

Programme Name	BA Leadership and Management
Module Name	Knowledge and information Management
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Introduction

This body of work is designed to discuss how in a joint announcement, American Airlines and IBM described their plans to create a semi-automatic business research environment (SABRE). The first real-time business application resulted from the notion. It made it possible to switch from the 1950s' handwritten system to the 2000s' Web-based interline reservation system. SABRE was developed to lower the price of booking airplane seats. SABRE System reduced their investment costs by 30%. It grew to include travel agencies, and it enabled reservations through online terminals. The addition of crucial travel agent-related functions, such as finding cheap flights, raised demand for SABRE. Hotel and rental vehicle reservations were also added to the reservation service. The company supplied labor scheduling, yield management services, and a variety of decision support tools in 1988.

Within the body of this work, I will be answering the questions asked below:

1. Describe how the fundamental competitive strategies of cost leadership and product differentiation were implemented into American Airlines' overall strategy.
2. How did SABRE help American Airlines gain an edge over rivals? Your analysis will refer to ideas about the strategic application of information systems, like entry obstacles.
3. Despite the unquestionable success of SABRE, American Airlines was unable to hold onto its competitive advantage after the late 1980s. What elements contributed to the company's advantage over rivals eroding, and how did the company respond?

Part 2

Information Systems

The activities of a corporation are greatly supported by information systems. You need to support with concrete examples:

1. Explain what an information system is;

2. Describe the categories of computer-based information systems, giving pertinent business examples for each category described. Make careful to stick to formal and academic language throughout. You must specifically cite any resources you used, including class notes and webpages.
3. Describe how computer-based information systems can aid managers at every level of an organization.

Brief history of American Airlines IBM

The processing and recording of airline reservations used to be done manually before automation. To restrict availability on specific flights, a system of ticks recorded on colored index cards was used. By locating a card and counting the ticks on it, reservation clerks may determine how many seats were still available on a specific aircraft. The entire process was convoluted, labor-intensive, and unwieldy, with passenger details being recorded separately as handwritten records. For instance, it took 12 different people over the course of three hours—longer than the journey itself—to complete more than a dozen different tasks that would eventually book a round-trip flight from New York City to Buffalo.

It was in 1953, a chance encounter between two Mr. Smiths on an American Airlines trip from Los Angeles to New York led to the creation of a ground-breaking computer system that would alter the way that travel is distributed in the future. The semi-automated business environment research (SABER) initiative, which was the initial step in the creation of today's powerful GDS, was the result of a conversation between C.R. Smith, President of American Airlines, and R. Blair Smith, a senior sales representative for IBM. Once SABER was up and running, the two businesses split off. While IBM leveraged their experience to develop PARS, which served as the foundation technology for many of American's competitors' reservations systems, American Airlines further improved SABER and renamed it. (InterContinental Hotels Group (IHG) Case Study, 2022)

The fundamental competitive strategies of cost leadership and product differentiation were implemented into American Airlines IBM' overall strategy using porters generic strategies.

Porter used the terms "Cost Leadership" (no frills), "Differentiation" (developing uniquely desired products and services), and "Focus" to describe the general methods (offering a specialised service in a niche market). ("1. As IBM transitioned out of Bankruptcy, define Porter's three...") "The Focus method was then broken into two parts: "Cost Focus" and "Differentiation Focus."" ("[Solved] Using either Porter's generic strategies or the strategy clock ...")

These three techniques are examples of "generic strategies," as they may be used for goods or services in any industry and by any size firm. Michael Porter initially laid out the principles in his book "Competitive Advantage: Creating and Sustaining Superior Performance" in 1985. ("[Solved] Discuss each of Michael Porter's generic competitive ...")

Organizations have three main strategy alternatives for reaching competitive advantage, according to Porter's Generic Strategies model. ("I need to prepare a checklist for my assessment, and I am not sure") Cost leadership, differentiation, and focus are three of them.

Organizations that accomplish Cost Leadership can win market share by cutting prices (while retaining profitability) or by keeping average prices constant and therefore boosting profits. All of this is accomplished by lowering expenses to a level that is lower than that of the company's rivals.

Companies that follow a Differentiation strategy gain market share by providing clients with distinctive qualities that they value. Focus strategies entail gaining Cost Leadership or Differentiation in niche markets in ways that more broadly focused players cannot.

The information obtained from consumer interactions are used to build more effective marketing tactics, enhance their product mix, and supply better customer assistance since information flows both ways between merchants and customers (Wang, Head, & Archer, 2002). As a result, corporations may go beyond market segmentation to market fragmentation, breaking their markets into ever-smaller groups of customers – even personalising their services to individual clients – thanks to information technology (Robert, 1993).

