategies is aimed at making the strategies-formulated at the top management level-practically feasible at the functional level.

- Functional strategies facilitate flow of strategic decisions to the different parts of an organisation.
- They act as basis for controlling activities in the different functional areas of business.
- The time spent by functional managers in decision-making is reduced as plans lay down clearly what is to be done and policies provide the discretionary framework within which decisions need to be taken.
- Functional strategies help in bringing harmony and coordination as they remain part of major strategies.
- Similar situations occurring in different functional areas are handled in a consistent

manner by the functional managers.

13. For a new product pricing strategies for entering a market needs to be designed. In pricing a really new product at least three objectives must be kept in mind.
  - i. Making the product acceptable to the customers.
  - ii. Producing a reasonable margin over cost.
  - iii. Achieving a market that helps in developing market share.

For a new product an organization may either choose to skim or penetrate the market. In skimming prices are set at a very high level. The product is directed to those buyers who are relatively price insensitive but sensitive to the novelty of the new product. For example call rates of mobile telephony were set very high initially. Even the incoming calls were charged. Since the initial off take of the product is low, high price, in a way, helps in rationing of supply in favour of those who can afford it.

In penetration pricing firm keeps a temptingly low price for a new product which itself is selling point. A very large number of the potential customers may be able to afford and willing to try the product.

14. Strategy implementation concerns the managerial exercise of putting a freshly chosen strategy into place. Strategy execution deals with the managerial exercise of supervising the ongoing pursuit of strategy, making it work, improving the competence with which it is executed and showing measurable progress in achieving the targeted results. Strategic implementation is concerned with translating a decision into action, with presupposes that the decision itself was made with some thought being given to feasibility and acceptability.

It is crucial to realize the difference between strategy formulation and strategy implementation because they both require very different skills. Also, a company will be successful only when the strategy formulation is sound and implementation is excellent. There is no such thing as successful strategic design. This sounds obvious, but in practice the distinction is not always made. The matrix in the figure below represents various combinations of strategy formulation and implementation:

Strategy formulation	Sound	<i>A</i>	<i>B</i> (Success)
	Flawed	<i>C</i>	<i>D</i>
		Weak	Excellent
		Strategy implementation	

15. The phenomenon which often distinguishes good organizations from bad ones could be summed up as 'corporate culture'. Corporate culture refers to a company's values, beliefs, business principles, traditions, ways of operating and internal work environment. Every corporation has a culture that exerts powerful influences on the behaviour of managers. Culture affects not only the way managers behave within an organization but also the decisions they make about the organization's relationships with its environment and its strategy.

"Culture is a strength that can also be a weakness". This statement can be explained by splitting it in to two parts.

**Culture as a strength:** As a strength, culture can facilitate communication, decision-making & control and create cooperation & commitment. An organization's culture could be strong and cohesive when it conducts its business according to a clear and explicit set of principles and values, which the management devotes considerable time to communicating to employees and which values are shared widely across the organization.

**Culture as a weakness:** As a weakness, culture may obstruct the smooth implementation of strategy by creating resistance to change. An organization's culture could be characterized as weak when many subcultures exist, few values and behavioural norms are shared and traditions are rare. In such organizations, employees do not have a sense of commitment, loyalty and sense of identity.

16. TQM is quite different from traditional management practices, requiring changes in organizational processes, beliefs and attitudes, and behaviours. "Traditional management" means the way things are usually done in most organizations in the absence of a TQM focus. Many "traditional" organizations have been applying TQM principles all along, so not all of these comments pertain to every organization. The nature of TQM differs from common management practices in many respects. Some of the key differences are as follows:

- **Strategic Planning and Management:** Quality planning and strategic business planning are indistinguishable in TQM. Quality goals are the cornerstone of the business plan. Measures such as customer satisfaction, defect rates, and process cycle times receive as much attention in the strategic plan as financial and marketing objectives.
- **Changing Relationships with Customers and Suppliers:** In TQM, quality is defined as products and services beyond present needs and expectations of customers. Innovation is required to meet and exceed customers' needs. Traditional management places customers outside of the enterprise and within the domain of marketing and sales. TQM views everyone inside the enterprise as a customer of an internal or external supplier, and a supplier of an external or internal customer. Marketing concepts and tools can be used to assess internal customer needs and to communicate internal supplier capabilities.

