

MOCK TEST PAPER – 1
IPCC/PCC: GROUP – II
PAPER –7/6: INFORMATION TECHNOLOGY AND STRATEGIC MANAGEMENT
SECTION – A: INFORMATION TECHNOLOGY
SUGGESTED ANSWERS/HINTS

1. (a) Differentiation between Static RAM and Dynamic RAM are discussed below.
- Static RAM:** Static RAM is lot faster, larger and more expensive than Dynamic RAM. It does not need to be continually refreshed. The data remained stored in it as long as power remains on. Because of its speed, SRAM is used mainly in a special area of memory called cache.
- Dynamic RAM:** Dynamic RAM is most common type of main memory. It is dynamic because each memory cell quickly loses its charge so it must be refreshed hundreds of times each second to prevent data from being lost. The power consumption by DRAM is less than that of a SRAM. The most Dynamic RAM in use is Rambus DRAM.
- (b) The motherboard or the system board is the main circuit board on the computer. It acts as a direct channel for the various components to interact and communicate with each other. The motherboard contains the connectors for attaching additional boards.
- Basic Input Output System is a small chip on the motherboard that loads the hardware settings required to load various devices like keyboards, monitors, or disk drives. It acts an interface between the operating system and the motherboard. It is a boot firmware program that controls the computer from the time we start it up until the operating system takes over. The BIOS also manages data flow between the computer's operating system and attached devices such as hard disk, video card, keyboard, mouse and printer.
- (c) A knowledge database system provides functions to define, create, modify, delete and read data in a system. The type of data maintained in a database system historically has been declarative data describing the static aspects of the real world objects and their associations. A database system can also be used to maintain procedural data describing the dynamic aspects of the real world objects and their associations, for example, several amended versions of enactments in the field of labour laws to facilitate management decisions in pay negotiations. When both the declarative and procedural data are stored in a database, it constitutes a knowledge database with more powerful data maintenance

- (d) Features of Wide Area Network are as follows.
- (i) Multiple user computers connected together to share the data.
 - (ii) Machines are spread over a wide geographic region.
 - (iii) Communications channels between the machines are usually furnished by a third party vendor.
 - (iv) Communications channels are relatively low capacity and error-prone.
- (e) The Internet is a network of computers that offers access to information and people. It is an information service that offers e-mail, bulletin boards, and information retrieval services that can access file directories and databases around the world.

Whereas, Intranet is a type of information system that facilitates communication within the organization, among widely dispersed departments, divisions and regional locations. Intranets connect people together with Internet technology using the Web Browsers, Web Servers and Data warehouses in a single view. With an Intranet, access to all information, applications and data can be made available through the same browser.

2. (a) The various features of Central Processing Units are discussed below.
- (i) **Clock Speed:** The clock speed is the speed at which the processor executes instructions. Clock speed is measured either in megahertz (MHz)-which is a million cycles per second or in gigahertz(GHz)- which is one-billion cycles per second. Higher the clock's speed, the faster the processor, the better the system performance.
 - (ii) **Cache:** Processors incorporate their own internal cache memory. The cache acts as temporary memory and boosts processing power significantly. The cache that comes with the processor is called Level One (L1) cache. This cache runs at the processor's clock speeds, and therefore is very fast. The L1 cache is divided into 2 sections—one for data, the other for instructions. Generally, more the L1 cache, faster the processor. PCs also include a much slower secondary, or Level Two (L2) cache. This cache resides on the motherboard and delivers slower performance when compared with the L1 cache.

The new type of cache known as L3cache is specialized memory that works hand-in-hand with L1 and L2 cache to improve computer performance. The advantage of having on-board cache is that it's faster, more efficient and less expensive than placing separate cache on the motherboard.
 - (iii) **Architecture:** The CPUs architecture determines the manner in which it processes data. CPUs employ multi-staged pipelines for transmitting data. To ensure proper data flow through these lines, the CPU includes a kind of prediction and error correction mechanism.

