

Course: Information system and data processing

Program: BS (SE)

Instructor: Muhammad Abrar Khan

Examination: Final paper

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Muhammad Hamza

ID: 13136

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.

Ans: System:

A system is a group of interrelated components working together toward a common goal by accepting inputs and producing outputs in an organized transformation process. – Components and their attribution • Systems structure: relationship between components • Subsystems – Environment and Boundary – Input and Output

- Input: Input is what data the system receives to produce a certain output. Output: What goes out from the system after being processed is known as Output. Processing: The process involved to transform input into output is known as Processing. Control: In order to get the desired results, it is essential to monitor and control the input, Processing and the output of the system. This job is done by the control.
- Feedback: The Output is checked with the desired standards of the output set and the necessary steps are taken for achieving the output as per the standards, this process is called as Feedback. It helps to achieve a much better control in the system. Boundaries: The boundaries are nothing but the limit of the system. Setting up boundaries helps for better concentration of the actives carried in the system.

Example:

The system of coca cola.

The World's Largest Beverage Distribution System

At the Coca-Cola Company, we market, manufacture, and sell beverage concentrates, syrups, and finished beverages, including sparkling soft drinks, water, sports drinks, juice, dairy, plant-based drinks, tea, and coffee.

We make our branded beverage products available to consumers in more than 200 countries and territories through our network of independent bottling partners and some Company-owned or -controlled bottling and distribution operations who manufacture, package, merchandise, and distribute the finished branded beverages to our customers and vending partners.

Concentrate Operations

In our concentrate operations, both domestic and international, we sell beverage concentrates, sometimes referred to as “beverage bases”, syrups, and certain finished beverages to authorized bottling partners.

Finished Product Operations

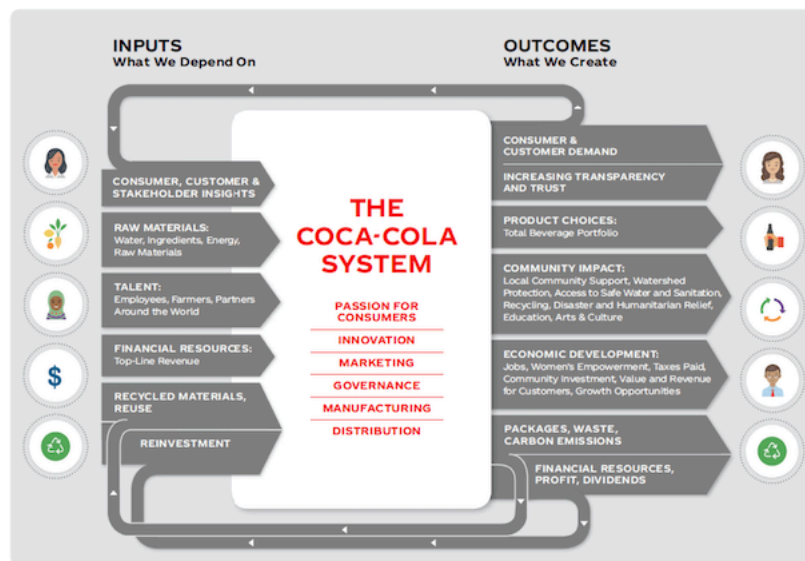
Our finished product operations consist primarily of Company-owned or -controlled bottling, sales and distribution operations, such as selling sparkling soft drinks and a variety of other finished nonalcoholic beverages to retailers or to distributors and wholesalers who distribute them to retailers.

Bottling Partners

Depending on the product, our bottling partners combine our concentrates with still or sparkling water, and/or sweeteners to prepare, package, sell and distribute the finished beverages.

The Coca-Cola System in Context

Our business operates within a wider context, which we carefully and continuously consider by managing our impacts, aiming to create shared opportunity as we transform into a total beverage company.



