

Course: Information system and data processing

Program: BS (SE)

Instructor: Muhammad Abrar Khan

Examination: Final paper

Total Marks: 50

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Note: Attempt all questions. Use examples and diagrams where necessary.

Q.1

What are systems? Explain in detail. Take a daily life example of system (any organization or company) and explain its component one by one in detail.

ANSWER:

SYSTEM:

A system is an organized collection of parts or subsystems that are highly integrated to accomplish an overall goal. The system has various inputs, which go through certain processes to produce certain outputs, which together, accomplish the overall desired goal for the system.

SYSTEM OF TOYOTA COMPANY AND ITS COMPOENTS:

Toyota Motor Corporation's organizational structure is based on the varied business operations of the company around the world. As one of the world's leading automobile manufacturers, Toyota employs its organizational structure to support business goals and strategic direction. This structure is also linked to the traditional organizational structures used in Japanese businesses. The effectiveness of Toyota in maintaining a strong global presence shows its ability to use its organizational structure to maximize efficiency and capacity utilization. In essence, this organizational structure is a contributor to Toyota's success in the global market.

Toyota Motor Corporation's organizational structure defines the patterns or arrangements in the firm's resources and processes. This corporate structure facilitates the company's effective and efficient business management.

Toyota has a divisional organizational structure. This structure underwent significant changes in 2013. This was seen as a response to the safety issues and corresponding product recalls that started in 2009. In the old organizational structure, Toyota had a strong centralized global hierarchy that was more like a spoke-and-wheel structure. The company's headquarters in Japan made all the major decisions. Individual business units did not communicate with each other, and all communications had to go through the headquarters. However, this organizational structure was widely criticized for slow response times to address safety issues. After the reorganization that was implemented in 2013, Toyota's new organizational structure now has the following main characteristics.

COMPOENTS:

1. Global hierarchy
2. Geographic divisions
3. Product-based divisions

Global Hierarchy;

Toyota still maintains its global hierarchy despite its reorganization in 2013. However, in the current organizational structure, the company has increased the decision-making power of regional heads and business unit heads. In essence, Toyota's decision-making processes became less centralized. Nonetheless, all business unit heads report to the firm's global headquarters in Japan.

Geographic Divisions;

Toyota's new organizational structure has eight regional divisions (Japan, North America, Europe, East Asia and Oceania, China, Asia and Middle East, Africa, and Latin America and Caribbean). Each regional head reports to the company's headquarters. Through these regional divisions, the organizational structure enables Toyota to improve products and services according to regional market conditions.

Product-based Divisions;

Another feature of Toyota's organizational structure is the set of product-based divisions. The company has four of these divisions:

- (A) Lexus International,
- (B) Toyota No. 1 for operations in North America, Europe and Japan,
- (C) Toyota No. 2 for operations in all other regions, and
- (D) Unit Center,

Which is responsible for engine , transmission and other related operations. This feature of Toyota's organizational structure supports development of brands and product lines.

Implications of Toyota's Organizational Structure;

Toyota's new organizational structure provides a greater degree of flexibility compared to the old centralized hierarchical organizational structure. With this new structure, the company is now more capable of responding to regional market conditions. This flexibility empowers Toyota to speedily respond to issues and to provide higher quality products. However, the increased decision-making

power of regional heads has reduced headquarters' control over the global organization. Still, this organizational structure facilitates business resilience and continued growth.

Q.2

What is Management information system? Take an example of MIS of any organization and elaborate in your own words.

ANSWER:

MANGMENT INFORMATION SYSTEM;

A management information system is a computer system consisting of hardware and software that serves as the backbone of an organization's operations. A management information system gathers data from multiple online systems, analyzes the information, and reports data to aid in management decision making.

MANAGEMENT INFORMATION SYSTEM OF PIZZA HUT

Types of information systems:

There are different types of information systems used at different managerial Level According to the needs of each level.

Following are the common types of information system,

- Executive Information System
- Management Information System
- Decision Support system (DSS)
- Support system (DSS)
- Transaction Processing Systems (TPS)
- Customer Information Systems
- Employee information Systems

These are explained as follows;

Executive Information System

Executive Information System are used to help executives in business planning and making strategic decisions. So, these are for the top management of Pizza Hut to decide, for example, where to open new franchise, what would it cost etc. These are used to help making long term decisions.

Management Information System

Management Information System are used by managers at middle management level. Manager at each particular franchise has to make decision according to the local culture, and taste etc. For example, muslims countries do not allow anything other than halal food. So this type of standards is to be addressed by the franchise manager by gathering information about their eating habits etc.

Decision support system (DSS)

Decision support system (DSS) analyses information and help making decisions according to the analysis. For example, a customer information system gathers information about customers, their contact information and food habits, how often they visit or order Pizza Hut products, which products they like the most. Analysing these types of variables the decision can be made about new offerings etc.