Second, information technology allows businesses to collect more detailed and high-quality data on consumer interactions. Information technologies based on point-of-sale data have been used to improve inventory management and consumer analysis, although this data is often basic, consisting mainly of goods descriptions and amounts sold. Marketers and consumers, on the other hand, can collect, analyse, and access massive volumes of rich data via the Internet. This provided American Airlines IBM with significant benefits in terms of being able to target individual customers with their product or service offers. American airlines IBM may use information technology to participate in anticipatory marketing by proposing titles that may appeal to customers. Consumers benefit from having access to additional market information for criterion comparison (Head, Archer, & Yuan, 2000). (Kim, Nam and Stimpert, 2004)

SABRE helped American Airlines gain an edge over rivals, within this analysis a will refer to ideas about the strategic application of information systems, like entry obstacles.

By doing so SABRE basically implemented its own ERP (Enterprise Resource Planning) by learning all the best practices with the accumulation of data it came together with American airlines to become at the time one of the best systems of its time. Infact it was that successful when other airlines caught on American airlines and SABRE split for SABRE to become its own separate successful body/business.

Appendix 1

Which would you choose if you had to choose between a cheap, basic airline and a more costly one that offers excellent service and maximum comfort? Would you ever give a tiny business with a limited number of routes any thought?

You get to make the decision, of course. However, the point we're trying to make is that there are a variety of options accessible when it comes to booking a flight. What causes this? The reason is that, in order to gain a competitive edge in a congested market, each of the aforementioned airlines has selected a unique strategy.

The proprietors of no-frills establishments have chosen to keep expenses to a minimum and offer clients lower prices as a result. As a response, their costs are further reduced, and they can increase their share and fill their flights to capacity. On the other hand, luxury airlines concentrate their efforts on supplying the best service possible, and the higher prices they can charge as a result offset their higher costs.

Smaller airlines, meanwhile, strive to outperform their larger, international competitors by taking advantage of their intimate familiarity with a select few routes and offering superior or more affordable services.

Despite the unquestionable success of SABRE, American Airlines was unable to hold onto its competitive advantage after the late 1980s. Here are some of the elements that contributed to the company's advantage over rivals eroding, and how the company responded

SABRE is now a neutral multi-access system that distributes a wide range of travel and travel-related items, as opposed to being a single-access system that only distributed the flights of its parent airline. Flights operated by American are handled the same as those operated by the other 700 airlines whose schedules and prices are in the System. Since American Airlines pays SABRE the same booking fees as other airlines, the advantages of owning the technology are effectively gone. SABRE has evolved into an electronic travel marketplace, serving as a go-between for travel service providers, travel shops, and even the final consumer. While traditionally catering to the business travel market was its area of strength, in an effort to increase market share, it has now broadened its focus to include the leisure industry. The business spent tens of millions of dollars creating and improving its leisure services providing consumers with easier access to travel services like tour operators, cruise lines, ferries, ground transportation, and trains, as well as an increasing number of car rental and hotel businesses that cater primarily to leisure travelers. SABRE is now more appealing as a comprehensive tool for making travel plans thanks to the addition of ancillary travel services like theatre tickets, travel insurance, and location information.

Although United Airlines, one of American's biggest rivals, withdrew from the project and declared its intention to install terminals connected to its own reservation system within agencies, the proposed system was still considered commercially feasible. If accepted by the lucrative travel agent industry, this would have slanted itinerary displays and flight connections in Favor of United airlines, posing a danger to the competitors. As a response, American airlines imitated United airlines and provided direct access to their system for travel agents. In the ensuing ten years, SABRE added new services like hotel,

car, and rail reservations, incorporated new features to help agents provide better service, and developed an extensive training and support structure to make their system more appealing to travel agencies. American airlines services were preferred when it came to airline flights, which raised the number of reservations. SABRE had evolved into an instrument for competition, aiding in the promotion of American airlines flights and services over those of its rivals.

Information systems

What is an information system?

Information systems enable data to be gathered, cleaned up, and sorted to the point where it becomes wisdom (cleaned up data). Further enabling the system to narrow down all wisdom into a more micro manageable personalized service that enables businesses to deliver a service that is designed more so for the individual making the offers exclusive to the clientele.

Business information systems, which are often based on computer systems and technology, give information that businesses may utilise to efficiently and successfully manage themselves. The fundamental elements of corporate information systems include people, hardware, software, data, and processes (design, development, and documentation).