Inputs

We understand that our short- and long-term success depends on a wide range of inputs, which include:

- Consumer, customer, and stakeholder insights
- Raw materials such as water, ingredients, energy, and packaging from our many suppliers
- The talents and passion of our global workforce and system employees
- Financial resources
- Recycled and reusable materials
- And reinvestment opportunities

Outcomes

As a result, we create a range of outcomes including:

- Diverse beverage products
- Economic development such as jobs, taxes paid, and community investment
- Community and ecosystem impact and initiatives
- And customer and shareowner value.

Q.2

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

Ans: MIS Stands for "Management Information System." An MIS is a system designed to manage information within a company or organization. This includes employees, departments, projects, clients, finances, and other types of data. At its most general level, an MIS may include non-computer-based elements, such as the structural hierarchy of an organization. However, in the computing world, an MIS typically refers to the hardware and software used to manage information.

MIS of KFC:

Management information system use by KFC Management Information Systems (MIS) is the term given to the discipline focused on the integration of computer systems with the aims and objectives on an organization. Each KFC outlet use MIS in accounting, knowing production, and very useful in formulating HR policies which helps them to rate their employees. The development and management of information technology tools assists executives and the general workforce in performing any tasks related to the processing of information. MIS and business systems are especially useful in the collation of business data and the production of reports to be used as tools for decision making. With computers being as ubiquitous as they are today,

Quick Reflexes As a corollary to improved supply chain management comes an improved ability to react to changes in the market. Better MIS systems enable an enterprise to react more quickly to their environment, enabling them to push out ahead of the competition and produce a better service and a larger piece of the pie. These factors help KFC to work smoothly and efficiently as we already know that they are the only fast food chain which is selling fried chicken in which they are specialized. MIS systems let the KFC management:

- To capture information and store it, whenever they are making bills it helps them to count sales per day, per week and per month because a copy of the bill is stored in the computer.
- Access stored information easily and manipulate it for the needs of their clients' while billing or taking order they just enter the code of the product requested at that time and the quantity demanded.

Eg-Product code Product name Product price (in Rs.) 01 Small Coke 20 02 Medium coke 35 03 Large coke 45 04 Small coke+ Lollipop Chicken 65 05 Fried Chicken tub(small) 105 06 Small French Fries 25 07 Large Fries 45 08 Chicken Burger 25 09 Fried Chicken tub(large) 145 10 Veg. Burger 20 In KFC the above mentioned kind of information is stored in each computer that they use to maintain is SAP-sale module .They given codes to their 45 products just by entering the code the product name comes out with cost on the screen.

Q.3

Explain Marketing Information system and its types in detail.

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

Ans: 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.

Marketing information types:

- Internal Data-base MIS
- Marketing research
- Competitive intelligence

Internal Data-base MIS:

Internal data includes information related to current customers and prospective customers of an organization that is part of its internal operating system.

For example, the marketing department of an organization keeps track of the interest of prospective customers as well as the leads generated from them. The information can be acquired for target market segmentation like gender, age, buying habits, geographic area, etc. Other information i.e. visitors of website, web traffic or customer involvement activities, etc. are also considered as useful internal data. Moreover, salespeople collect and record the information related to customers who are purchasing products or services, their location, buying behavior, the success stories of customers, the progression of prospective customers towards new customers, etc.

Similarly, the accounts department maintains information or data related to the financial activities of an organization i.e. payment and expense details, etc. Earlier, every department used to maintain these data using their separate systems instead of a common system for access to all departments. This was a challenging task for marketing people to gather required internal data from different departments. Now organizations are using the marketing information system to collect and maintain internal data at a single place.

This results in accurate and timely access to internal data for marketers to gain useful insights from the data. Marketers depend on the internal data system for customer interaction or communication and also to identify consumer behavior patterns.

Marketing research:

A systematic process of identifying different marketing opportunities is known as marketing research. Also, it includes solving marketing problems by customer data that are captured through the analysis of marketing information.

Marketing information is useful for both purposes i.e. identifying reasons for any problem and to collect the necessary information required for research-related queries. It consists of different techniques for collecting and analyzing information. Both primary and secondary research methods can be utilized for marketing research. For more accurate results and solutions, market research may use internal data and competitive intelligence.