Transaction Processing Systems (TPS)

Transaction Processing Systems (TPS) are used to keep record of daily transactions etc. For example Billing system, Payroll systems,

Employee management systems

Keeping record of wages etc

Inventory management systems

Helps regulating supply chain etc

Q.3

Explain Marketing Information system and its types in detail.

Note: You should make your answer understandable by taking a proper example.

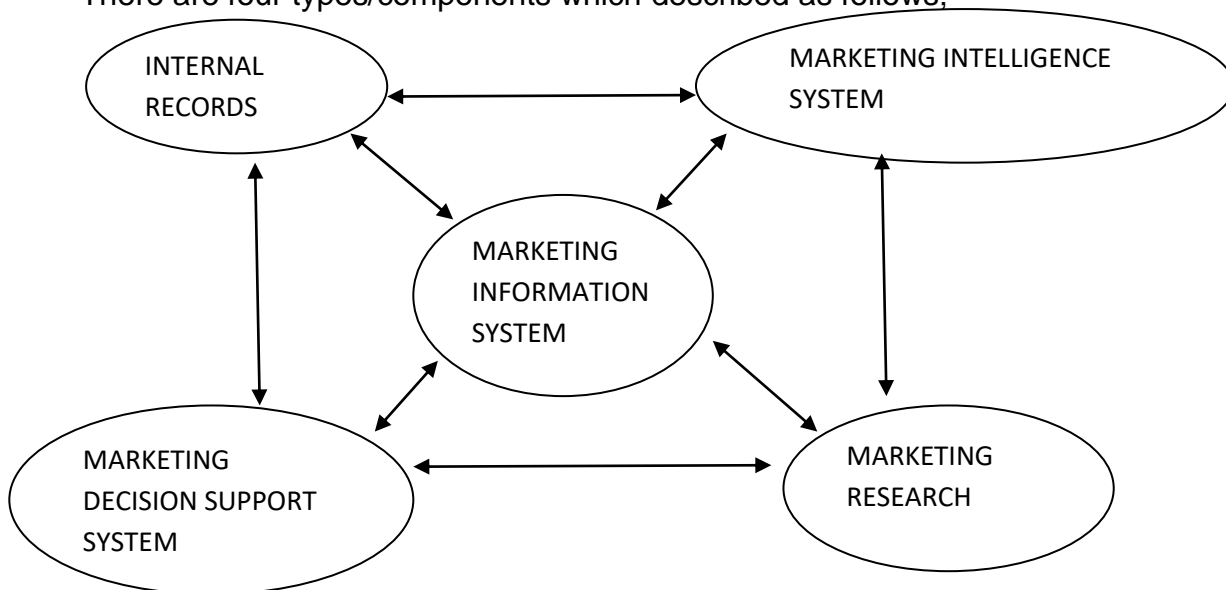
ANSWER:

MARKETING INFORMATION SYSTEM

The Marketing information system refers to the systematic collection, analysis, interpretation, storage and dissemination of the market information, from both the internal and external sources, to the marketers on a regular, continuous basis. The marketing information system distributes the relevant information to the marketers who can make the efficient decisions related to the marketing operations via Pricing, packaging, new product development, distribution, media, promotion, etc.

TYPES:

There are four types/components which described as follows;



(1) Internal Records:

The Company can collect information through its internal records comprising of sales data, customer database, product database, financial data, operations data, etc. The detailed explanation of the internal sources of data is given below:

- The information can be collected from the documents such as invoices, transmit copies, billing documents prepared by the firms once they receive the order for the goods and services from the customers, dealers or the sales representatives.
- The current sales data should be maintained on a regular basis that serves as an aide to a the Marketing Information System. The reports on current sales and the inventory levels help the management to decide on its objectives, and the marketers can make use of this information to design their future sales strategy.

- The Companies maintain several databases such as *Customer Database- wherein the complete information about the customer's name, address, phone number, the frequency of purchase, financial position, etc. is saved.
 - *Product Database- wherein the complete information about the product's price, features, variants, is stored.
 - *Salesperson database, wherein the complete information about the salesperson, his name, address, phone number, sales target, etc. is saved.
- The companies store their data in the data warehouse from where the data can be retrieved anytime the need arises. Once the data is stored, the statistical experts mine it by applying several computer software and techniques to convert it into meaningful information that gives facts and figures.

(2) Marketing Intelligence System:

The marketing intelligence system provides the data about the happenings in the market, i.e. data related to the marketing environment which is external to the organization. It includes the information about the changing market trends, competitor's pricing strategy, change in the customer's tastes and preferences, new products launched in the market, promotion strategy of the competitor, etc.