Information systems are complementary networks and interrelated parts that gather, distribute, and otherwise make data valuable to support management's decision-making processes in the commercial sense. As new technologies have developed, information systems have had to adapt throughout time, necessitating definitional redefinitions.

The fundamental capabilities of information technology, data analytics, and business intelligence systems must be understood by managers of business units that benefit from information systems. All of these features are used by management information systems in a way that is exclusive to managerial and executive decision-making.

- Information access: In order to make well-informed choices, managers must have quick and simple access to information like as customer records, sales statistics, market research, financial records, production and inventory data, and human resources records.
- Data gathering: Information systems for management gather and compile data from both inside and outside of a company. For the aim of analytics, this data is gathered and stored in data warehouses that are networked together.

- Collaboration: The simplicity with which several departments and remote teams may work together on choices, taking into consideration huge volumes of data from various different sources, departments, or even industries, is one of the most beneficial aspects of information systems.
- Interpretation: By continuously updating raw data and forecasting potential future advantages or issues, information systems can assist managers in understanding the potential ramifications of a choice after it has been taken.
- Presentation: The majority of information systems, especially those aimed at managers, come with capabilities for producing simple-to-read reports that may be reviewed by C-suite executives or higher-level managers.

In addition, managers might benefit from information systems created expressly for tasks related to their department or job. Managers find the information produced by marketing information systems, product subsystems, sales forecasts, and product design systems to be quite useful.

Another perfect theory that allows you to see the basic process of information management in a simpler form is Acoff's DIKW. It shows the process of how businesses gain wisdom from their data collection and the processes to take that makes it knowledge.

Data

Data is represented as distinct facts about an objective world in the form of signs and signals, such as numbers, words, or other indications. Data may be defined using objective metrics, allowing it to be checked and definitively proven right or mistaken. Data is a set of signs that show empirical stimulus or experience, and it is an orderly string of symbols that stands for something. They are disorganised and devoid of interpretation, resulting in data that has no significance. To capture and sort data, we can employ automated computation.

Information

Data is given context, which supplies information. It is information that has been given meaning and purpose. Interrogative queries such as "who," "what," "where," "how many," "when," and so on can be answered with information.

Knowledge

Knowledge is the synthesis of multiple sources of information over time, to create conceptual frameworks, theories, and axioms. Knowledge gives context through experiences, values, and insight; enabling judgment based upon justifiable belief. Knowledge is tacit, it has a subjective dimension to it, meaning once made symbolic, and objective, knowledge is reduced to information. As Einstein said, “knowledge comes from experience, everything else is information.” (Albert Einstein, 2022)

Wisdom

Wisdom is the ultimate framework and frame of reference; it is a state of consciousness, a paradigm, or a collection of principles. Wisdom is the ability to utilise information to make sound decisions in a given situation without relying on facts. Wisdom is knowing why something is the way it is, an assessed knowledge, acceptance, and respect of why something is the way it is, and it is seeing the big picture. Knowing the proper things to do for the larger benefit is part of wisdom. It necessitates a feeling of right and wrong, ethical, and unethical behaviour. It has a really human quality about it.

following the process of data (raw uncleaned data) is collected by each and every store and sent to one singular storage cloud, this data will be cleaned up all non-data or useless data will be removed and sorted then the data becomes information, information is gained by cleaning up the data which then is divided and sent to the correct areas to become knowledge that knowledge is divided again in to the correct sections and when all the knowledge is in the correct place accumulated in to the correct areas it can then become wisdom.

See Appendix 2

Categories of computer information systems broken down and the importance of information collaboration

People tend to employ a method akin to Cotterman and Kumar's in order to categorize the CBIS (1989). We try to categorize CBIS based on three distinct factors: Decision process support is the use of information to give informed assistance for making choices on semi-structured or unstructured problems. Information process support is the provision of online support for the extraction, filtering, and tracking of data vital to the company. Support for communication processes, i.e., giving users the ability to share and exchange information.

The three main factors that enable us to differentiate between the various CBIS kinds are information process support, decision process support, and communication process support. A useful tool for visualizing the many options is Figure 1. The x-axis in Figure 1 shows information process support.

Support for the decision process is on the y-axis, while support for the communication process is on the z-axis. The extremes of each dimension are represented by the cube's corners or nodes. For instance, Node (1,0,0) illustrates the situation of a single CBIS that offers information process assistance without specifically addressing either the decision-making or communication needs of an organization.

The 0-1 limits of each of the cube's three dimensions must be understood to represent the boundaries of a continuum rather than a binary categorization. Consequently, the nodes are limiting cases. In reality, we could come across CBIS that are represented by points on any cube surface or even inside the cube itself.