Different topics for which market research is being conducted include:

- Environment-related factors like economic, technical, legal, cultural, etc.
- Customer-related data like attitude, buying behavior and pattern, etc.
- Research related to product i.e. product size, market, product features, pricing strategies, branding, product positioning, etc.
- Research related to advertising and promoting products.

Competitive intelligence:

Another type of marketing information system is competitive intelligence that is used to closely monitor competitors, their marketing strategies, and competitive market statistics. Competitive intelligence is considered as a systematic process related to collecting, observing, and analyzing required information of the business environment that is external to an organization. It further includes the distribution of result data within the organization to make effective decisions. The main objective of competitive intelligence is to analyze the external environment to take appropriate decisions in a competitive market. Different types of competitive intelligence include:

- Information related to the product: This includes the information regarding the various products of competitors that compete with an organizations' products in terms of packaging, quality, quantity delivery of products, features, etc.
- Market share related information: This includes information related to the competitors that are selling most products in an organization's target market, changes in market share, organizations that are market leaders, etc.
- Pricing policy and strategy information: This includes pricing policy, pricing structure, and strategies of competitors for similar products, discounted price strategy of competitors, comparison that affect an organization's pricing as per competitor's strategy, etc.

For example, different airlines like Jet Airways, Spice Jet, Indigo, etc. use competitive intelligence to remain in a competitive market. These companies keep on changing prices of flight tickets as per the external information of prices of other airline competitors. Once any competitor increases airfare for a specific route or destination then other flight companies may get benefit by flowing suit to gain higher margins.

Q.4

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

Ans: Decision making refers to making choices among alternative courses of action—which may also include inaction. While it can be argued that management is decision making, half of the decisions made by managers within organizations ultimately fail. Therefore, increasing effectiveness in decision making is an important part of maximizing your effectiveness at work. This chapter will help you understand how to make decisions alone or in a group while avoiding common decision-making pitfalls. Individuals throughout organizations use the information they gather to make a wide range of decisions. These decisions may affect the lives of others and change the course of an organization.

- For example, the decisions made by executives and consulting firms for Enron ultimately resulted in a 60 billion loss for investors, thousands of employees without jobs, and the loss of all employee retirement funds. But Sherron Watkins, a former Enron employee and now-famous whistleblower, uncovered the accounting problems and tried to enact change. Similarly, the decision made by firms to trade in mortgage-backed securities is having negative consequences for the entire economy in the United States. All parties involved in such outcomes made a decision, and everyone is now living with the consequences of those decisions.

Types of decision:

Marketing rational decision:

The rational decision-making model describes a series of steps that decision makers should consider if their goal is to maximize the quality of their outcomes. In other words, if you want to make sure that you make the best choice, going through the formal steps of the rational decision-making model may make sense.

Marking good enough decision:

The bounded rationality model of decision making recognizes the limitations of our decision-making processes. According to this model, individuals knowingly limit their options to a manageable set and choose the first acceptable alternative without conducting an exhaustive search for alternatives. An important part of the bounded rationality approach is the tendency to satisfice (a term coined by Herbert Simon from satisfy and suffice), which refers to accepting the first alternative that meets your minimum criteria

Making intuitive decision:

The intuitive decision-making model has emerged as an alternative to other decision-making processes. This model refers to arriving at decisions without conscious reasoning. A total of 89% of managers surveyed admitted to using intuition to make decisions at least sometimes and 59% said they used intuition often. Managers make decisions under challenging circumstances, including time pressures, constraints, a great deal of uncertainty, changing conditions, and highly visible and high-stakes outcomes. Thus, it makes sense that they would not have the time to use the rational decision-making model.

Making creative decision:

In addition to the rational decision making, bounded rationality, and intuitive decision-making models, creative decision making is a vital part of being an effective decision maker. Creativity is the generation of new, imaginative ideas. With the flattening of organizations and intense competition among companies, individuals and organizations are driven to be creative in decisions ranging from cutting costs to generating new ways of doing business.