In order to have an efficient marketing Information System, the companies should work aggressively to improve the marketing intelligence system by taking the following steps:

- Providing the proper training and motivating the sales force to keep a check on the market trends, i.e. the change in the tastes and preferences of customers and give suggestions on the improvements, if any.
- Motivating the channel partners viz. Dealer, distributors, retailers who are in the actual market to provide the relevant and necessary information about the customers and the competitors.
- The companies can also improve their marketing intelligence system by getting more and more information about the competitors. This can be done either by purchasing the competitor's product, attending the trade shows, reading the competitor's published articles in magazines, journals, financial reports.
- The companies can have an efficient marketing information system by involving the loyal customers in the customer advisory panel who can share their experiences and give advice to the new potential customers.
- The companies can make use of the government data to improve its marketing Information system. The data can be related to the population trends, demographic characteristics, agricultural production, etc. that help an organization to plan its marketing operations accordingly.
- Also, the companies can purchase the information about the marketing environment from the research companies who carry out the researches on all the players in the market.
- The Marketing Intelligence system can be further improved by asking the customers directly about their experience with the product or service via feedback forms that can be filled online.

(3) Marketing Research:

The Marketing Research is the systematic collection, organization, analysis and interpretation of the primary or the secondary data to find out the solutions to the marketing problems. Several Companies conduct marketing research to analyze the marketing environment comprising of changes in the customer's tastes and preferences, competitor's strategies, the scope of new product launch, etc. by applying several statistical tools. In order to conduct the market research, the data is to be collected that can be either primary data (the first-hand data) or the secondary data (second-hand data, available in books, magazines, research reports, journals, etc.)

The secondary data are publicly available, but the primary data is to be collected by the researcher through certain methods such as questionnaires, personal interviews, surveys, seminars, etc.

A marketing research contributes a lot in the marketing information system as it provides the factual data that has been tested several times by the researchers.

(4) Marketing Decision Support System:

It includes several software programs that can be used by the marketers to analyze the data, collected so far, to take better marketing decisions. With the use of computers, the marketing managers can save the huge data in a tabular form and can apply statistical programs to analyze the data and make the decisions in line with the findings.

Thus, the marketers need to keep a check on the marketing environment, i.e. both the internal (within the organization) and the external (outside the organization, so that marketing policies, procedures, strategies can be designed accordingly.

EXAMPLE OF MARKETING INFORMATION SYSTEM

Google Analytics is a good example of a marketing information system. Once set up it gathers data on traffic to your website and then provides the information in ways that are easier to digest.

Most platforms (social media sites like Facebook, LinkedIn and Instagram and advertising options like Google Adwords provide information on usage so these are also examples of marketing information systems

Q.4

Why Decision Making is an important factor to run an organization. Explain your answer with the help of a proper example.

ANSWER:

DECISION MAKING:

Decision-making can be defined as the process of selecting a right and effective course of action from two or more alternatives for the purpose of achieving a desired result. Decision-making is the essence of management in any organization.

IMPORTANCE OF DECISION MAKING:

Management is essentially a bundle of decision-making process. The managers of an enterprise are responsible for making decisions and ascertaining that the decisions made are carried out in accordance with defined objectives or goals.

Decision-making plays a vital role in management. Decision-making is perhaps the most important component of a manager's activities. It plays the most important role in the planning process. When the managers plan, they decide on many matters as what goals their organization will pursue, what resources they will use, and who will perform each required task.

When plans go wrong or out of track, the managers have to decide what to do to correct the deviation.

In fact, the whole planning process involves the managers constantly in a series of decision-making situations. The quality of managerial decisions largely affects the effectiveness of the plans made by them. In organizing process, the manager is to decide upon the structure, division of work, nature of responsibility and relationships, the procedure of establishing such responsibility and relationship and so on.

In co-ordination, decision-making is essential for providing unity of action. In control, it will have to decide how the standard is to be laid down, how the deviations from the standard are to be rectified, how the principles are to be established how instructions are to be issued, and so on.

The ability to make good decisions is the key to successful managerial performance. The managers of most profit-seeking firms are always required to take a wide range of important decision in the areas of pricing, product choice, cost control, advertising, capital investments, dividend policy, personnel matters, etc. Similarly, the managers of non-profit seeking concerns and public enterprises also face the challenge of taking vital decisions on many important matters.

Decision-making is also a criterion to determine whether a person is in management or not. If he participates in decision-making, he is regarded as belonging to management staff.

Workplace Scenarios That Require Decision Making Examples

Within the workplace there are many instances where decision-making skills will need to be applied. Even if you do not occupy a management or supervisory role, decisions will need to be made as a matter of course by any professional.

The scenarios below are examples that may arise:

- Recognising that there is a problem with the production process and identifying a faulty machine which is causing the issue
- Creating concepts during a brainstorming session for the launch of a new product
- Understanding the impact of increasing store opening hours following a staff survey
- Selecting the best firm to lead a marketing campaign through the completion of a detailed analysis of competing proposals
- Identifying ways to save costs reviewing multiple business areas