- (iv) **Slot:** Different processors use different sockets or slots to fit onto the motherboard. A **CPU socket** or **CPU slot** is an electrical component that attaches to a printed circuit board (PCB) and is designed to house a microprocessor. It is a special type of integrated circuit designed for very high pin counts. A CPU socket provides many functions, including providing a physical structure to support the CPU, providing support for a heat sink, facilitating replacement (as well as reducing cost) and most importantly forming an electrical interface both with the CPU and the PCB. Socket H, G32 and 34 are most popular socket used in computer system now-a-days.
- (v) **Density:** A CPU is made up of millions of small transistors. A CPU performs all the calculation and manipulation operations by synchronizing between the transistors. Therefore, the shorter the distance between two transistors on a CPU, the faster the performance.
- (vi) **MMX:** MMX stands for Multimedia Extensions—a set of instructions built in to the CPU, specifically intended for improving the performance of multimedia or graphic applications—mainly games. However, one needs to have applications specifically designed to take advantage of MMX.

Note: Students may discuss any four features.

- (b) **Decision Support System (DSS)** is a specific class of computerized information system that supports business and organizational decision-making activities. A properly designed DSS is an interactive software-based system intended to help decision maker to compile useful information from raw data, documents, personal knowledge, and/or business models to identify and solve problems and make decisions. A DSS may present information graphically and may include an expert system or artificial intelligence. DSS have also achieved broad use in accounting and auditing today.

Components of a DSS: A decision support system has four basic components: (i) The users, (ii) Database, (iii) Planning language, and (iv) Model base.

- (i) **The users:** The user of a Decision Support System (DSS) is usually a manager with an unstructured or semi-structured problem to solve. In fact, user does not require a computer background to use a DSS for problem solving. He must have thorough understanding of the problem and the factors to be considered in finding a solution.
- (ii) **Database:** DSS includes one or more databases. These databases contain both routine and non-routine data from both internal and external sources. The data from external sources include data about economic condition, market demand for goods and services and industry competition, whereas internal data includes data from the financial and managerial accounting system, marketing, production and personnel department.

(iii) **Planning language:** Two types of planning languages are commonly used in DSS.

- **General Purpose:** These languages allow user to perform many routine tasks viz., retrieving various data from a database or performing statistical analysis, budgeting, forecasting and worksheet oriented problem. The languages used in most of the spread sheets are the good examples.
- **Special purpose:** Special purpose planning languages are statistical languages viz., SAS, SPSS and Mini Tab. These languages perform statistical and mathematical operations.

(iv) **Model Base:** The model base is the brain of the decision support system because it performs data manipulation and computations with the data provided to it by the user and database. Model base is custom developed model that does some types of mathematical functions viz., cross-tabulation, regression analysis, time series analysis, linear programming and financial computation. The analysis provided by the routines in the model base is the key to supporting the user's decision.

3. (a) The indexed sequential file organisation or indexed sequential access method (ISAM), is a hybrid between sequential and direct access file organisations. The records within the file are stored sequentially but direct access to individual records is possible through an index. It is a method of storing data for fast retrieval. In an ISAM system, data is organized into records which are composed of fixed length fields. Records are stored sequentially, originally to speed access on a tape system. A secondary set of hash tables known as *indexes* contain "pointers" into the tables, allowing individual records to be retrieved without having to search the entire data set.

The key improvement in ISAM is that the indexes are small and can be searched quickly; allowing the database to then access only the records it needs. To locate a record, the cylinder index is searched to find the cylinder address, and then the track index for the cylinder is searched to locate the track address of the desired record. Following are the features of Index sequential file organization.

- (i) It permits the efficient and economical use of sequential processing technique when the activity ratio is high.
- (ii) It allows direct access of records in a relatively efficient way when the activity ratio is low.
- (iii) Access to the records is slower than direct file.
- (iv) Relatively expensive hardware and software may be required.
- (v) It is less efficient in the use of storage space than other alternatives.

- (b) Documentation is an important aspect of Software Development Life Cycle which provides a method to understand the various issues related with software development. It provides access details related to system study, system development, system testing, system operational details, details related to preventive maintenance and details associated with further modification aspects of the software.

The important documentations required to be prepared prior to delivery of customized software to customer which are as follows:

- (i) Strategic and Application Plans.
- (ii) Application Systems and Program Documentation.
- (iii) System Software and Utility Program Documentation.
- (iv) Database Documentation, Operation Manuals, User Manuals, Testing Manual, Standard Manual, Preventive Maintenance Manual, and Backup Manual are other important documentations.