See appendix 3

The following 10 categories of computer-based information systems may be determined from an examination of the phrases that are most frequently used in literature:

Types of system	Roles
Management Information Systems (MIS)	Information analysis, the creation of desired reports, and the resolution of structured issues
Executive Information Systems (EIS)	Sophisticated information evaluation for fast assessments at the highest managerial levels.
Executive Support Systems (ESS)	Increasing the capability of EIS to enable electronic communications and planning infrastructure
Decision Support Systems (DSS)	Using information, models, and decision support tools to analyze persons' semi-structured issues
Group Decision Support Systems (GDSS)	Adding group-specific negotiating and communication tools to the DSS
Electronic Meeting Systems (EMS)	Infrastructure for information systems to support meeting participants' activities and group work
Organizational Decision Support Systems (ODSS)	Assistance with organizational duties or decision-making processes that have an impact on several organizational units
Expert Systems (ES)	the gathering, collection, and transformation of corporate knowledge about an application area into professional guidance
Office Information Systems (OIS)	Support for the office worker in goal-oriented, ill-defined office operations, timely administration of office items, and control of information flow in the office
Intelligent Organizational Information Systems (IOIS)	Information and communication support, as well as assistance (and independent action) throughout all stages of decision-making in multi-participant organizations.

The table above shows a breakdown of how a CBIS is used to reach all levels of management from the bottom of the ladder to the top, and how each CBIS links together forming the perfect gelling of information so depending on the classification of the information can be accessed from each level to the correct level.

This table shows the many levels of aid in computer-based information systems for each level.

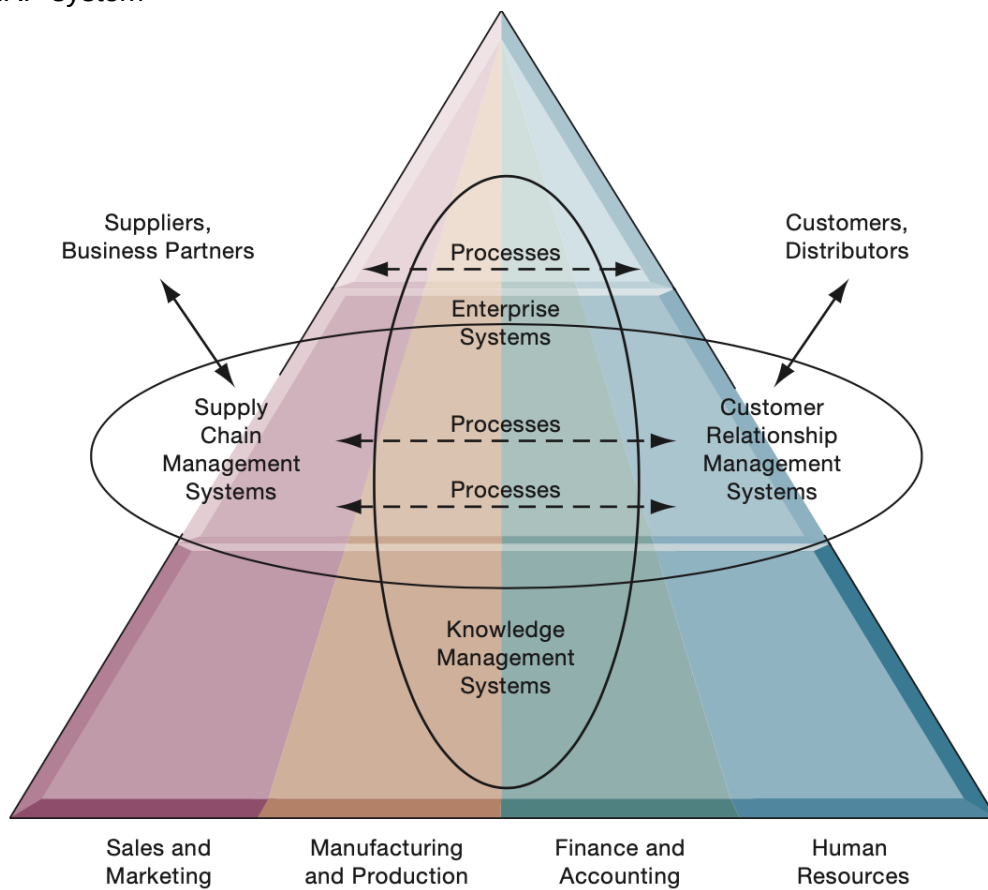
Information System	Information support	Decision Support	Communication Support
MIS	High	Low	Low
EIS	High	Low	Low
ESS	High	Low	Medium
DSS	Medium	High	Low
GDS	Medium	High	High
EMS	Medium	Low	High
ODSS	Medium	High	High
ES	Medium	High	Low
OIS	High	Low	High
IOIS	High	High	High

It is plain to see that the information at hand is very extensive and could be written about forever, though each and every study has shown how important the role of CBIS within every business all around the world, it was also clear that without the human interactivity it would also be pointless and void.