- **Organizational Structure:** TQM views the enterprise as a system of interdependent processes, linked laterally over time through a network of collaborating (internal and external) suppliers and customers. Each process is connected to the enterprise's mission and purpose through a hierarchy of micro- and macro-processes. Every process contains sub-processes and is also contained within a higher process. This structure of processes is repeated throughout the hierarchy.
  - **Organizational Change:** In TQM the environment in which the enterprise interacts is considered to be changing constantly. Management's job, therefore, is to provide the leadership for continual improvement and innovation in processes and systems, products, and services. External change is inevitable, but a favourable future can be shaped.
  - **Teamwork:** In TQM individuals cooperate in team structures such as quality circles, steering committees, and self-directed work teams. Departments work together toward system optimization through cross-functional teamwork.
  - **Motivation and Job Design:** TQM managers provide leadership rather than overt intervention in the processes of their subordinates, who are viewed as process managers rather than functional specialists. People are motivated to make meaningful contributions to what they believe is an important and noble cause, of value to the enterprise and society. The system enables people to feel like winners.
17. A significant difference between six sigma and seemingly similar programs of past years is the degree to which management plays a key role in regularly monitoring program results and accomplishments. Six sigma is a system that combines both strong leadership and grassroots energy and involvement. In addition, the benefits of six sigma are not just financial. People at all levels of a six sigma company find that better understanding of customers, clearer processes, meaningful measures, and powerful improvement tools make their work more rewarding.

The critical elements of six sigma can be put into six themes as follows:

- **Theme one** – *genuine focus on the customer:* Companies launching six sigma often find that how little they really understand their customers. In six sigma, customer focus becomes the top priority. For example, the measures of six sigma performance begin with the customer. Six sigma improvements are defined by their impact on customer satisfaction and value.
- **Theme two** – *data and fact-driven management:* Six sigma takes the concept of "management by fact" to a new, more powerful level. Despite the attention paid in recent years to improved information systems, knowledge management, and so on, many business decisions are still being based on opinions, assumptions and gut feeling. Six sigma discipline begins by clarifying what measures are key to gauging business performance and then gathers data and analyzes key variables. Problems are effectively defined, analyzed, and resolved. Six sigma also helps managers to answer two essential questions to support data-driven decisions and solutions.

- a. What data/information is really required?
  - b. How to use the data/information for maximum benefit?
- **Theme three** – *processes are where the action is*: Six sigma positions the process as the key vehicle of success. Processes like designing products and services, measuring performance, improving efficiency and customer satisfaction, may relate to build competitive advantage in delivering value to customers.
  - **Theme four** – *proactive management*: In simple terms, being proactive means acting in advance of events rather than reacting to them. In the real world, though, proactive management means making habits out of what are, too often, neglected business practices: defining ambitious goals and reviewing them frequently, setting clear priorities, focusing on problem prevention rather than fire-fighting, and questioning why we do things instead of blindly defending them.  

Far from being boring or overly analytical, being truly proactive is a starting point for creativity and effective change. Six sigma, encompasses tools and practices that replace reactive habits with a dynamic, responsive, proactive style of management.
  - **Theme five** – *boundaryless collaboration*: "Boundarylessness" is one of Jack Welch's mantras for business success. Years before launching six sigma, GE's chairman was working to break barriers and to improve teamwork up, down, and across organizational lines. The opportunities available through improved collaboration within companies and with vendors and customers are huge. Billions of dollars are lost every day because of disconnects and outright competition between groups that should be working for a common cause: providing value to customers.
  - **Theme six** – *drive for perfection; tolerate failure*: Organizations need to make efforts to achieve perfection and yet at the same time tolerate failure. In essence, though, the two ideas are complementary. No company will get even close to six sigma without launching new ideas and approaches - which always involve some risk. Six sigma cannot be implemented by individuals who are overly cautious and are scared of making mistakes.