4. (a) **A computer network can help the business in following ways:**

- (i) **File Sharing:** File sharing is the most common function provided by networks and consists of grouping all data files together on a server or servers. When all data files in an organization are concentrated in one place, it is much easier for staff to share documents and other data.
- (ii) **Print Sharing:** When printers are made available over the network, multiple users can print to the same printer. This facility can reduce the number of printers the organization must purchase, maintain and supply.
- (iii) **E-Mail:** Internal or "group" email enables the staff of an office to communicate with each other quickly and effectively. Group email applications also provide capabilities for contact management, scheduling and task assignment.
- (iv) **Fax Sharing:** Through the use of a shared modem(s) connected directly to the network server, fax sharing permits users to fax documents directly from their computers without ever having to print them out on paper.
- (v) **Remote Access:** Staff often requires access to their email, documents or other data from locations outside the office. A highly desirable network function and remote access allows users to dial in to an organization's network via telephone and access all the network resources that they can access when they're in the office.
- (vi) **Shared Databases:** Shared databases are an important subset of file sharing. If the organization maintains an extensive database, a network is the only effective way to make the database available to multiple users at the same time.

- (vii) **Fault Tolerance:** This is the process of making sure that there are several lines of defense against accidental data loss. Tape backups, servers attached to an uninterruptible power supply and redundant hardware are examples of such defense lines.
- (viii) **Internet Access and Security:** When computers are connected via a network, they can share a common network connection to the Internet. This facilitates email, document transfer and access to the resources available on the World Wide Web.
- (ix) **Communication and collaboration:** A network allows employees to share files, view other people's work, and exchange ideas more efficiently.
- (x) **Organization:** A variety of network scheduling software is available that makes it possible to arrange meetings without constantly checking everyone's schedules.

Note: Student may discuss any six points.

- (b) A local area network (LAN) is primarily a data transmission system intended to link computers and associated devices within a restricted geographical area such as an office building or several adjacent buildings. The linked computers and related equipments may be anything from full-scale mainframe computing systems to small desktop office workstations, terminals and peripherals etc. Organizations use LANs because they enable multiple users to share software, data and devices. LANs use a shared physical media, which is routed in the whole campus to connect various systems. LAN uses high-speed media (1Mbps to 30 Mbps or more) and are mostly privately owned and operated.

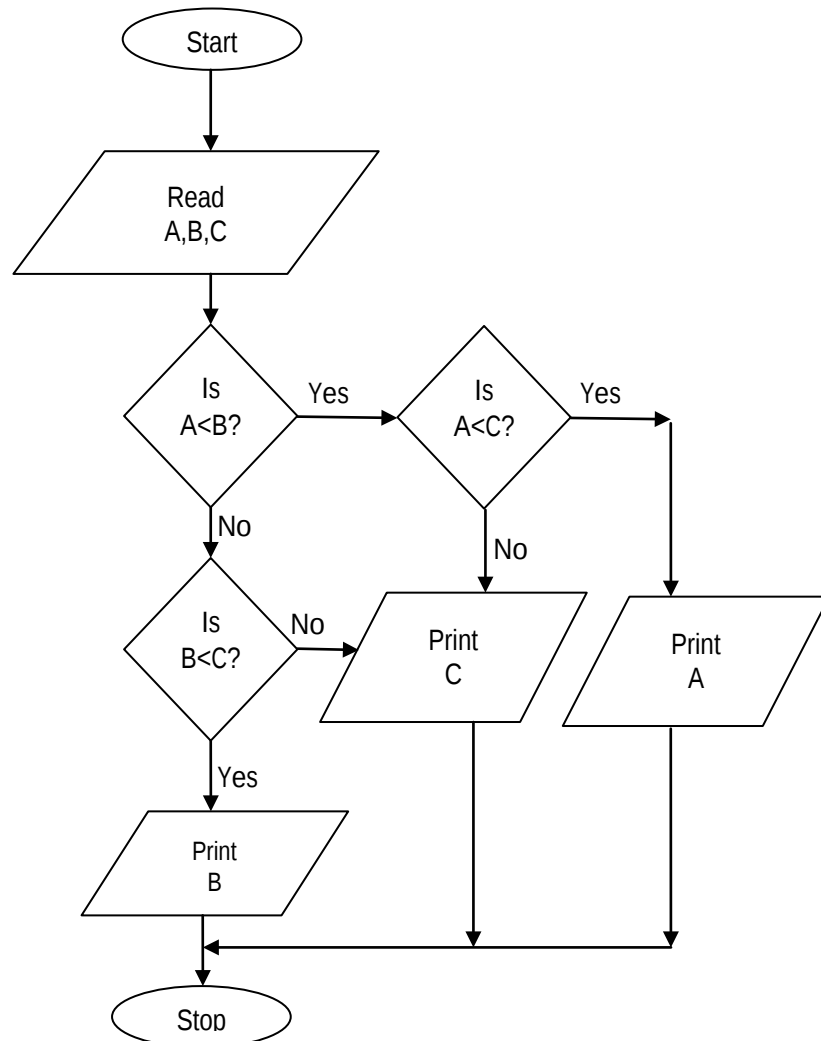
Local area network has following five components discussed below.