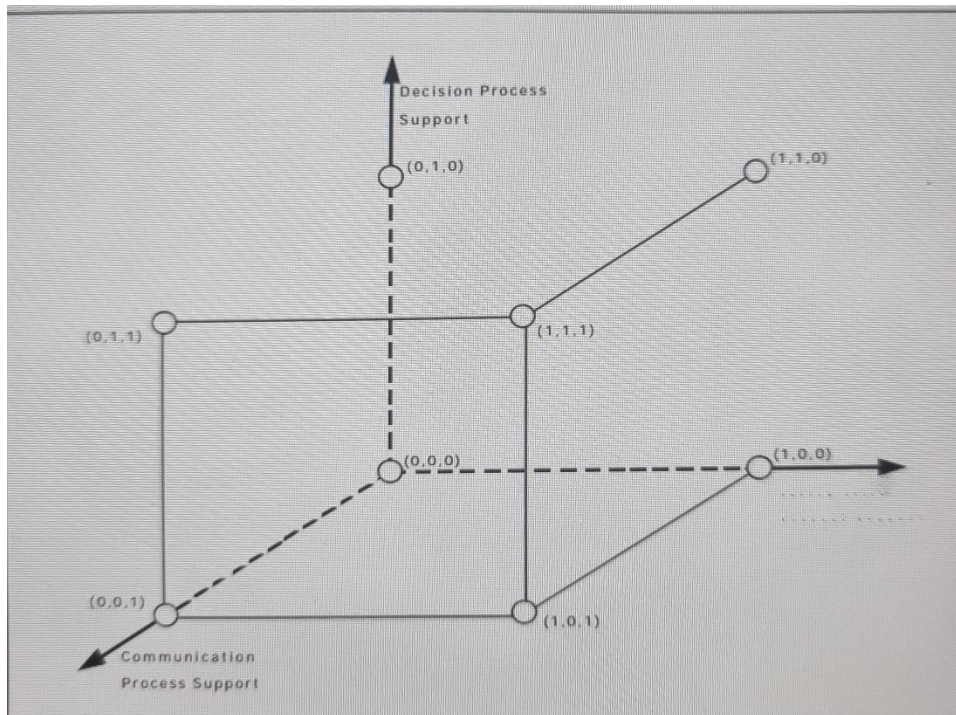
So many professionals have researched, proven and proven again that information technology is priceless yet invaluable to its importance in today's society both with social media and business based technology and the beautiful link between CBIS and mankind is what makes it comlicit.

Appendices

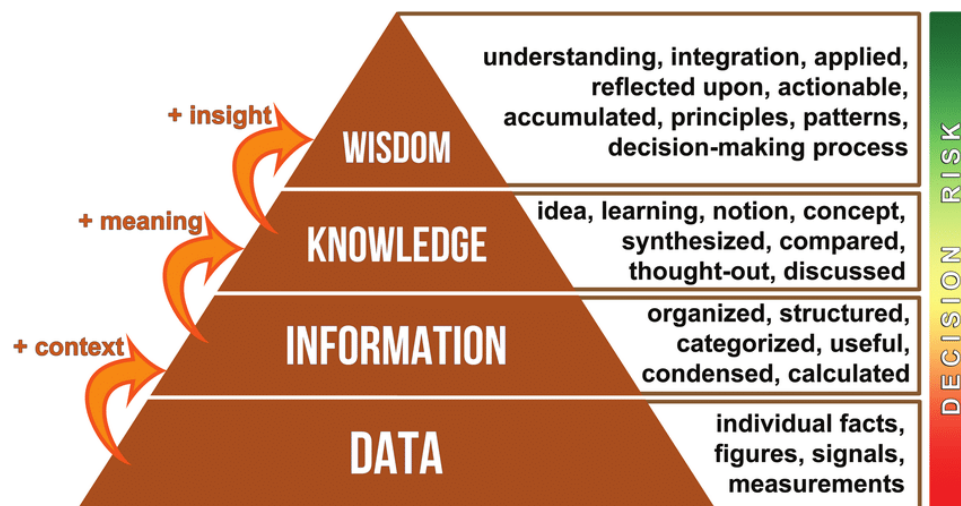
1,ERP system



2, Cube



3, Ackoff's DIKW



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