

FORMATIVE ASSESSMENT-BMSK5006

Student ID number:.....

Student Surname:.....

Student First name:.....

PART 1

American Airlines and IBM jointly announced their plans to develop Semi-Automatic Business Research Environment (SABRE). The concept led to the 1st real-time business application. It allowed to replace the hand-written system of the 1950s with the Web-based inter-airline reservation system in the 2000s. Built to reduce the costs of making airline seat reservations. System saved 30% on its investments. System expanded to be used by travel agents. Means of reservations through online terminals. Offering enhanced by adding functions of importance to travel agents (e.g. finding low fares). Reservation service expanded to include hotels and rental cars. In 1988, the company offered services for yield management and crew scheduling and a host of decision support tools.

- 1) Describe how the overall approach adopted by American Airlines incorporated the basic competitive strategies of cost leadership and product differentiation.**

Cost leadership. The use of an electronic booking system provides highly detailed and accurate information related to a wide variety of areas. For example, information concerning reservations can help the company to make the most efficient use of resources. The use of an electronic system also helped reduce transaction costs. For example, by allowing travel agents to deal with bookings, the company reduced costs related to activities such as issuing tickets and managing the number of available seats on each flight.

Differentiation: The wide adoption of SABRE helped to differentiate the company's products (flights) from those of its competitors. One can see that a travel agent's use of SABRE implied endorsement for the company's flights. In addition, since the company's flights were always displayed first, this would tend to enhance its reputation.

- 2) In what ways did SABRE provide American Airlines with a competitive advantage? Your analysis should refer to concepts related to the strategic use of information systems, for example, entry barriers.

Entry barriers. Few competitors would be able to afford the cost of developing a system to rival SABRE. Fewer still would have the resources needed to supply and install the system free of charge across the entire country. In addition, since many travel agents had already adopted SABRE, competitors would face the daunting task of convincing them to change to a new system.

Switching costs. As SABRE established a *de facto* standard for airline reservation systems, competing airlines would need to bear the cost of ensuring that their information systems were compatible. Similarly, travel agents would be reluctant to turn to a competing system since this would involve a great deal of expense. For example, in addition to expenses such as staff training, a travel company might suffer costs from reduced efficiency while the changeover took place.

Operational efficiency. As mentioned in a previous section, the detailed information available via SABRE could be used to reduce costs and improve operational efficiency in a variety of ways. The example was given earlier of reducing transaction costs by allowing travel agents to deal with the bulk of each business transaction.

Lock in customers and suppliers. Again, as mentioned in a previous section, the expense involved in adopting a new system acted to lock in the company's customers (travel agents).

- 3) Although SABRE was undoubtedly successful, American Airlines was not able to maintain its competitive advantage beyond the late 1980s. What factors played a part in the erosion of the company's lead over its competitors and how did the company react?

Initially, it appeared that the company did very little to re-establish its competitive edge. It can be argued that the company became somewhat complacent and failed to react in time to the actions of competitors and changes in the market. Although an improved bookings system was eventually developed, this did not have the same impact as the launch of SABRE. In the early to mid-1990s, American Airlines no longer held the competitive position it had enjoyed for almost a decade. Although still basically profitable, the company had a reduced size and no longer dominated the market.

PART 2

Information systems play a critical part in supporting a company's activities. Using specific examples, you are required to:

- **(a) define an information system;**

A business information system is a group of interrelated components that work collectively to carry out input, processing, output, storage and control actions in order to convert data into information products that can be used to support forecasting, planning, control, coordination, decision making and operational activities in an organisation.

- **(b) describe the categories of computer-based information systems, providing relevant business examples for each category identified;**

Category	Description	Example
Transaction processing systems	Involves recording and processing the data that results from an organisation's business transactions.	The production of bills for utilities and other services.
Process control systems	Used to support and control manufacturing processes.	The use of sensors for real-time monitoring of production processes.
Office automation systems	The application of information technology to many of the common tasks carried out in a typical office.	Using a word processor to produce business correspondence.
Decision support systems	Provide managers with information needed to support semi-structured or unstructured decisions.	The use of spreadsheet software to carry out <i>what if?</i> questioning.
Information reporting systems	Produce reports containing the information required to support a manager's day-to-day decision-making activities.	Production of on demand reports, such as current stock levels for a particular item.
Executive information systems	Used by senior management to select, retrieve and manage information that can be used to support the achievement of an organisation's business objectives.	Personal information managers (PIMS) can be used to schedule meetings, make notes, store information on contacts and organise other items of information, such as personal expenses.

- **(c) explain how computer-based information systems can support managers at each level of an organisation.**

At the bottom level of the organisation, information systems are often concerned with the automation of routine tasks. Transaction processing systems are commonly used to increase the speed and efficiency of tasks such as processing payments and invoices. In manufacturing organisations, process control systems help to increase efficiency by automating much of the production process and by helping to maintain quality and consistency of output. The information systems used support managers by helping them organise, manage and process large volumes of data. As an example, a manager overseeing a production process might examine quality control information in order to ensure the smooth running of the process. In some cases, many millions of precise measurements might be reduced to several relatively simple charts so that the manager can observe trends and make decisions accordingly. Managers at the middle level of the organisation carry out many of the tasks performed by operational and strategic managers. For this reason, they will use many of the information systems found throughout the organisation. At the topmost level of the organisation, information systems are commonly used to help determine the organisation's overall strategy. Here, information systems support decision-making activities by gathering together a body of information often drawn from a wide variety of sources. This information is then summarised and presented in a form appropriate to the task being undertaken. As an example, consider formulating a long-term pricing policy. Information might be drawn from a number of sources: production costs, competitor pricing, predicted demand for product (via market research), predicted costs of raw materials and so on. A number of different information systems might be used to gather all the information needed. For example, a database might be used to retrieve information held by the organisation itself, such as production costs, while Internet software might be used to retrieve information held externally, such as competitor prices. Once gathered together, the information might be entered into a spreadsheet package so that a model or simulation could be constructed. At the strategic level, information systems are also commonly used to improve personal efficiency. The personal information manager (PIM), for example, can be used to help managers schedule meetings, manage personal expenses and produce prioritised lists of tasks.