- (i) **File Server:** A network file server is a computer system used for the purpose of managing the file system, servicing the network printers, handling network communications, and other functions. A server may be dedicated in which case all of its processing power is allocated to network functions, or it may be non-dedicated which means that a part of the server's functions may be allocated as a workstation or DOS-based system.
- (ii) **The network operating system:** It is loaded into the server's hard disk along with the system management tools and user utilities. When the system is restarted, NetWare boots and the server comes under its control.
- (iii) **Workstations:** Workstations are attached to the server through the Network Interface Card and the cabling. Workstations are normally intelligent systems, such as the IBM PC. The concept of distributed processing relies on the fact that personal computers attached to the networks perform their own processing after loading programs and data from the server. Hence, a

workstation is called an Active Device on the network. After processing, files are stored back on the server where they can be used by other workstations.

- (iv) **Network Interface Card:** Every device connected to a LAN needs a Network Interface Card (NIC) to plug into the LAN. For example, a PC may have an Ethernet card installed in it to connect to an Ethernet LAN.
- (v) **Network Cabling:** Once the server, workstations and network interface cards are in place, network cabling is used to connect everything together. The most popular type of network cable is the shielded twisted-pair, co-axial and fiber optic cabling.

5. (a) The flowchart is shown below.



- (b) A decision table is a precise yet compact way to model complicated logic which defines the possible contingencies that may be considered within the program and the appropriate course of action for each contingency.

The components of the decision table are as follows.

- (i) **Condition Statement** - Statement which introduce one or more conditions i.e., factors to consider in making a decision.
- (ii) **Condition Entries** - Entries that complete condition statements.
- (iii) **Action Statements** - Statements which introduce one or more actions i.e., steps to be taken when a certain combination of conditions exist.
- (iv) **Action Entries** - Entries that complete the action statements.
- (v) **Rules** - Unique combinations of conditions and actions to be taken under those conditions.
- (vi) **Header**- Title identifying the table.
- (vii) **Rule Identifiers** - Code (R1, R2, R3,) uniquely identifying each rule within a table.
- (viii) **Condition Identifiers** - Codes (C1, C2, C3,...) uniquely identifying each condition statements/entry.
- (ix) **Action Identifiers** - Codes (A1, A2, & A3...) uniquely identifying each action statement/entry.

6. (a) The following areas would be focused by the company for effectiveness in distribution of goods and services to the customer.

- (i) **Fulfillment:** Ensuring the right quantity of parts for production or products for sale arrive at the right time enabled through efficient communication, ensuring that orders are placed with the appropriate amount of time available to be filled.
- (ii) **Logistics:** Keeping the cost of transporting materials as low as possible consistent with safe and reliable delivery. Thus, SCM enables a company to have constant contact with its distribution team and allow the company to track the location of material all the time.
- (iii) **Production:** Production can run smoothly as a result of fulfillment and logistics being implemented correctly. If the correct quantity is not ordered and delivered at the requested time, production will be halted, but having an effective supply chain management system in place will ensure that production can always run smoothly without delays due to ordering and transportation.
- (iv) **Revenue & Profit:** Managing the supply chain improves a company's flexibility to respond to unforeseen changes in demand and supply. Because of this, a

company has the ability to produce goods at lower prices and distribute them to consumers quicker than companies without supply chain management thus increasing the overall profit.

- (v) **Costs:** Keeping the cost of purchased parts and products at acceptable levels. SCM reduces costs by increasing inventory turnover on the shop floor thus reducing internal and external failure costs and working with suppliers to produce the most cost efficient means of manufacturing a product.
- (vi) **Cooperation:** Collaborative planning, forecasting and replenishment (CPFR) is a longer-term commitment, joint work on quality, and support by the buyer of the supplier's managerial, technological, and capacity development. This relationship allows the company to have access to current, reliable information obtain lower inventory levels, cut lead times, enhance product quality, improve forecasting accuracy and ultimately improve customer service and overall profits.

Note: Students may discuss any four points.

- (b) By using Customer Relationship Management (CRM), the company would be able to serve the customer in a better way. CRM includes the methodologies, technology and capabilities that help an enterprise manage customer relationships. The general purpose of CRM is to enable organizations to manage their customers in a better way through the introduction of reliable systems, processes and procedures. Customer Relationship Management is a corporate level strategy which focuses on creating and maintaining lasting relationships with its customers.

To be effective, the CRM process needs to be integrated end-to-end across marketing, sales, and customer service. The following factors determine the good CRM program needs to be implemented in the organization.

- (i) Identify customer success factors,
- (ii) Create a customer-based culture,
- (iii) Adopt customer-based measures.
- (iv) Develop an end-to-end process to serve customers,
- (v) Recommend what questions to ask to help a customer solve a problem,
- (vi) Recommend what to tell a customer with a complaint about a purchase,
- (vii) Track all aspects of selling to customers and prospects as well as customer support.

- 7. (a) **Read-Only-Memory (ROM):** It is used for micro programs wherein the storage cannot be altered by regular program instructions. The information is stored permanently in such memory during their manufacturing and can be read only but fresh information cannot be written into it. One set of instructions found in ROM is

called the ROM-BIOS which stand for Read-Only-Memory Basic Input Output services. These programs perform the basic control and supervisory operations for the computer. Its various types are- PROM, EPROM and EEPROM and also handles the basic needs of the hardware involved, which include all I/O devices.

- (b) **Device Drivers:** Device drivers are small files that act as an interface between hardware in a computer system and the operating system (OS). A driver typically communicates with the device through the computer bus or communication subsystem to which the hardware connects. When a calling program invokes a routine in the driver, driver issues commands to the device. Once the device sends data back to the driver, the driver may invoke routines in the original calling program. For e.g. Windows OS typically include many device drivers by default so that the OS can recognize many types of desktop hardware components instantly and implement functionality.
- (c) **E-R Database Model :** An E-R model is a specialized graphic that illustrates the interrelationships between entities in a database. It is an abstract and conceptual representation of data. Entity-relationship model is a database modeling method, used to produce a type of conceptual schema of a system. The entity is defined as a distinguishable object that exists in isolation and is described by a set of attributes. An entity may be a physical object such as a house or a car, an event such as a house sale or a car service, or a concept such as a customer transaction or order. A relationship is the association among several entities. Entities and relationships can both have attributes. An attribute is a data element that describes an entity. The set of all entities or relationships of the same type is called the entity set or relationship set. The degree of relationship indicates the link between the two entities for a specified occurrence of each. The degree of relationship is also called "Cardinality". Cardinality specifies how many instances of an entity relate to one instance of another entity.
- (d) **Application Server:** It is a server program that resides in the server (computer) and provides the business logic for the application program. The server can be a part of the network, more precisely the part of the distributed network. The server program is a program that provides its services to the client program that resides either in the same computer or on another computer connected through the network. Application servers are mainly used in Web-based applications that have 3-tier architecture. The application server is a second/middle tier of the three-tier architecture. In other words, application servers are now an integral part of the three-tier architecture.
- (e) **M-commerce (mobile commerce):** It is the buying and selling of goods and services through wireless handheld devices such as cellular telephone and personal digital assistants (PDAs) known as next-generation e-commerce. M-commerce enables users to access the Internet without needing to find a place to plug in. The emerging technology behind m-commerce is based on the Wireless Application Protocol (WAP). Using Bluetooth technology, smart phones offer fax, e-mail, and

phone capabilities all in one, paving the way for m-commerce to be accepted by an increasingly mobile workforce. The industries affected by m-commerce include financial services, telecommunications, Service/retail sectors and Information services etc.

MOCK TEST PAPER – 1

IPCC/PCC: GROUP – II

PAPER –7/6: INFORMATION TECHNOLOGY AND STRATEGIC MANAGEMENT

SECTION – B: STRATEGIC MANAGEMENT

SUGGESTED ANSWERS / HINTS

1. (a) 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.
- (b) All the organizations have competition whether it is a national or multinational. Small and medium size organizations have separate sets of pattern and big companies have separate set of patterns. But, one thing is a fact that there is no monopoly organization except Railway. The nature of competition affect the rate of growth, rate of income, consumer welfare. Sometimes, there is a direct competition and, sometimes, it is indirect. For example, Coke and Pepsi compete directly together but they have to fight with Hindustan Unilever Ltd. or Food Drink, Hamdard. The nature and level of competition can be understood by answering the following questions:
- (i) Who are the competitors?
 - (ii) What are their product and services?
 - (iii) What are their market shares?
 - (iv) What are their financial positions?
 - (v) What gives them cost and price advantage?
 - (vi) What are they likely to do next?
 - (vii) Who are the potential competitors?

Sometimes, competitors join hands to help one another-Tata and Fiat. They identify the common interest between them. A soft drink Company can enter into Restaurant. For example, Coke & Pizza Hut. The benefits of cooperation are also seen in Japan where large cooperative network of business is known as kieretsu. They are formed in order to enhance the ability of individual business member to compete in their respective industries. They share their common interest.

- (c) Total quality management espouses a philosophy of continuous improvement in all areas of an organization. Quality measurement is needed in order to focus improvement efforts appropriately. Continuous improvement is part of the management of all systems and processes. Achieving the highest levels of performance requires a well-defined and well-executed approach to continuous improvement and learning. "Continuous improvement" refers to both incremental and "breakthrough" improvement. Improvements may be of several types:

- § Enhancing value to the customer through new and improved products and services;
- § Developing new business opportunities;
- § Reducing errors, defects, and waste;
- § Improving responsiveness and cycle time performance; and
- § Improving productivity and effectiveness in the use of all resources.

"Learning" refers to adaptation to change, leading to new goals or approaches. Improvement and learning need to be embedded in the way an organization operates. This means they should be a regular part of daily work, seek to eliminate problems at their source, and be driven by opportunities to do better as well as by problems that need to be corrected.

- (d) A retrenchment strategy considered the most extreme and unattractive is liquidation strategy, which 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 where a firm could pursue any future activities, and the stigma of failure. The company management, government, banks and financial institutions, trade unions, suppliers and creditors, and other agencies are extremely reluctant to take a decision, or ask, for liquidation. Liquidation strategy may be unpleasant as a strategic alternative but when a "dead business is worth more than alive", it is a good proposition. For instance, the real estate owned by a firm may fetch it more money than the actual returns of doing business. When liquidation is evident (though it is difficult to say exactly when), an abandonment plan is desirable.
- (e) Supply chain management is an extension of logistic management. However, there is difference between the two. Logistical activities typically include management of inbound and outbound goods, transportation, warehousing, handling of material, fulfilment of orders, inventory management, supply/demand planning. Although these activities also form part of Supply chain management, the latter has different components. Logistic management can be termed as one of its part that is related to planning, implementing, and controlling the movement and storage of goods, services and related information between the point of origin and the point of consumption.

Supply chain management includes more aspects apart from the logistics function. It is a tool of business transformation and involves delivering the right product at the right time to the right place and at the right price. It reduces costs of organizations and enhances customer service.

2. (a) (i) **Incorrect:** Benchmarking relates to setting goals and measuring productivity based on best industry practices. The idea is to learn from competitors and others to improve their own performance. On the other hand business process reengineering relates to analysis and redesign of workflows and processes both within and between the organizations.
- (ii) **Correct:** Direct marketing is done through various advertising media that interact directly with customer. Teleshopping is a form of direct marketing which operates without conventional intermediaries and employs television and other IT devices for reaching the customer. The communication between the marketer and the customer is direct through third party interfaces such as telecom or postal systems.
- (b) (i) Cost Leadership.
(ii) Benchmarking.
(iii) Relationship Marketing.
3. (a) Six sigma is a highly disciplined process that helps in developing and delivering near-perfect products and services. It strives to meet and improve organizational outputs in terms of quality, cost, scheduling, manpower, new products and so on. It works continuously towards revising the current standards and establishing higher ones. It means taking systemic and integrated efforts toward improving quality and reducing cost.
- (b) Augmented marketing refers to deliberate and accelerated efforts to get better marketing returns through additional means. It includes provision of additional customer services and benefits built around the core and actual products that relate to introduction of hi-tech services like movies on demand, on-line computer repair services, secretarial services, etc. Such innovative offerings provide a set of benefits that promise to elevate customer service to unprecedented levels.
- (c) Marketing mix forms an important part of overall competitive marketing strategy. The marketing mix is the set of controllable marketing variables that the firm blends to produce the response it wants in the target market. The marketing mix consists of everything that the firm can do to influence the demand for its product. These are usually referred to as 4Ps - product, price, place and promotion.

Product stands for the "goods-and-service" combination the company offers to the target market. Price stands for the amount of money customers have to pay to obtain the product. Place stands for company activities that make the product available to target consumers. One of the most basic marketing decision is choosing

the most appropriate channel to reach target customer. Promotion stands for activities that communicate the merits of the product and persuade target consumers to buy it. It includes - Personal Selling, Advertising, Publicity and Sales promotion

The traditional concept of 4Ps is also expanded further with more Ps such as, people, physical evidence and process. Under the dynamics of market all the Ps are extremely important so as to build and sustain a competitive advantage over the rivals.

4. SWOT analysis helps managers to craft a business model (or models) that will allow a company to gain a competitive advantage in its industry (or industries). Competitive advantage leads to increased profitability, and this maximizes a company's chances of surviving in the fast-changing, global competitive environment that characterizes most industries today.

Faced with a constantly changing environment, each business unit needs to develop a marketing information system to track trends and developments, which can be categorized as an opportunity or a threat. The company has to review its strength and weakness in the background of environment's opportunities and threat, i.e., an organization's SWOT analysis.

Strengths · Favourable location · Excellent distribution network · ISO 9000 quality certification · Established R & D centre · Good management reputation	Weaknesses · Uncertain cash flow · Weak management information system · Absence of strong USP for major product lines · Low worker commitment
Opportunities · Favourable industry trends · Low technology options available · Possibility of niche target market · Availability of reliable business partners	Threats · Unfavourable political environment · Obstacles in licensing new business · Lack of sustainable financial backing · Uncertain competitors' intentions

5. For implementing six sigma there are two separate key methodologies for existing and new processes. Conceptually there is some overlapping between the two. The two methodologies as follows:
1. **DMAIC:** DMAIC methodology is an acronym for five different steps used in six sigma directed towards improvement of existing product, process or service. The five steps are as follows:
 - “ *Define:* To begin with six sigma experts define the process improvement goals that are consistent with the strategy of the organization and customer demands. They discuss different issues with the senior managers so as to define what needs to be done.
 - “ *Measure:* The existing processes are measured to facilitate future comparison. Six sigma experts collect process data by mapping and measuring relevant processes.
 - “ *Analyze:* Verify cause-and-effect relationship between the factors in the processes. Experts need to identify the relationship between the factors. They have to make a comprehensive analysis to identify hidden or not so obvious factor.
 - “ *Improve:* On the basis of the analysis experts make a detailed plan to improve.
 - “ *Control:* Initial trial or pilots are run to establish process capability and transition to production. Afterwards continuously measure the process to ensure that variances are identified and corrected before they result in defects.
 2. **DMADV:** DMADV is again acronym for the steps followed in implementing six sigma. It is a strategy for designing new products, processes and services.
 - “ *Define:* As in case of DMAIC six sigma experts have to formally define goals of the design activity that are consistent with strategy of the organization and the demands of the customer.
 - “ *Measure:* Next identify the factors that are critical to quality (CTQs). Measure factors such as product capabilities and production process capability. Also assess the risks involved.
 - “ *Analyze:* Develop and design alternatives. Create high-level design and evaluate to select the best design.
 - “ *Design:* Develop details of design and optimise it. Verify designs may require using techniques such as simulations.
 - “ *Verify:* Verify designs through simulations or pilot runs. Verified and implemented processes are handed over to the process owners.
6. In reality no company can forecast both internal and external environment exactly. Moreover, everything cannot be planned in advance. In the business world, it is not

possible to plan everything. We cannot anticipate on the rival firms, shifting customer, requirement and expectations of new technologies and market situation etc.

In fact, actual strategy is always partly proactive and partly reactive.

Proactive strategy: The Company will move with the perfect planning and set procedure. It will look at opportunities to grab in planned way. It will help organisation to be a leader in its kingdom. This fosters high risk and rewards. Proactive part of management is deliberate game plan for the product analysis. It is strategy thinking about the company's situation and seeking the buyers' patronage.

Reactive strategy: This provides the triggers to move faster. This provides extra power to take on external environment. It does not care for risk and reward; rather it focuses on goal to be achieved.

A corporate strategy is typically a blend of different thought processes.

Proactive actions by managers to improve the company's market position and financial performance.

As needed, reaction to unanticipated development and fresh market conditions.

The biggest portion of a company's current strategy flows from previously initiated actions and business approaches that are working well enough to merit continuation and newly launched managerial initiatives to strengthen the company's overall position and performance. This is part of management's analysis and strategic thinking about company situation.

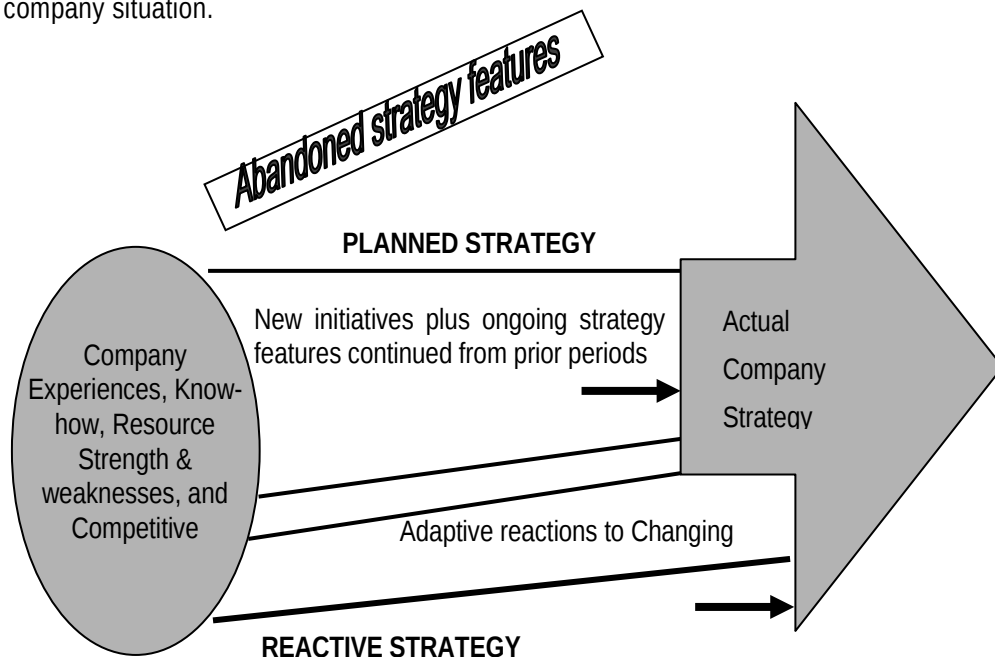


Figure: A Company's Actual Strategy Is Partly Planned & Partly Reactive

7. The external environment offers a range of opportunities, constraints, threats and pressures and thereby influences the structure and functioning of the enterprise. As a sub-system, the corporate enterprise draws certain inputs of resources, information and values from the larger environmental system, transforms them into outputs of products, services, goals and satisfactions and exchanges with or transmits them into the external environment. In the process, it generates energy and sustains itself.

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 generated 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.
- “ *Exchange of resources:* The organization receives inputs—finance, materials, manpower, equipment etc., from the external environment through contractual and other arrangements. 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.
- “ *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. Governmental control over the organization is one such power relationship. Other organizations, competitors, markets, customers, suppliers, investors etc., also exercise considerable collective power and influence over the planning and decision making processes of the organization.

In delineating the relationship between the organization and the environment, one has to be clear on the diversity of both these entities. On the one hand, 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. On the other hand, the relationship depends on the fact whether the external environmental elements behave in a random or structured manner (uncertainty v. predictability), whether such elements are placid or turbulent, whether they are slow-changing or fast changing, whether they are simple or complex, and so forth. The degree of interaction between the organization and the external environment is set by the above characteristics. It follows therefore that all organizations do not behave in the same way in relation to their external environment. Their structures and functions are shaped in tune with the demands of the external environment.